



SRI LANKA SURVEY DEPARTMENT

**DEPARTMENTAL SURVEY
REGULATIONS**

SIXTH EDITION- 2020

VISION

THE LEADER OF LAND INFORMATION RIGHT-THROUGH

MISSION

OUR MISSION IS TO PROVIDE
HIGH QUALITY LAND INFORMATION PRODUCTS &
SERVICES
THROUGH
PROFESSIONALLY QUALIFIED
AND
DEDICATED PERSONNEL

Preface

Departmental Survey Regulations are valid for surveys carried out by the Survey Department and for surveys carried out by registered licensed surveyors under the supervision of the Department.

It is better to refer this Survey Regulations with the Department Standing Orders and Technical Instruction. This edition has included rules and regulations issued from previous circulars and to compliance with the new technologies as well as comprise important facts related to improvements of Geodetic Surveys, Digital Data Management and Land Information System from the obtained experience. Periodic revisions or new regulations will be issued from time to time.

Consultancy	-	Surveyor General / Mr. S.M.P.P. Sangakkara
Editorial Board	-	Snr. Deputy Surveyor General / Mrs. A.L.S.C. Perera
	-	Snr. Supdt. of Surveys / Mr.C.D.P.R. Basnayake
	-	Snr. Supdt. of Surveys / Mrs. D. Eurecka Paranawithana
	-	Supdt. of Surveys / Mrs. P.M.Suneetha Perera

Chapters	Assistant editors
CHAPTER I - Departmental Survey Regulation Introduction	Mrs. A.L.S.C. Perera
CHAPTER II - Geodetic Control Surveys	Mr. T.M.P.U.Tennakoon /Mrs. T.H. Amarangani/ Mr.W.L.S.C.Perera/ Mr. U.K.S.P.Wijesinghe
CHAPTER III - Pickets & Landmarks	Mrs. D.Eurecka Paranawithana
CHAPTER IV - Sporadic Surveys	Mr. Upali J. Vitharanage/ Mr. J.M.P.P.Jayasuriya
CHAPTER V - Court Commission Surveys	Mr. K.K.S. Rathnayake / Mrs. R.A.M.M.Jayasekara
CHAPTER VI - Land Acquisition Surveys	Mr. E.M.D.M. Ekanayake/ Mr. B.H.B. Cyril Shantha
CHAPTER VII - Engineering Surveys	Mr. E.M.D.M. Ekanayake
CHAPTER VIII - Demarcation Surveys	Mr. R.A.N. Sumanasiri/ Mr. U.K.S.P.Wijesinghe
CHAPTER IX - Detail Surveys	Mr. M.T.M. Raffeeek/ Mr. Upali J. Vitharanage
CHAPTER X - Reservation	Mr. T.M.P.U. Tennakoon/ Mr. Upali J. Vitharanage
CHAPTER XI - Field Data Collection and Records	Mr. S. Sivanandarajah/ Mr. N.K.U. Rohana / Mr.A.A.K.N.Dias
CHAPTER XII - Plan Work	Mr. B.H.B. Cyril Shantha
CHAPTER XIII - Computation of Areas	-
CHAPTER XIV- Maps, Diagrams and Reports	Mr. W.M.T.S.B. Tennakoon / Mrs. D.Eurecka Paranawithana
CHAPTER XV - Preparation of Blocking out Diagram and staking out surveys	Mr. N.K.U. Rohana / Mrs. P.M. Suneetha Perera
CHAPTER XVI - Town Surveys	Mr. A.M.N. Bandara /Mrs. M.A.M. Somalatha
CHAPTER XVII- Miscellaneous	Mrs. A.L.S.C. Perera/ Mrs. D.Eurecka Paranawithana
CHAPTER XVIII- Condominium Property Surveys	Mrs. A.L.S.C. Perera / Mr. K.R. Sarath
CHAPTER XIX - Mapping	Dr. K.A.B.S. Rupasinghe
CHAPTER XX - Statutory laws applying for land survey	Mr. K.D. Parakum Shantha
CHAPTER XXI- Cadastral Surveys	Mr. B.H.B. Cyril Shantha/ Mrs. K.G. Sriya Padmini
CHAPTER XXII- Digital Data Management	Mr. W.M.T.S.B. Tennakoon/Mr. G.D.P. Ariyathilaka/ Mr. K.D. Parakum Shantha

INDEX

CHAPTER I	-	<u>Departmental Survey Regulation Introduction</u>
CHAPTER II	-	<u>Geodetic Control Surveys</u>
CHAPTER III	-	<u>Pickets & Landmarks</u>
CHAPTER IV	-	<u>Sporadic Surveys</u>
CHAPTER V	-	<u>Court Commission Surveys</u>
CHAPTER VI	-	<u>Land Acquisition Surveys</u>
CHAPTER VII	-	<u>Engineering Surveys</u>
CHAPTER VIII	-	<u>Demarcation Surveys</u>
CHAPTER IX	-	<u>Detail Surveys</u>
CHAPTER X	-	<u>Reservation</u>
CHAPTER XI	-	<u>Field Data Collection and Records</u>
CHAPTER XII	-	<u>Plan Work</u>
CHAPTER XIII	-	<u>Computation of Areas</u>
CHAPTER XIV	-	<u>Maps, Diagrams and Reports</u>
CHAPTER XV	-	<u>Preparation of Blocking out Diagram and staking out surveys</u>
CHAPTER XVI	-	<u>Town Surveys</u>
CHAPTER XVII	-	<u>Miscellaneous</u>
CHAPTER XVIII	-	<u>Condominium Property Surveys</u>
CHAPTER XIX	-	<u>Mapping</u>
CHAPTER XX	-	<u>Statutory laws applying for land survey</u>
CHAPTER XXI	-	<u>Cadastral Surveys</u>
CHAPTER XXII	-	<u>Digital Data Management</u>

CHAPTER 1**DEPARTMENT SURVEY REGULATION INTRODUCTION****INDEX**

D.S.R. Reference	Description	Page
	<u>Introduction</u>	
19.1.	Introduction	1
	<u>Surveys carried out by the Survey Department</u>	
19.2.	Surveys carried out by the Survey Department	1
	<u>Type of surveys</u>	
19.3.	Surveys for issuing grants	1
19.4.	Acquisition Surveys	2
19.5.	Court Commission Surveys	2
19.6.	Cadastral Surveys	2
19.7.	Town Surveys	2
19.8.	Demarcation Surveys	2
19.9.	Encroachment Surveys	3
19.10.	Engineering Surveys	3
19.11.	Blocking Out Surveys	3
19.12.	Miscellaneous Surveys	3
19.13.	Road and Channel Trace Surveys	3
19.14.	Control Surveys	4
19.15.	Surveys for Topographical Mapping	4
19.16.	Condominium Property Surveys	4
19.17.	Block Surveys	4
	<u>Authority for survey work</u>	
19.18.	Authority for survey work.	4

CHAPTER 1**DEPARTMENT SURVEY REGULATION INTRODUCTION****Introduction****1.1. Introduction**

These Departmental Survey Regulations have been established so as to carry out all surveys of the Survey Department within Sri Lanka in a qualitative and uniform manner.

Surveys undertaken by the Survey Department**1.2. The Survey Department mainly performs the following surveys.**

- (a). Surveys for issuing grants
- (b). Acquisition Surveys
- (b). Court Commission Surveys
- (c). Cadastral Surveys
- (d). Town Surveys
- (e). Demarcation Surveys
- (f). Encroachment Surveys
- (g). Engineering Surveys
- (h). Blocking out Surveys
- (i). Miscellaneous Surveys
- (j). Road and Channel Trace Surveys
- (k). Control Surveys
- (l). Surveys for Topographical Mapping
- (m). Condominium Property Surveys
- (n). Block Surveys

Type of surveys**1.3. Surveys for issuing grants**

Grants are prepared through surveys carried out under the Land Development Ordinance and State Land Ordinance.

Surveys under Land Development Ordinance:

Under this ordinance, suitable people are selected by Divisional Secretary by conducting land kachcheries for the avoidable state lands which are suitable for cultivation and then are allotted these lands on permit to the selected people for cultivation.

After satisfactory development of above said permit issued state lands, surveys are done under this ordinance to prepare statutory plans for issue of grants on the requisition received from Divisional Secretary.

Surveys under State Land Ordinance:

Surveys for vesting of state lands to the institutions and individual people which/ who are not covered by the Land Development Ordinance are done under this Ordinance. Surveys for the allocation of lands to government institutions, issue of long-term lease for outright grants to

middle class people, private institutions and demarcations for reservations are some of the examples.

1.4. Acquisition Surveys

These surveys are done at the request of the Acquiring Officer.

- (a) Acquisition Surveys under section 2 of the Land Acquisition Act to determine the suitability of the land for the said public purpose. Only a tracing is prepared in this instance.
- (b) Acquisition Surveys under section 6 or section 38 (a) of the Land Acquisition Act. When it is decided that the said land is suitable for the said public purpose, a landmarked plan is prepared in this instance.

1.5. Court Commission Survey

Commissions are issued by courts generally to check the Licensed Surveyor's work or to superimpose the boundaries of state claims on their plans. These surveys are carried out strictly according to the instructions issued by the courts.

1.6. Cadastral Surveys

Cadastral Surveying is fundamental to the process of registration of legal interest to the land. It implies that it is a clear and consistent definition of each land unit (land parcel) within a given area with positional accuracy of every land parcel within the declared area. So the Cadastral Surveying is a process by which the boundaries of each of the land parcels within a declared area are defined in a consistent manner with certainty in the geographical position, definition, extent, demarcation and delineation of land parcels and boundaries. It usually involves the process of re-establishing old and lost boundaries and sometimes the resolution of disputes over the boundaries or other interest in the land.

1.7. Town Surveys

These are the surveys carried out by the Survey Department within urban or developed areas to show the roads, watercourses, other natural features, property boundaries and buildings together with other details. Outcome is a record of details as exist on the ground and is meant for assessment and planning purposes only. Old work is not dealt with and the tenement lists are not supplied. Sometimes contours are also drawn at the request of the client institution concerned.

1.8. Demarcation Surveys

There are two types of Demarcation Surveys.

1. Demarcation Surveys in a Block Survey area

When the Settlement Officer finalizes his settlements in a village, the survey is carried out with the objective of distinguishing the settled areas. This survey is carried out in accordance with the Settlement officer's memo of demarcation.

2. Cadastral Surveys in Declared Land Registration area

These are the surveys required by the Commissioner of Title Settlement to demarcate the adjudicated boundaries of the land parcels. The Cadastral Map prepared after demarcation will serve as a basis for the title registration.

1.9. Encroachment Surveys

These are the survey of unauthorized occupation of state lands on the request of the different parties concerned such as Divisional Secretaries, Land Commissioner, and Conservator of Forest etc. The purpose of the survey may be either to regularize the encroachments or to eject the encroachers. Usually a Theodolite traverse is used to do the outer boundary survey and any other control, and Theodolite survey or Global Navigation Satellite Systems (GNSS) may be used for the details. A tracing is prepared and sent along with the list of encroachers either on the tracing itself or on a separate sheet of paper.

Furthermore, when encroachments are detected at the time of any other survey such as acquisition surveys, road surveys, landmarking surveys etc, such cases must be reported. There are different ways to handle these types of encroachments and the details are discussed in the chapters relevant to that particular survey.

1.10. Engineering Surveys

These are the surveys undertaken by the Survey Department for the purpose of designing engineering projects of various kinds. The majority of these contour surveys are for irrigation, flood protection and water supply and drainage etc. The survey requirements in these schemes vary from type to type and standard departmental specifications are available for each type of survey.

1.11. Blocking Out Surveys

Blocking Out Diagram (BOD) is prepared after preliminary outer boundary and detail survey of the area to fulfill the requirements of the client organization. Once the BOD is approved by the client concerned, blocking out is done by Theodolite survey or by using Total Stations. The boundaries are usually marked with wooden stakes and pointed out to the approved allottees and to the Grama Niladhari/ relevant officers.

1.12. Miscellaneous Surveys

These are the different types of surveys carried out at the request of different governmental organizations. These surveys vary from mere re-demarcation to the surveys of large areas to ascertain some specific requirements of the client and for pointing out the correct positions of disputed boundaries.

1.13. Road and Channel Trace Surveys

Roads and Channels are normally designed on contour plans. The centerline is first set out on the ground with the compiled bearings and distances. After setting out, it would be surveyed to the detail order accuracy. Strip Surveys and Longitudinal Sections & Cross Sections Surveys are also done subsequently.

1.14. Control Surveys

These are the surveys done for the establishment and maintenance of Control Net Work for the country. It is one of the fundamental responsibilities of the Survey Department. Different methods and different instruments such as Electro Magnetic Distance measuring equipment, GNSS Instruments, Levels & CORS etc. are used in these surveys.

1.15. Surveys for Topographical Mapping

These surveys are normally done by photogrammetric methods and by using high-resolution satellite imageries. However, ground surveys and field verifications are required before finalizing the map.

1.16. Condominium Property Surveys

Condominium property is a property comprising land with a building or buildings of more than one storey and having more than one independent parcel of residential or non-residential accommodation. Condominium property Surveys are carried out by the Survey Department generally on the request of state controlled organizations such as National Housing Development Authority.

1.17. Block Surveys

The main object of Block Surveys was to separate claimed and state lands with a view for the settlement by the settlement officer. Lands that were obviously private, i.e. comprised of old cultivations and title plans were surveyed in block showing the different cultivations separately. Cultivated lands which were not obviously private were land-marked according to individual claims unless they were claimed in common. The boundaries between state lands and chena lands were land-marked against private cultivations and the surveys were made in accordance with the Settlement Officer's requirements. A village was considered as the unit of area for purposes of Block Survey plans and records and these plans were printed and issued for each village. Block surveys have been completed now. No more Block Survey Areas remain to be surveyed any longer.

[Authority for survey work](#)

- 1.18.** No work is undertaken unless the Provincial Surveyor General (PSG) and/or the District Senior Superintendent of Surveys have authorized it. It is compulsory to obtain the advice from the Provincial Surveyor General for any field work not consistent with the terms of Departmental Survey Regulations/ Official Institutions. In minor instances when work is urgent and traveling back is involved, covering authority in the form of a letter from the person authorized to point out requirements in the field will be accepted, but this information should be forwarded to the PSG immediately. In special survey projects, those requests should be sent back to Surveyor General and approval should be taken.

D.S.R.

DEPARTMENT SURVEY REGULATION
INTRODUCTION

CORRECTION SLIPS

D.S.R.

DEPARTMENT SURVEY REGULATION
INTRODUCTION

CORRECTION SLIPS

CHAPTER II**GEODETIC CONTROL SURVEYS****INDEX**

D.S.R. Reference	Description	Page
	<u>Historical Background</u>	
2.1.	Triangulation of Sri Lanka	1
	<u>Sri Lanka Datum (SLD 99)</u>	
2.2.	Establishing SLD 99 control points	1
2.3.	Parameters for SLD 99	1
2.4.	Classification according to the accuracy of the control points associated with the SLD 99	3
	<u>Global Navigation Satellite System- GNSS</u>	
2.5.	Specifications for establishing GNSS Control Points	3
2.6.	Usage of Monuments for GNSS Control Points	3
	<u>Classification of Permanent Control Points (Monuments)</u>	
2.7.	Permanent control points	4
	<u>Numbering of GNSS Control Points</u>	
2.8.	Numbering of GNSS Control Points	7
	<u>Establishing of Ground Control Points</u>	
2.9.	Necessity of secondary Ground Control Points	8
2.10.	Necessity of Tertiary Ground Control Points	8
2.11.	Process of establishing tertiary control points	8
	<u>Select appropriate locations for Ground Control Points</u>	
2.12.	Ideal locations for setting out of geodetic control points	8
	<u>Traverse Control Points</u>	
2.13.	Establishing Monuments & Preparation of Location Diagram	9
	<u>Application for monitoring of Geodetic Control Points</u>	
2.14.	How to apply a survey by Senior Superintendent of Surveys	9
	<u>Work flow in the Geodetic Survey Units</u>	
2.15.	Dealing after getting control points survey requisition	9
2.16.	Data Storing & Final Coordinates	10
	<u>Control Traverses</u>	
2.17.	Categorized control points according to their accuracy	11
2.18.	Usage of Monuments for Control Survey Traverses	11
2.19.	Specification for Control Survey Traverses	11
	<u>Setting out Control Traverse</u>	
2.20.	Obtaining traverse Nos. & preparing key diagrams	12

D.S.R. Reference	Description	Page
2.21.	Things to consider when setting out permanent monuments	12
2.22.	Field Recorded	12
	<u>Angular & Distance measurements</u>	
2.23.	Important things of using Instruments	13
2.24.	Instruction for instrument adjustment	13
2.25.	Horizontal angles and Vertical angles measurement	13
	<u>Traverse Observation Procedure</u>	
2.26.	Traverse Observation	13
2.27.	Measuring of first independent angle	14
2.28.	Measuring of second independent angle	14
2.29.	Investigation within the allowed errors	14
	<u>Data Reduction, Computation and Adjustment</u>	
2.30.	Calculation of errors for angles	14
2.31.	Calculation of errors for bearings	14
2.32.	Calculation of allowed errors for traverses	14
2.33.	Traverse Adjustment and Computation	15
	<u>Traverse & Station Numbering System</u>	
2.34.	Traverse Numbering	15
2.35.	Station number of a control traverse	15
	<u>Calibration of EDM Instrument</u>	
2.36.	Processing of EDM instrument calibration	15
	<u>Geodetic Vertical Control</u>	
2.37.	History of the Geodetic Vertical Control Network	16
2.38.	Datum	17
2.39.	Fundamental Benchmarks (FBM)	17
2.40.	Standard Benchmarks (SBM)	17
2.41.	Primary Level network	17
	<u>Leveling</u>	
2.42.	Secondary (SL) & Tertiary (TL) Leveling	20
2.43.	Numbering of Level lines	20
2.44.	Numbering of Bench marks	20
2.45.	Specifications for Geodetic Leveling	20
2.46.	Establishing of Primary, Secondary, Tertiary Level lines	21
2.47.	Specifications for Conventional method	23
2.48.	Verification of Fundamental Benchmarks (FBM)	24
	<u>Establishment of Survey Control Points using SLCORSnet</u>	
2.49.	Surveying using SLCORSnet	24

D.S.R. Reference	Description	Page
	<u>Established SLCORSnet- Stage I (6 stations) and Proposed SLCORSnet</u>	
2.50.	How to use SLCORSnet	25
	<u>Network Real Time Kinematic (NETWORK RTK)</u>	
2.51.	NETWORK RTK surveys using SLCORSnet	25
2.52.	Online-RINEX Delivery: GNWEB:	25
2.53.	Procedure for the Establishment of Control points using Network RTK Solution (NRTK) of SLCORSnet	25
2.54.	Monument	26
2.55.	Numbering System for Control Points	26
2.56.	Location Diagram	26
	<u>Procedure for capturing Detail Survey points using Network RTK Solution of SLCORSnet</u>	
2.57.	Detail surveys using Network RTK Solution	26
2.58.	Types of data storage	27
2.59.	Observing locations with no satellite coverage	27
2.60.	Methods of describing information	27
	<u>Detail Operating Instructions for the use of available GNSS receivers</u>	
2.61.	Instructions for the use of available GNSS receivers	27
	Annexures	
<u>Annexure I</u>	Description of GNSS Control Point	28
<u>Annexure II</u>	GNSS observation record sheet	29
<u>Annexure III</u>	Format of GNSS adjusted coordinates sheet	31
<u>Annexure IV</u>	Specimen of Diagrams and the observations recorded in EDM Field Book	32
<u>Annexure V</u>	Specimen of Abstract sheet	33
<u>Annexure VI</u>	Types of Survey Department Benchmarks	34
<u>Annexure VII</u>	Specimen of Raw Data entry form of Geodetic Leveling	35
<u>Annexure VIII</u>	Abstract sheet for Precise Leveling	36
<u>Annexure IX</u>	Adjustment sheet for Precise Leveling	37
<u>Annexure X</u>	Description of Bench Mark	38
<u>Annexure XI</u>	Fundamental Bench Mark Report	39
<u>Annexure XII</u>	GNSS monitoring reporting format	41

CHAPTER II

GEODETIC CONTROL SURVEYS

Historical Background

- 2.1.** Triangulation of Sri Lanka was commenced in 1857 and this network has been re computed by Mr. J.E. Jackson, Assistant Superintendent Of Surveys in 1933. This Network consisted of 110 primary Trigonometrical Stations. The accuracy of the network was around 1:20,000. Later this network was densified through secondary, tertiary & minor Trigonometrical Stations. Primary, Secondary & Tertiary traverse network between the trigonometrical stations was also established to densify control further.

During 1980's it was found that the accuracy provided by the above network was not adequate to meet the challenges of new technological developments in the field of surveying such as Cadastral Surveys, Construction Surveys, Engineering Surveys, Land Information Systems (LIS) & Geographical Information Systems (GIS) etc. Hence the Survey Department organized a seminar to find solutions for the above problems in February 1992. As a result, it was decided to upgrade the control network by using triangulation, trilateration & Global Positioning System (GPS) observations.

Sri Lanka Datum (SLD99)

- 2.2.** A tedious program was commenced in 1992 to upgrade the control network of Sri Lanka by Triangulation, Trilateration and Global Positioning Systems (GPS). Finally in 1999 the entire horizontal network was upgraded and the new control network was established. It consists 273 Control points in following categories.

1. Base Station (ISMD)	= 01
2. No of Principal (AA) GPS Stations	= 10
3. No of Primary (A) GPS Stations	= 194
4. No of Old and New Trigonometrical (TN, TO) Stations	= 48
5. No of Fundamental Bench Marks (FBM)	= <u>20</u>
Total	= <u>273</u>

- 2.3.** This new system was named as SLD99 and parameters related to that are given below.

Reference Local Ellipsoid	:	<i>Everest-1830</i>
Semi Major axis	:	$a = 6377276.3450m$
Semi Minor axis	:	$b = 6356075.4131m$
Inverse Flattening	:	$1/f - 300.801699999584$ $\{f = (a-b)/a\}$

I. Datum Transformation

a) 7-Parameters Datum Transformation (from WGS84 to Reference Everest Ellipsoid)

Transformation Method	:	Bursa Wolf
Translation ΔX	:	0.2933 m
Translation ΔY	:	-766.9499 m
Translation ΔZ	:	-87.7131 m
Rotation about X axis	:	0.1957040''
Rotation about Y axis	:	1.6950677''
Rotation about Z axis	:	3.4730161
Scale factor	:	1.0000000393 or 0.0393 ppm

b) 3-Parameters Datum Transformation (from WGS84 to Reference Everest Ellipsoid)

Some Hand Held type GPS devices supports only 3-Parameters for datum transformation instead of 7-Parameters described above.

Translation ΔX	:	97.000 m
Translation ΔY	:	-787.000 m
Translation ΔZ	:	-86.0000 m

II. Map Projection Parameters

a) Transverse Mercator projection parameters

Map Projection	:	<i>Transverse Mercator</i>
Longitude of the Origin	:	<i>80° 46' 18.16710'' E</i>
Latitude of the Origin	:	<i>07° 00' 1.69750'' N</i>
Scale factor	:	<i>0.9999238418</i>
False Northing	:	<i>500,000.00 m</i>
False Easting	:	<i>500,000.00 m</i>

Pidurutalagala Trigonometrical Station in old Triangulation Network has been used as the origin of the projection as used in the old system. This projected coordinate system is defined as National Coordinate System (National Grid System).

b) **Universal Transverse Mercator (UTM) Projection Parameters**

Instead of the Transverse Mercator projection Parameters described above, some Hand Held type GPS devices support only UTM parameters for the projection to get the Grid Coordinates.

Map Projection	:	<i>UTM</i>
Longitude of the Origin	:	<i>80° 46' 18.16710'' E</i>
Scale factor	:	<i>0.9999238418</i>
False Northing	:	<i>-273,992.00 m</i>
False Easting	:	<i>500,000.00 m</i>

2.4. The control points of SLD99 are classified according to their accuracies as follows.

Type	Accuracy
Principal control points (AA)	1:700,000
Primary control points (A)	1:200,000
Secondary control points (B)	1:100,000
Tertiary control points (C)	1: 50,000

Global Navigation Satellite System- GNSS

2.5. Specifications for Establishing GNSS Control Points are as follows.

	Establishment of GNSS control Station	Principal (AA)	Primary (A)	Secondary (B)	Tertiary (C)
1	Accuracy	1:700,000	1:200,000	1:100,000	1:50,000
2	Mode of Observation	Static	Static	Static	Static
3	Length of GNSS observation session	3 Sessions of 8 Hours	3 Hours	3 Hours	45 minutes
4	GDOP	<4	<4	<6	< 6
5	GNSS receivers	Dual frequency	Dual frequency	Dual frequency	Dual frequency
6	Adjustment	Network	Network	Network	Network
7	Loop closure	1:1,000,000	1:200,000	1:100,000 or < 3 cm	1:50,000 or < 5 cm
8	No. of Base stations	3	3	3	2
9	Station spacing	50-100km	15 – 30 km	4-8 km	100m-500m between consecutive 3 points and 2km between 2 sets

2.6. Usage of Monuments for GNSS Control Points

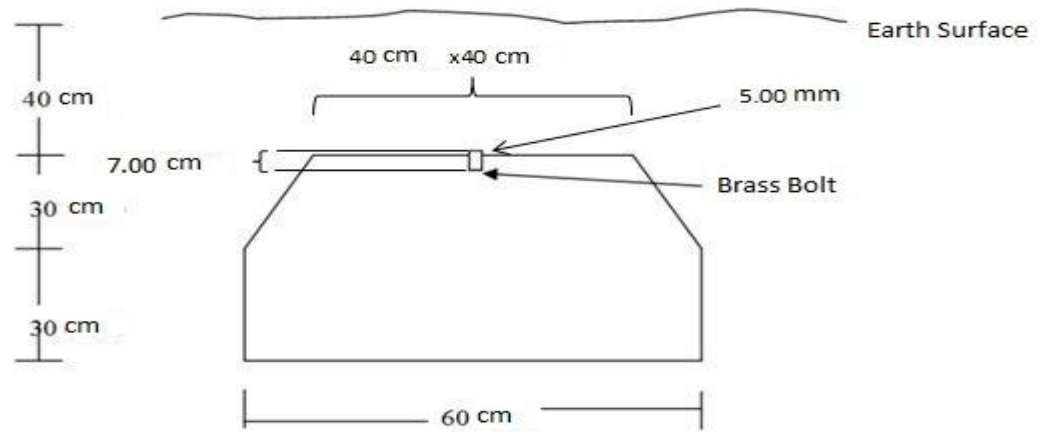
Order of the Control Point	Types of Monuments to be used
Principal control points	A3, B1, B2, B3
Primary control points	A3, B1, B2, B3
Secondary control points	A4, B1, B2, B3
Tertiary control points	A5, A6, B1, B2, B3

Classification of Permanent Control Points (Monuments Type)

2.7. Permanent control points can be categorized as follows.

1. Monument Type : A3

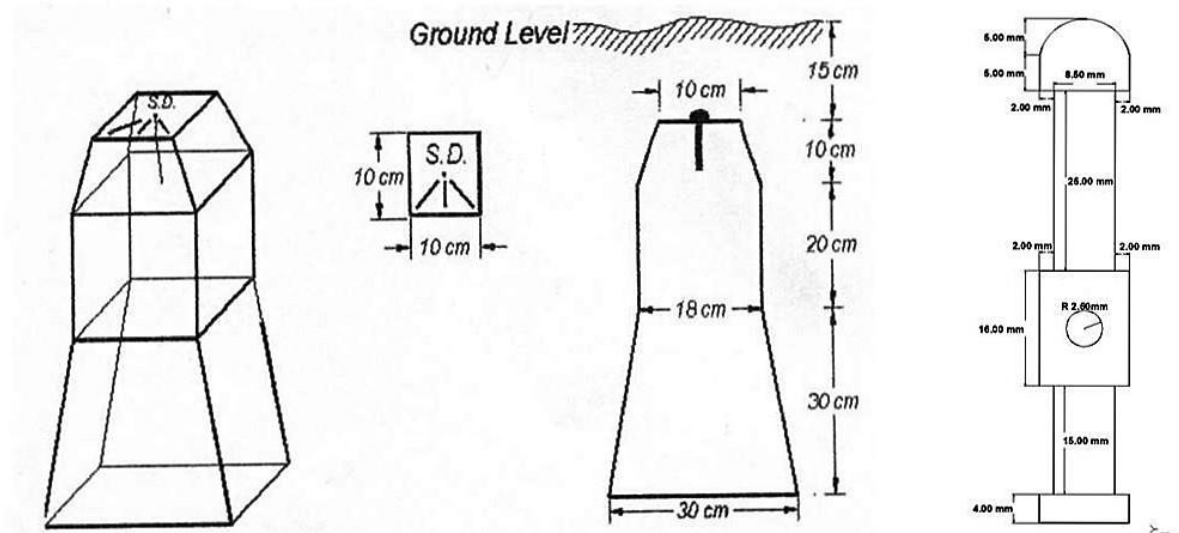
Brass Bolt on Large Concrete Block with following dimensions. Monument should be constructed in that place.



Description :- Brass bolt in Concrete Block

2. Monument Type : A4

Brass Bolt in Concrete Monument with following dimensions.

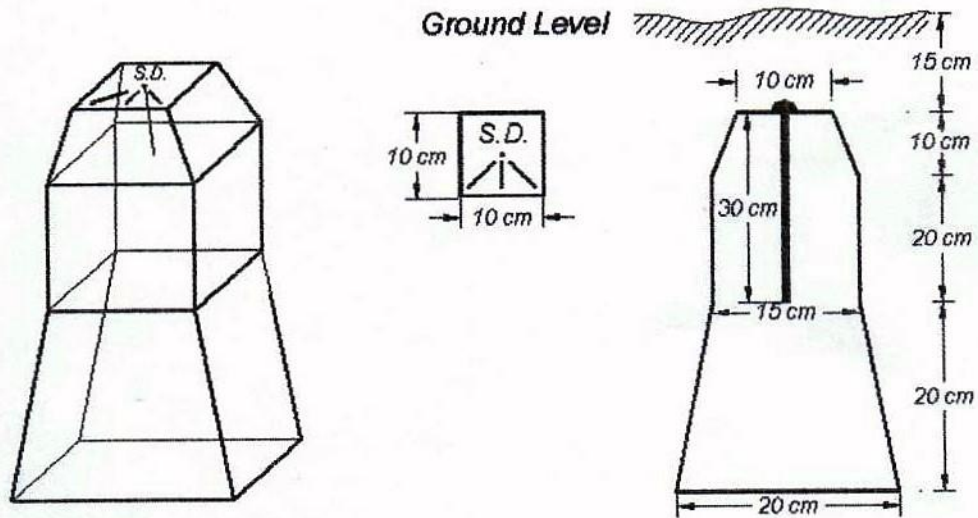


Cross Section of the Bolt

Description: - Brass bolt in Concrete Monument

3. Monument Type : A5

Brass Rod in Concrete Monument with following dimensions.

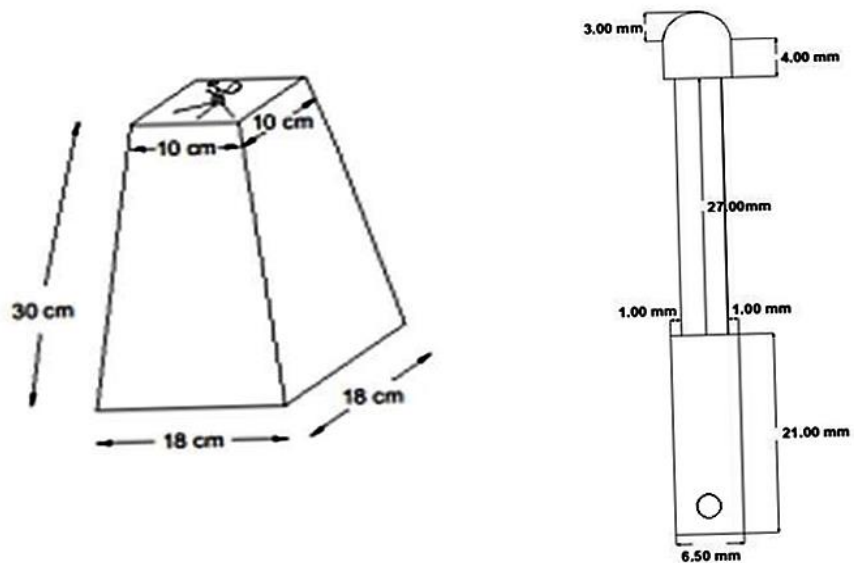


Description: - Brass Rod in Concrete Monument (3mm dimension of brass rod)

4. Monument Type : A6

Brass bolt in Concrete Monument with following dimensions.

A6 MONUMENT

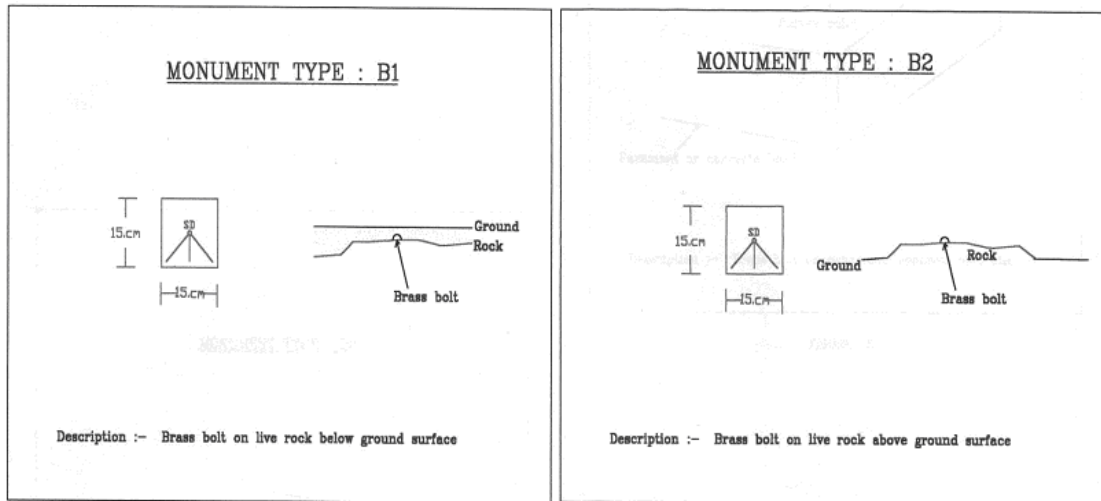


Cross Section of the Bolt

Description: - Brass Bolt in Concrete Monument

5. Monument Type : B1 & B2

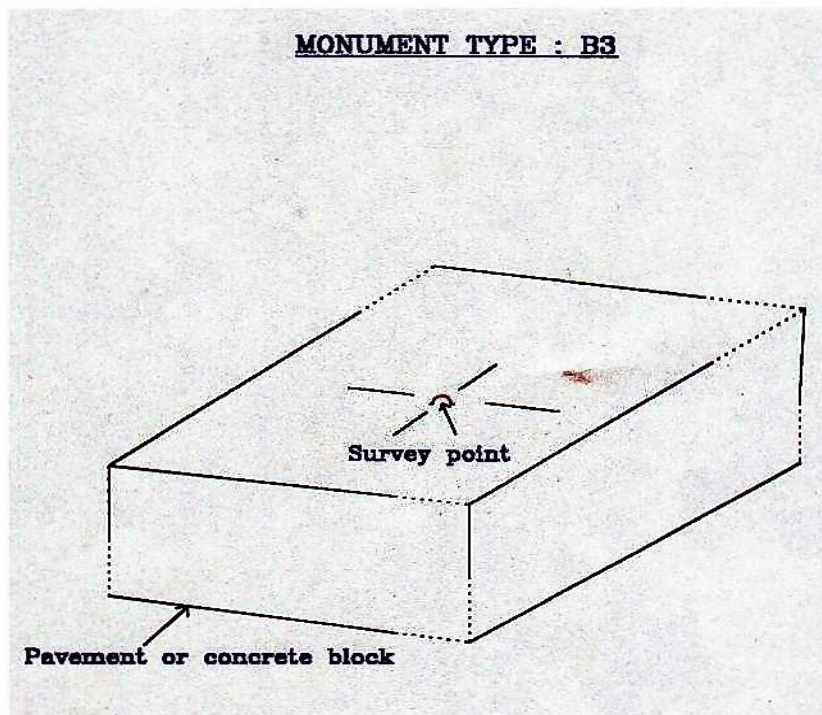
Brass Bolt on Live Rock Below Ground Surface (B1) or Above Ground Surface.(B2) with following dimensions. Brass bolt 7.5cm to be buried on live rock



Description: - Brass Bolt in Live Rock

6. Monument Type : B3

Brass Bolt in Concrete Slab or Pavement. Brass bolt of 7 cm to be buried into concrete slab or pavement.

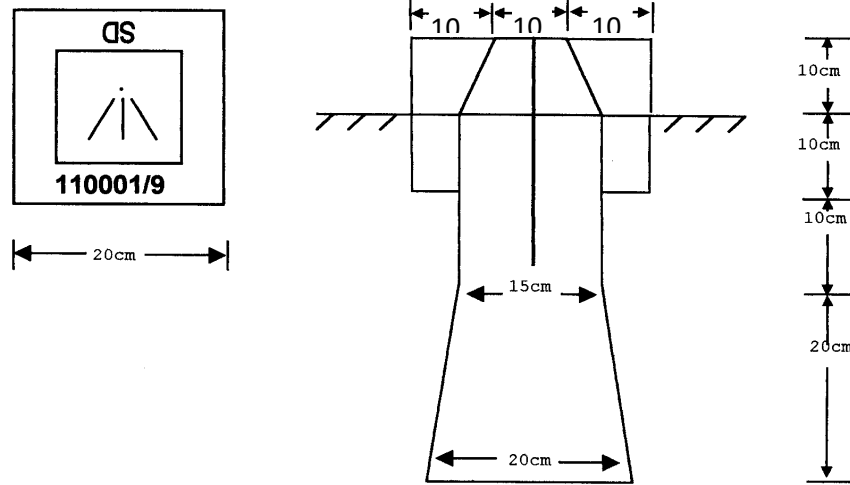


Description: - Brass Bolt on pavement or concrete slab

7. Monument Type : B4

Brass Rod in Concrete Monument with following dimensions (Surface Monument)

Monument should be buried underground with 10 cm projected above ground and to be covered with a concrete tapered base 30X30 cm.



Diameter of the rod is 3mm and length 30 cm

Description: - Brass Rod in Concrete Monument

Numbering of GNSS Control Points

- 2.8. Numbering system adopted for assigning numbers in Principal & Primary Control Networks are described below.

Station	Point No
Base Station at ISM, Diyatalawa	ISMD
Principal Control Points	AA01-AA10
Primary Control Points	A001, A002,
Old Triangulation Points	TO034, TO037,
New Triangulation Points	TN036, TN048,

Geodetic Survey Unit (I.S.M., S.G.O.) and Provincial Geodetic Survey Units are responsible for numbering Secondary (B Type) and Tertiary (C Type) GNSS Control points. In order to adopt a uniform system for each unit and to identify the accuracy level (Secondary or Tertiary) point numbers should be assigned in the following manner.

Secondary Point No: *PQBXXXXX*Tertiary Point No: *PQCXXXXX**PQ* - District Code used in Cadastral Maps (See [Annexure IV of Chapter XXI](#))Third Digit- **B** for Secondary & **C** for Tertiary GNSS points

<i>XXXXX</i>	Geodetic Survey Unit, ISM	00001-40000
	Western Province / SGO Geodetic Survey Unit,	40001-50000
	North Western Province Geodetic Survey Unit	50001-60000
	Southern Province Geodetic Survey Unit	60001-70000
	Central Province Geodetic Survey Unit	70001-80000
	North Province Geodetic Survey Unit	80001-90000

Establishing of Ground Control Points

- 2.9.** Requirements to establish Secondary GNSS (B-Type) controls will be identified by Deputy Surveyor General (Geodetic Surveys) and it is to be implemented through respective Districts.
- 2.10.** Tertiary GNSS controls (C-Type) will be established according to the District level requirements. Every Tertiary GNSS control station should consist of two successive GNSS control stations which are inter visible and at least 100m apart from each other. This is required for the starting of traverses from the GNSS control station with azimuth control and correct identification. Therefore tertiary GNSS control station means a set of three GNSS control stations and all these three points should have clear visibility of satellites.
- 2.11.** It is the responsibility of the Senior Superintendent of Surveys to maintain the required control points to cover all the Grama Niladhari Divisions in the respective districts. This can be checked through the Control Points menu of the Department's website. In this case, the Senior Superintendent of Surveys should also find out the old and unmanageable points in the field by checking these old control points. Accordingly, at the beginning of each year, the locations of the latest GPS points should be identified, which confirms that there are no control points and that the surveys are relevant.

Selecting the appropriate locations for establishing control points should be made on a scale of 1: 50,000 to the Superintendent of Surveys in accordance with the criteria of paragraph 2.12. Once this tracing has been approved by the District Senior Superintendent of Survey, a survey requisition should be made to the field to establish appropriate control points as stated in paragraph 2.7.

Select appropriate location for Ground Control Points

2.12. General constraints in selecting (GCP) Ground Control Points.

- (i) Good Sky Visibility (15° cut of angle above horizon)
- (ii) Undisturbed location due to natural or human activities and preferably in state lands / properties.

- (iii) should be easy to access to the Ground Control Points.
- (iv) Any type of survey equipment should be positioned.
- (v) High-power cables, transmission towers, and signal-reflecting areas should be avoided.

Traverse Control Points

2.13. Establishing Monuments & Preparation of Location Diagram

- (i) Correct type of monument to be buried / constructed at selected locations vide specifications in paragraph 2.7 In accordance with the Survey Requisition issued by the District Senior Superintendent of Surveys to establish control points and to prepare relevant prospection diagrams, the correct type of permanent points should be buried / fixed as specified in paragraph 2.7.
- (ii) As shown in Annexure I a temporary reference number must be assigned to each control point when drawing the detailed field notes for all new control points in the field book.
- (iii) Minimum of 3 tie measurements for prominent permanent features should be shown in the diagram. An approximate coordinate of monument to be taken with Hand Held GPS receiver and mentioned in field note.
- (iv) It is also important to mention the Survey Requisition Number in the prospection diagrams when completing the Survey Requisition and it must be signed by the Government Surveyor and Superintendent of Surveys on every prospection diagrams.
- (v) The kml file prepared to indicate the location of the control points established should be sent by email to the District Senior Superintendent of Surveys.

Application for monitoring of Geodetic Control Points

- 2.14. After preparing the prospection diagram of the control points to be observed in the field notes, the District Senior Superintendent of Surveys should forward the Survey Requisition to the Deputy Surveyor General (Geodetic) for the control survey.

For this, the username and password should be provided for logging in through the Geo SRIMS menu on Staff Access. The request for the survey will be fulfilled by entering the requested information correctly.

Work flow in the Geodetic Survey Units

- 2.15. Once the control point requests are received to the Geodetic Survey Unit, the following procedure should be carried out.

- (i) On receipt of a formal request from the District Senior Supdt of Surveys along with all required documents mentioned above, DSG (Geodetic) will assign the work to a Provincial / ISM / SGO Geodetic Unit to attend the survey.

- (ii) Provincial / ISM / SGO Geodetic Survey Unit should prepare a detail programme for the requested survey task and execute the same accordingly.
- (iii) During the data collection at each station, a GNSS observation record sheet as per [Annexure II](#) should be filled and submitted with the recorded data for processing.
- (iv) Only the control points that can be retrieved after checking by the Superintendent of Surveys (geodetic) obtained by the data processing process should be numbered in paragraph 2.8. Thereafter the Government Surveyors should prepare the data sheet as Annexure III.
- (v) The GEOSRIMS Survey Requisition Number should be marked in the upper left corner of the diagram and the GPS number assigned to each control point should be marked in red. Only the last full point of the North and East coordinates of the area assigned to the coordinates of the diagram should be marked in red.
- (vi) In order to update the database the completed diagram should be uploaded to the Control Database by the Government Surveyor.
- (vii) After the Surveyor has uploaded the data sheet prepared in [Annexure III](#), the Superintendent of Surveys should verify all the data and signed and forwarded to the Geodetic.

2.16. Data Storing & Final Coordinates

- (i) GNSS observation data and the processed data should be stored in the relevant Provincial Geodetic Survey Unit.
- (ii) Diagrams of all Secondary & Tertiary GPS control points surveyed by Provincial/ I.S.M. / S.G.O. Geodetic Survey Units should also be filed in Provincial Geodetic Survey Unit.
- (iii) Checked data sheet sent by the Superintendent of Surveys should be approved after inspection by D.S.G. (Geodetic)
- (iv) D.S.G. (Geodetic) must be taken the action to store the final coordinates and data sheets in the D.S.G. (Geodetic) branch.
- (v) After getting only approval by D.S.G.(Geodetic), the relevant GPS point data can be observed and obtained printed copies through Control Points database.
- (vi) Data sheets and digitized data sent from all geodetic offices should be filed and maintained securely.
- (vii) The coordinates of each of the control points should be issued to the District Superintendent of Surveys by D.S.G.(Geodetic). These coordinates and the relevant diagrams should be prepared in the ledger and stored in the District Office.
- (viii) District Senior Superintendent Surveys must use the issued username and password to log in to the Control Database to issue coordinates for requests to District Offices.

Control Traverses

- 2.17. With the introduction of Global Navigation Satellite System (GNSS) technology for horizontal ground control, requirement of establishing long distance traverses has been decreased. However, traverses have been categorized into three main groups according to their accuracy.

Control Survey Traversing	Accuracy
Primary traverse control points	1:50,000
Secondary traverse control points	1:30,000
Tertiary traverse control points	1:20,000

- 2.18. Usage of Monuments for Control Survey Traverses are as follows.

Order of the Traverse	Types of Monuments to be used
Primary	A6, B1, B2, B3
Secondary	A6, B1, B2, B3
Tertiary	A6, B1, B2, B3, Rock Landmarks

- 2.19. In general maximum precautions should be taken in making linear and angular measurements in order to maintain high standards of accuracy. Requirement of the Survey decides the order of the traverse to be run. Following specifications should be followed to achieve accuracies of traverses in each category.

		Type of Control Traverses			
		Primary 1 st Order	Secondary 2 nd Order	Tertiary 3 rd Order	Total Station detail
Angular measurements	Angular Observation accuracy nearest	1"	3"	5"	5'
	Angular closing error limit	30"	1'	2'	3'
	Method of Angular measurements	Included angle	Included angle	Included angle	Azimuth
	Number of Horizontal zeros (Hz)	6 (0 ⁰ ,30 ⁰ ,60 ⁰ , 90 ⁰ , 20 ⁰ ,150 ⁰)	4 (0 ⁰ , 45 ⁰ , 90 ⁰ , 135 ⁰)	2(0 ⁰ , 90 ⁰)	
	Number of Vertical zeros (V)	4	2	1	
	Faces	2	2	2	
	Max. Std dev of mean of Hz	± 4"	± 8"	± 12"	
	Max. Std dev of mean of V	± 8"	± 20"	± 30"	

		Type of Control Traverses			
		Primary 1 st Order	Secondary 2 nd Order	Tertiary 3 rd Order	Total Station detail
Linier measurements	Station Spacing (m)	200-800 m	100-300 m	50-100 m	
	Length measurements	Dual direction	Dual direction	Dual direction	One direction
		5mm	5mm	5mm	Not applicable
	Max. Std dev of mean of distance measurement	5mm	5mm	5mm	
	Standard Correction (Temperature & Pressure to be fed at the time of observation)	Yes	Yes	Yes	
	Instrument & Target Height	Yes	Yes	Yes	
	Accuracy of Instrument & Target Height	± 10 mm	± 10 mm	± 10 mm	
	Accuracy of Temperature	± 1° C	± 1° C	± 1° C	
	Accuracy of Pressure	± 5 mbar	± 5 mbar	± 5 mbar	
Accuracy	Azimuth Control (Az)	20 Stations	25 Stations	30 Stations	
		3 Intermediate Tertiary GNSS to be established in case of exceeding above limit			
	Azimuth Closure (Az)	5''√N ; N is no of Stns	10''√N ; N is no of Stns	20''√N ; N is no of Stns	
	MSL Correction	Yes	Yes	Yes	
	Coordinate closing limits Value of C (Clu , K – length of traverse in km)	0.2	0.3	0.4	

Setting out Control Traverse

- 2.20.** A proposed traverse diagram on 1:50,000 scale should be prepared under the direction of relevant District Senior Superintendent of Surveys prior to commencement of traversing and Traverse number should be obtained. A register should be maintained at every District Survey Office to issue traverse numbers for 1st, 2nd and 3rd order traverses.
- 2.21.** Special attention should be given to selection of suitable sites for monuments with a view to their easy identification, stability and free of disturbances. Correct type of monument to be buried at selected locations vide specifications in [paragraph 3.1](#)
Two surveyors are expected to be deployed for field work (one for observations and other for recording).
- 2.22.** A clear diagram has to be prepared for each traverse point in EDM traverse Field Book. Minimum of 3 tie measurements for prominent permanent features should be shown and additional information, e.g., proximity to culverts or gardens, which would facilitate identifying the locality of the monument, should also be given. Diagrams and the observations should be recorded in EDM Field Book as per specimen in [Annexure IV](#).

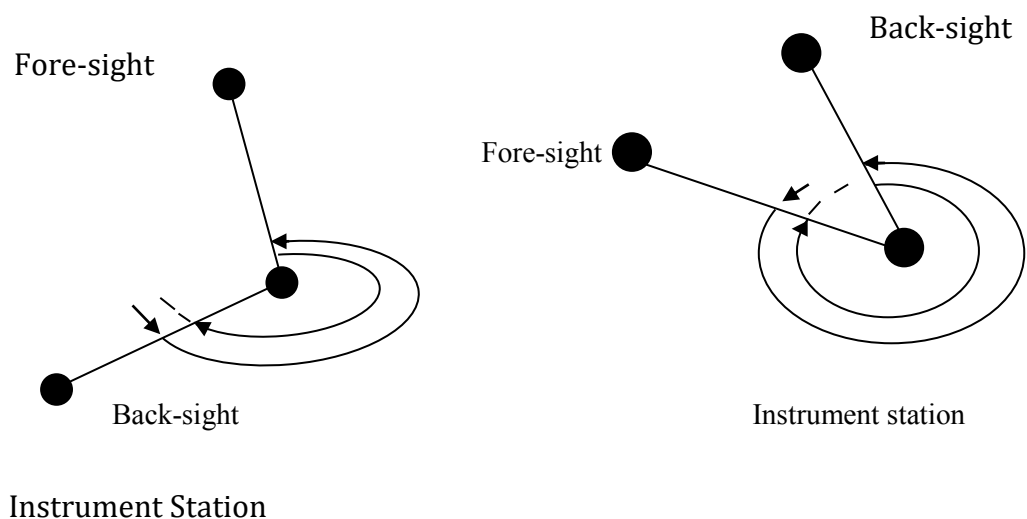
Angular & Distance measurements

- 2.23.** Suitable survey equipment should be selected and field procedure should be followed to achieve the accuracy of the proposed traverse. Anyhow all instruments and accessories to be used should be calibrated and checked for adjustment before field work of each traverse.
- 2.24.** Optical or laser plummets should be used for centering the instruments and targets. Instruments and targets should be centered to within $\pm 2\text{mm}$ over the survey mark. Optical plummet should be checked at each station for verticality by rotating through 360° . The center mark should be coincided with the center mark of the monument at any position. Whenever the difference between F/L and F/R readings of the instrument from 180° by more than $30''$, the instrument should be adjusted for collimation error. Also, when difference between F/L and F/R readings of vertical angles depart from 360° by more than $30''$ the instrument should be adjusted. This adjustment has to be done under the direction of District Senior Superintendent of Surveys.
- 2.25.** Independent observations at each station will be made for angular and distance measurements. It is necessary to take appropriate no zeros set observations for both horizontal angles and vertical angles according to the order of traverse as per specifications in para 2.19

Temperature & Pressure to be applied to the instrument at the time of observation and the *ppm* to be recorded. Instrument & Target heights should be measured to nearest $\pm 10\text{ mm}$ and to be recorded. Prism Constant of the reflector to be applied to the instrument before making distance measurements.

Traverse Observation Procedure

- 2.26.** Always use three tripod systems for traverse observations. Tripods should be centered accurately over the traverse point. Independent included angle-measuring technique to be adopted for all control traverses. In this method the clockwise angle from back-sight to fore-sight to be measured in both faces. In this method clockwise angle from back-sight to fore-sight to be measured in Face Left and anti-clockwise angle from fore-sight to back-sight to be measured in Face Right.



2.27. Following four steps will complete first independent angle (Zero).

- (a) Observe the back-sight in face left. Set the instrument reading to zero setting. Observe and record the horizontal angle, zenith angle & slope distance to back-sight target in face left (FL).
- (b) Then swing the telescope in clockwise direction and observe fore-sight without over shooting the target. Record the horizontal angle, zenith angle and slope distance & to fore-site target.
- (c) Turn the telescope slightly to pass over the fore-sight target and invert the telescope to change the face to face right (FR). Observe the fore-sight target in anti- clockwise direction without over shooting the target and record the horizontal angle, zenith angle and slope distance & to fore-site target.
- (d) Then observe back-sight in anti-clockwise direction without over shooting the target and record the horizontal angle, zenith angle and slope distance & to fore-site target.

2.28. Change face to FL and unclamp the upper plate and rotate clockwise approximately to the next zero position $[(n-1)*180^\circ/N ; N - \text{Number of Zeros, } n - n^{\text{th}} \text{ Zero}]$ approximately. Clamp the upper plate, unclamp the lower plate and turn the instrument clockwise until back-sight target is in sight and repeat the same procedure (a) to (d) above to complete second independent angle (zero).

Repeat the above steps until completion of required number of zeros.

2.29. At the end of each zero, observer must check the means and standard deviations are within the allowed errors according to the EDM traverse technical specifications. If the error is exceeding the allowed error new observation should be taken.

Data Reduction, Computation and Adjustment

2.30. Observations recorded on Field Book at each station should be reduced to compute mean Hz included angle, mean V angles and mean distances for each zero settings. After rejecting blunders, computed data to be extracted into abstract sheet as Specimen shown in [Annexure V](#).

Mean of the included angles, vertical angles and distances in the abstract to be computed and data exceeding the limits giving in the specifications to be rejected.

The maximum azimuth misclosure allowed for traverses will be calculated from the formulas $5''\sqrt{N}$, $10''\sqrt{N}$, $20''\sqrt{N}$ for Primary, Secondary and Tertiary of traverses respectively ; where N is total no of stations of the traverse.

2.31. Azimuth of each traverse leg to be computed using mean angles and misclosure with the Azimuth of the closing leg. Misclosure to be checked and error to be distributed equally if the closure is within permissible limits.

Mean distances should be corrected for calibration errors by applying Constant Error & Scale Error.

2.32. The maximum linear misclosure allowed for traverses will be calculated from the formula $C\sqrt{K}$ meters, where K will be the length of the traverse in km. The value of C with respect to traverse order is given in paragraph 2.19

Linear misclosure shall be distributed according to the Bowditch Rule or any other suitable method if the misclosure is within permissible limits.

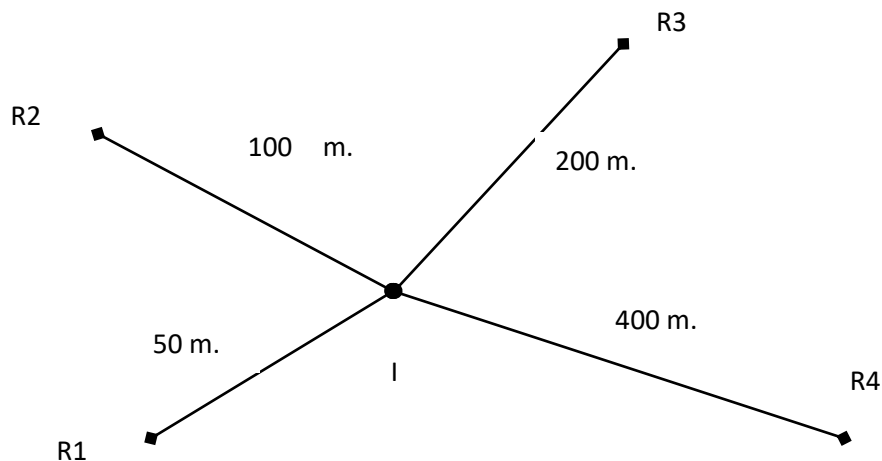
- 2.33.** Finally adjusted azimuth and corrected distances or included angles and distances to be used for traverse computation & adjustment.
SDCAD software or any other software acceptable to the Department can be used for Traverses computation and adjustment.
In this chapter describes Control Survey Traverses in Primary, Secondary, Tertiary and Detail traversing has been described in Chapter XI.

Traverse & Station Numbering System

- 2.34.** Traverses should be numbered sequentially for each category in each district. Traverse number consists of the traverse order, district number and sequential number. First two letters generally denote the class of control traverse followed by a hyphen and two digits for identification of the District followed by a hyphen and four digits sequential identification number. (e.g. is 15th First order Traverse in Kurunegala District will be numbered as E1-42-0015). This number should be obtained from District Senior Superintendent of Surveys for each traverse.
- 2.35.** Station number of a control traverse will be generated with traverse number and sequential two digit number for station identification. (e.g. 24th traverse station of 18th Second order Traverse in Kandy District will be numbered as E2-32-0018-24). Assigned District code numbers are given in Annexure IV of Chapter XXI.

Calibration of EDM Instrument

- 2.36.** Periodic calibration of EDM Instrument is essential to safeguard the accuracy of distance measurements but full calibration is tedious and time consuming. Further the instrument will have to be taken to an especially prepared/constructed Calibration Base at ISM, Diyatalawa or SGO, Colombo. In order to avoid this difficult situation, it has been decided to do a performance check for every EDM Instrument once in month or after surveying approximately 500 survey lines or whichever comes first.



(I - Instrument Station, R1, R2, R3, R4 Reflector Stations.)

For this purpose a test field must be established closer to every Divisional Survey Office. This test field consists of one instrument station preferably closer to the office and four other easily accessible reflector stations at approximately 50, 100, 200, 400 meters away from instrument station. These stations can be along straight lines such as a road, or as shown in the diagram above. A4 type monuments can be used for this purpose. It is preferred if one additional reflector station is established at a distance little more than 1 km away, the accuracy of the instrument can be checked. The reference lengths of the lines are determined with the working EDM instruments immediately after full calibration at I.S.M. or S.G.O. Calibration Base. This will give the actual reference values (standard lengths) and should be recorded in a logbook maintained for the home test field for future reference.

The reflector stations should be selected such that the elevation or depression of the lines from instrument station not to exceed 5 degrees.

The surveyors who are working with the EDM instruments should measure these lines and enter the logbook. Horizontal distances should be measured and recorded in F/L and F/R positions in the home test field record sheets. The temperature and pressure should also be recorded and fed to the instrument when measuring each of the lines. The mean values of the horizontal distances should be corrected for the calibration parameters for the fully calibrated instruments. The calibrated horizontal distances finally should be recorded in the log book.

A logbook consisting of home test field record sheets and log sheets for one set of the home test field lines should be maintained by the Superintendent of Surveys. The differences with the standard distances should be checked by the Superintendent of Surveys and his comments on the instrument should make in the log book itself. If the difference of the all measured distances are differed by $\pm 0.020\text{m}$ or more with the standard distances, it is recommended that the check be repeated very carefully. If the second comparison check confirms the results of first, it is necessary to do the full calibration; otherwise it will be considered that the instrument is not in good working condition.

District/ Provincial Senior Superintendent of Surveys and Provincial Surveyor General must scrutinize these logbooks whenever they visit the Divisional Survey Offices.

Geodetic Vertical Control

- 2.37. The earliest level recorded are dated 1865 and 1000 miles single leveling completed in 44 years. Old level lines formed no network since leveling was only done as the need for it arose. Between 1904 and 1909 the standard of leveling was improved and more attention was given to construction of permanent Benchmarks. In 1909 more staff was deployed and leveling operations were undertaken systematically. As a part, new network was tied down to the mean sea level determinations made by the Great Trigonometry Survey of India at Colombo, Galle and Trincomalee between 1884 and 1895.

During the period of 1909 - 1914, supplementary benchmarks were constructed and 650 miles of double leveling completed. Work was stopped at the outbreak of 1st World War in 1914 and operation was resumed in 1923 and 200 miles completed by 1924.

In 1925 whole leveling procedure was reviewed and decided to start afresh with modern instruments and methods of precision. The leveling was done with precise levels as well as invar staves. And grate care was adopted in leveling procedures in order to achieve results of

the highest accuracy. The geodetic leveling network comprises of 59 FBM, 5 SBM, and 4000 km of double-leveling forming 27 circuits.

The primary leveling network covers entire country and compares favorably with leveling of high accuracy in other countries of the world.

From then on, leveling has been extended by secondary, tertiary and minor leveling to provide height control for all development projects in Sri Lanka. In this process 6 FBM constructed in 1924, 31 FBM in 1925, 22 FBM in 1926 and principle network was completed by 1928.

Observation and adjustment of Geodetic Leveling Network of Sri Lanka was completed in 1926-1930 and the results were published by Surveyor General in 1932 through "The Geodetic Leveling of Ceylon- Vol I and II".

2.38. Datum

Mean Sea Level of Sri Lanka is treated as the reference level or datum for Orthometric heighting. All geodetic leveling should be based on this datum.

2.39. Fundamental Benchmarks (FBM)

There were 59 Fundamental Bench Marks built on large masses of rock similar in design to BMs of Ordnance Survey with a bolt in the underground chamber (Lower bolt) and a bolt in a pillar above ground (Upper bolt).

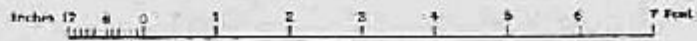
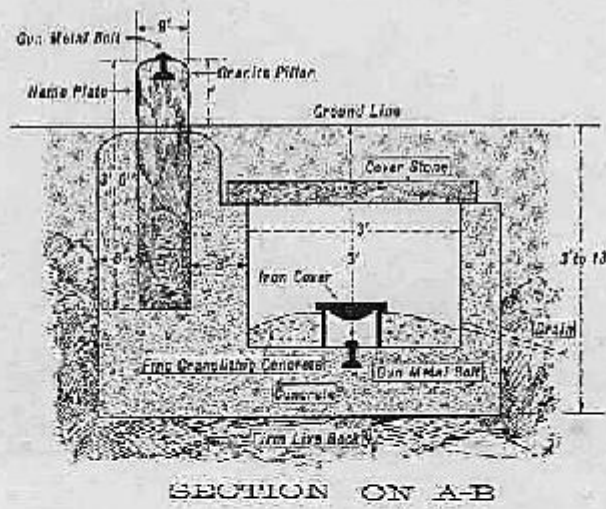
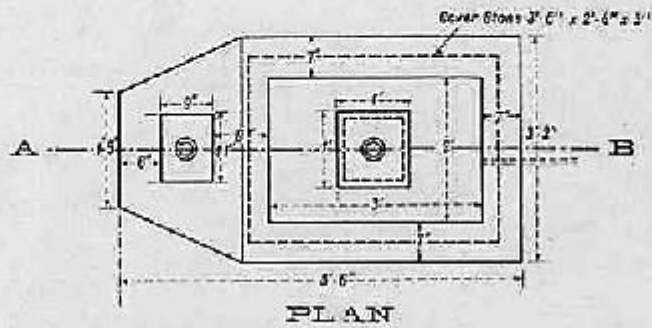
2.40. Standard Benchmarks (SBM)

Standard Benchmarks, of which there are 5, of the form of Brass bolts set in large concrete block constructed in situ at a depth below ground surface of 1 m. These were constructed instead of FBMM in locations where solid rock foundations could not be found. Even though they are named as Standard (SBM), their accuracy remains similar to FBMM.

2.41. Primary Level Network

Primary Level Network consists of Fundamental Benchmarks and series of Primary level lines run among them. This network has already been established and fully described in volume I of the Report on the Geodetic Leveling of Ceylon. The descriptions and values of Primary benchmarks are published in volumes II of the same Report. Following diagram depicts location of FBMM /SBMM and Preliminary level lines with their respective numbers. Monuments have been used for leveling are described in the [Annexure VI](#) and the monument types currently used for leveling are described in paragraph 2.7

FUNDAMENTAL BENCH MARK



SCALE

Leveling

2.42. Secondary (SL) & Tertiary (TL) Leveling

Secondary level lines were run to break down the Primary Level Network and to densify the vertical control. Tertiary (TL) and Minor (ML) leveling are run for the further densification of leveling. Detail leveling is done in order to determine the elevation of required points.

2.43. Numbering of Level Lines

In numbering level lines prefixes PL for Primary level lines, SL-Secondary Level lines, TL-Tertiary Level lines, ML-Minor Level lines and DL-Detail Level lines are followed by their respective level line number. For geodetic leveling (PL, SL, TL) level line numbers will be assigned by the Deputy Surveyor General (Geodetic). Minor & Detail Level line numbers to be assigned by respective districts. This number should be written on level books, diagrams and corresponding documents.

2.44. Numbering of Benchmarks

Benchmark number of a level line will be generated with 3 digit level line number and sequential 3 digit number for station identification. (e.g. 134th benchmark of 18th tertiary level line will be numbered as TL-018-138).

Benchmark numbers of Minor & Detail level lines will be numbered in district level. It will be generated with district number, 3 digit level line number and sequential 3 digit number for station identification.

e.g. 120th benchmark of 15th Minor Level line in Matara District will be numbered as ML-82-015-120

e.g. 120th benchmark of 15th Detail Level line in Matara District will be numbered as DL-82-015-120

2.45. Specifications for Geodetic Leveling

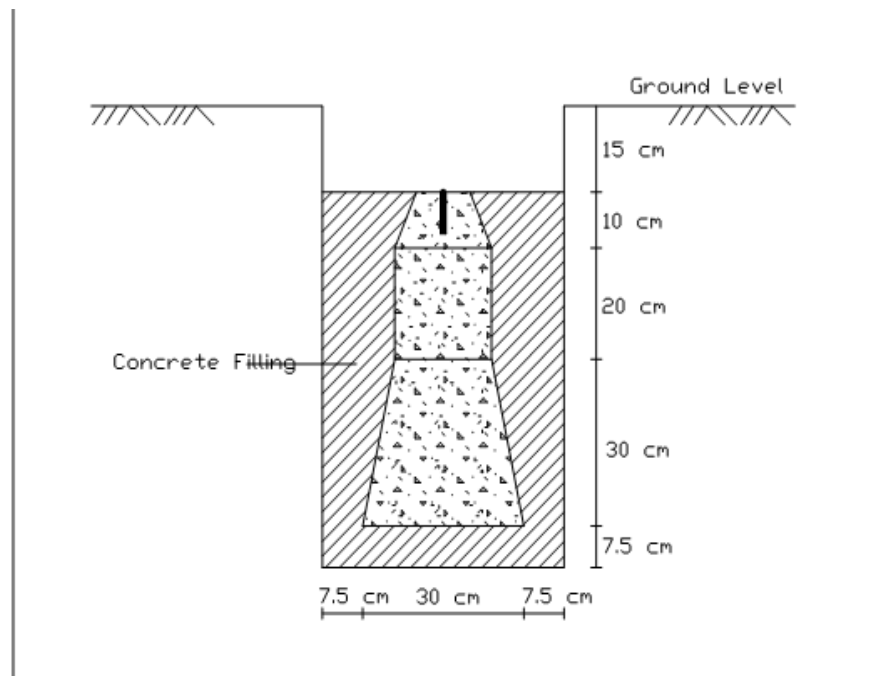
	Type of Geodetic Level Lines	Primary(PL)	Secondary (SL)	Tertiary (TL)	Minor(ML)	Detail (DL)
1	Instrument	Digital Level with 0.2mm accuracy for 1 km double run or better	Digital Level with 0.2mm accuracy for 1 km double run or better	Digital Level with 1.0mm accuracy for 1 km double run or better	Digital Level with 1.5mm accuracy for 1 km double run or better	Digital Level with 1.5mm accuracy for 1 km double run or better
2	Monument Type	A4, B1,B2	A4, B1, B2	A6	A6	E
3	Starting Point	LB of FBM / SBM	LB of FBM / SBM / PL	PL or SL	PL, SL or TL	

	Ending Point	LB of FBM / SBM	LB of FBM / SBM / PL/ SL	TL or Higher	ML Higher or	
3	Procedure	Precise	Precise	Precise or Ordinary	Ordinary	Ordinary
4	Mode of Observation (B-Back Sight, F – Fore Sight)	BFFB	BFFB	BF	BF	BF
5	Allowable discrepancy between two back Sights or two Fore Sight readings	0.05 mm	0.05 mm	-	-	-
6	Allowable discrepancy in distance between back Sight & Fore Sight	0.5m	0.5m	1m	2m	2m
7	Maximum Length of Level line	-	-	20 km	12km	5km
8	Min distance between Instrument & Staff	7m	7m	-	-	-
9	Max distance between Instrument & Staff	50 m	50m	60m	60m	60m
10	Allowed Closure (m) Error	$0.00276 \sqrt{K}$; K: length of line in km	$0.004\sqrt{K}$ K: length of line in km	$0.006\sqrt{K}$ K: length of line in km	$0.010\sqrt{K}$ K: length of line in km	$0.024\sqrt{K}$ K: length of line in km

2.46 Establishment of Primary, Secondary and Tertiary Level lines

The Deputy Surveyor General (Geodetic) will direct all primary, secondary and tertiary leveling. Field work will be carried out by officers assigned to Geodetic Survey Units. However, establishment of benchmarks in a level line will be carried out by relevant district. All level lines should be established considering following criteria.

- a) Every 500m interval BM should be established and their base and the collar should be concreted as depicted below.



A4 monument with base & collar concreted

- b) No obstacles should be above the BM to enable holding leveling staves vertically and the BM location should be suitable to set up bipod or any other surveying instruments and work conveniently.
- c) BM brass bolt should emerge minimum 5 mm above concrete to facilitate free movements of leveling staves.

On successful completion of monumentation, following documents should be prepared and send them to DSG (Geodetic) for further action.

- a) A complete diagram to be prepared for each BM in a Field Book giving all information shown in **Annexure X**. Minimum of 3 tie measurements for prominent permanent features should be shown in the diagram. An approximate coordinate of monument to be taken with Hand Held GPS receiver and mentioned in field note.
- b) Prepare a 1:50,000 location diagram / kml file showing newly established control points.
- c) Scan relevant FBB pages and name those images with respective reference number.

With the receipt of all documents at the completion of monumentation a considerable period of time should be lapsed to settle before commencement of leveling.

Where new level line starts or closes on an old established benchmark (not a Fundamental Benchmark), the existence of the old benchmark must be verified by running a test leveling to another known benchmark of the same or higher order in the vicinity.

With the commencement of field process, raw data of geodetic leveling should be downloaded and printout to be pasted on a numbered level book under relevant loop of the level line as per specimen in [Annexure VII](#). Anyhow this format could be somewhat different from the instrument to instrument.

Height difference of benchmarks in each loop obtained by forward and backward leveling will be extracted to an abstract form given in [Annexure VIII](#). Results in an abstract form will be scrutinized to determine the loops that are not in the permissible limit and to re-level the

misclosed loops. With the acceptance of all loops in the level line adjustment will be done using the format shown in [Annexure IX](#).

A clear complete diagram as in [Annexure X](#) showing the location, tie measurements, approximate coordinates and height will be prepared for each benchmark in the level line and report on level line will be published by D.S.G. (Geodetic).

2.47 [Specification](#) for Conventional Methods

At present digital levels and bar-coded staves are used for Geodetic Leveling. Therefore most of the procedures adopted in past have diminished. However, different settings have to be made in the instruments according to their make & accuracy to achieve the standards required.

Followings are the conditions of agreement for Primary and Secondary leveling with conventional methods. Chapter V in Technical Instructions fully describes the manual operations of precise leveling.

	Conditions of Agreement	Must not exceed	
		Primary	Secondary
i	The differences of the stadia hair readings	0.006096m	0.012192m
ii	The differences of the level hair readings on one staff (back or fore)	0.000457m	0.000610m
iii	The difference of the sum of the stadia hair and the sum of the level hair readings	0.001067m	0.001524m
iv	The stadia distance	38.1m	41.1m
v	The discrepancy between back and fore leveling for each section and for each line ;	$0.00276\sqrt{K}$ where k is the distance in kilometers	$0.00386\sqrt{K}$

For other types of leveling, the following accuracy should be maintained. The limits of errors are as follows.

Primary = $0.003\sqrt{K}$

Secondary = $0.004\sqrt{K}$

Tertiary = $0.006\sqrt{K}$

Minor = $0.010\sqrt{K}$

Detail = $0.024\sqrt{K}$

For Detail surveys to

Observe reduced levels = For 1 Km or a fraction of one Km 0.02 m (2cm)

Where K is the length of level line in kilometers.

2.48 Verification of Fundamental Benchmarks

Senior Superintendent of Surveys in District/ Province should inspect or arrange for the inspection by a competent officer of all Fundamental Benchmarks in their district/ province annually and submit a report in the given form to Senior Superintendent of Surveys (Geodetic) for further action with copy to relevant Provincial Surveyor General. However Provincial Surveyor General concerned should take proper action accordingly if he considers that special action is required in connection with any Fundamental Benchmarks.

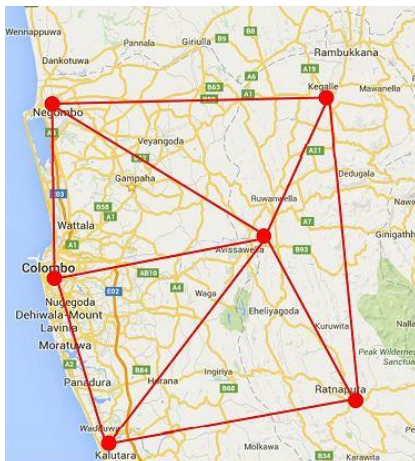
If found any benchmarks in PL, SL or TL are destroyed or missing, Senior Superintendent of Surveys in relevant District should inform to D.S.G. (Geodetic). See [Annexure XI](#) for annual inspection report.


Establishment of Survey Control Points) using SLCORSnet

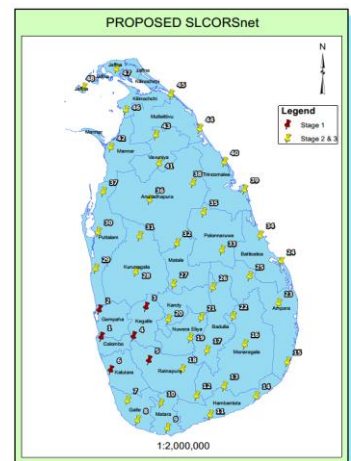
2.49 Surveying with SLCORSnet (Sri Lanka Continuously Operating Reference Station Network)

The Continuously Operating Reference Station Network which is governed by the Survey Department of Sri Lanka is known as the SLCORSnet. The SLCORSnet comprises of physical GNSS reference stations at remote designated locations that transmit the collected GNSS raw data lively to the Control Centre based in Colombo at the Survey General’s Office. This raw data is processed using a GNSS network processing software housed at the Control Centre, which then will be transmitted to the users in the field over the internet based on their geographic locations in the form of RTCM corrections. Online delivery of RINEX raw data and online post-processing services are provided as real-time web services from the SLCORSnet.

This System is used to give highly accurate value for positions using GNSS technology. By connecting several reference stations, a network is formed to act as a virtual reference network for clients to log in and obtain RTK corrections to increase the positional accuracy.



Stage 1: 6 Stations 



Stage 2: 42 Stations 

Established SLCORSnet-Stage I (6 Stations) and Proposed SLCORSnet

- 2.50** In Stage I of the SLCORSnet, six CORS stations were already established covering the Western part of the country in Colombo, Awissawella, Katana, Rathnapura, Kegalle and Kaluthara. To work using the SLCORSnet, create a user login by visiting the link in the official departmental website or directly **www.slcornet.survey.gov.lk**. After registering under the SLCORSnet, all these services can be used with the given user login.

While configuring, the work mode of the project should be configured by giving the required details as the following.

Domain/IP	:	222.165.190.67	
Port	:	2101	
Source	:	VRS or VRS_BDS	
User Name	:	geoTest	} Give the username and the password created in the SLCORSnet Eg: user name: geoTest
Password	:	xxxxxxx	

Network Real Time Kinematic (NETWORK RTK)

2.51 Network RTK with SLCORSnet (Network Real Time Kinematic)

To reach centimeter-level — or even better — accuracy of positioning, typically requires the use of precise dual-frequency carrier phase observations. Furthermore, these observations are usually processed using a differential GNSS (DGNSS) algorithm, such as real time kinematic (RTK) or post-processing (PP). The virtual reference station (VRS) concept can help to satisfy this requirement using a network of reference stations.

2.52. Online-RINEX Delivery: GNWEB:

SLCORSnet Geo ++® GNWEB is an internet client application for the online provision of RINEX & Virtual RINEX from the SLCORSnet reference station network.

GNWEB offers internet users the opportunity to generate RINEX data for each provided GNSS reference station individually or virtual RINEX data for a user defined position to reduce distance dependent GNSS error sources. The user receives a report of the data availability and thus can check the suitability of the data prior to the actual download. The data requested by users are provided for a certain time period on the GNWEB server for download.

2.53. Procedure For the Establishment of Control points using Network RTK Solution (NRTK) of SLCORSnet

Below Steps should be followed to [establish a Control Point](#).

- ❖ Points should be established at a location with clear sky visibility.
- ❖ GNSS receiver should be fixed on Tripod over the point.
- ❖ Select Precise Solution at the Configuration and set precision HRMS=0.015& VRMS=0.030
- ❖ Select Network RTK and VRS correction method (VRS or VRS_BDS)

- ❖ Select the average observation as 25
- ❖ Wait for the correction is fixed.
- ❖ Antenna height should be correctly measured and entered to the Controller before starting the data recording.

2.54. Monument

Landmark or Rock Landmark should be used for the Network RTK GNSS Control points.

2.55. Numbering System for Control Points

District Survey office is responsible for numbering and maintaining the records of Network RTK GNSS Control points. In order to adopt a uniform system for each District and to identify the accuracy level, Network RTK Control point numbers should be assigned in the following manner.

Network RTK Control Point No: *PQRSTUNXXX*

<i>PQ</i>	-	District Code used in Cadastral Maps
<i>RSTU</i>	-	GN Code used in Cadastral Map
<i>N</i>	-	N for Network RTK GNSS Control points
<i>XXX</i>	-	Point No.

2.56. Location Diagram

Location diagram as shown below should be prepared by the Surveyor at the time of recording data. No re-production of location diagram should be attended at the office. See [Annexure XII](#)

[Procedure for capturing Detail Survey points using Network RTK Solution of SLCORSnet](#)

2.57. Below steps should be followed to capture the detail survey points and survey points with the proper prospection diagram of the proposed survey area.

Detail surveys using Network RTK Solution

- Select Network RTK and VRS correction method. (VRS or VRS_BDS)
- Select Precise Solution at the configuration and set precision HRMS=0.050 & VRMS=0.100
- Select the average observation as 5
- The receiver must be clamped vertically over the station by using level bubble
- Wait till the correction shows the fixed status to record the details

2.58. There are three types of data storage.

1. Auto
2. Float
3. Fixed

Auto and Float are not accurate and these are not allowed to use. Always check the correction type before recording the data.

2.59. It is obvious that all the [detail points cannot be observed](#) using the GNSS receivers due to the ground conditions like sky visibility (15° cut of angle above horizon). In case of non-availability of satellite coverage at the boundary points, two or three points to be established visible to each boundary point. Hence EDMs happened to be utilized to pick up those details with self-established control points (NRTK Control points) by using the SLCORSnet and GNSS receiver in RTK mode. These control points should also be established in such a way that easy access to the location and suitability to set up any type of survey equipment in future work.

2.60. There are many methods can be adopted to pick up details according to the following cases.

- I. Use the chain and tape, if detail points are within 10 m from the line joining NRTK control points and book as usual in the field book.
- II. Use radiation method using Total station & NRTK control points and book as usual in the field book.
- III. Use resection method using Total station & NRTK control points and book as usual in the field book.
- IV. Use the Total station normally using the self - established NRTK control points and book as usual in the field book.

[Detail Operating Instructions for the use of available GNSS receivers](#)

2.61. One of the basic concepts of the establishment of the SLCORS network is to expedite the detail level data capturing using the GNSS receivers, compatible to work with the SLCORS network. This illustrates the operating instructions for the use of CHC i80 & Topcon GR-5 Receivers.

Note: Before leaving the office, observe the point by connecting with network RTK with a known point. For this purpose few control points can be established in your office premises.

See the following guidelines for the usage of Topcon GR-5 and CHC i80 receivers. Users / Surveyors are expected to maintain the accuracies for network control points and detail (Topo) points with the following settings.

Paragraph 2.13

Annexure I

<i>DESCRIPTION OF GPS CONTROL POINT</i>		Geodetic Point ID: <small>(For Geodetic Survey Unit use only)</small>	
Client Requisition No:		Client Point ID:	
Handheld Coordinates	Northing :	Monument Type	
	Easting :	Depth(m)	
Province	North western	District	Kurunegala
D.S.Division	Kotawehera	Village	Kotawehera
Prepared by		Checked by	
Name		Name	
Designation		Designation/ Div.SO	
Date		Date	

(Note: All measurements are in metres)

Means of access to the point :

<small>For Geodetic Survey Unit use only</small>	
GeoSRIM Requisition No:	Geodetic Point ID:
Observed by :	Northing:
Processed by:	Easting:
Checked by:	Project:
Date:	

Paragraph 2.15

Annexure II



GNSS OBSERVATION RECORD SHEET
Geodetic Survey Unit

Annexure II

Location Diagram

	<u>EDM DISTANCE</u>			
From Point	To Point	Distance (m)	Grid Distance (m)	Difference (m)
1.
2.
3.

MISSION: *TGPS / SGPS / TITLE / GCP / MISC* / *Reqn. No.* :

PROJECT: *JOB (STATION NAME)* :

OBSERVATION TYPE: *STATIC / KINEMATIC / REALTIME*

RECEIVER TYPE: *SYS.500 / SYS.1200*

SERIAL NO: *PICKET NO.* :

DESCRIPTION OF POINT :

SKY VISIBILITY: *GOOD / FAIR / POOR*

SATS AVAILABLE			GDOP	PDOP	BAT LEVEL		FREE MEMORY
<i>L1</i>	<i>L2</i>	<i>TOTAL</i>			<i>A</i>	<i>B</i>	
							<i>MB</i>
							<i>MB</i>

OBSERVER : *RECORDER/OTHERS* :

OBSERVATION : *START* : *END* :

HEIGHT READING (m) : 1..... 2..... *MEAN*:

REFERENCE ELLIPSOID : *WGS84 / EVEREST*

APPROXIMATE:	<i>D</i>	<i>M</i>	<i>S</i>
<i>Latitude</i>			
<i>Longitude</i>			
<i>Height (m)</i>			

REMARKS :

PHOTO No: *DATE : 20*

PREPARED BY : *CHECKED BY* :

Paragraph 2.15

Annexure II

Annexure II



GPS OBSERVATION RECORD FORM
Geodetic Survey Unit

• **SATELLITE AVAILABILITY , GEOMETRY AND BATTERY LEVEL**

TIME	SATELLITE	GDOP	BAT. LEVEL	REMARKS

• **EQUIPMENT CHECK LIST AND FIELD PROCEDURES**

ACTIVITY	DESCRIPTION	DONE	REMARKS	
Departure to site	Batteries		Fully charged. Back-up available	
	Tripod			
	Try Brach			
	Try Brach Adaptor			
	Tape Measure			
	Pen/Pencil			
	Compass		For orienting sensors	
	Observation schedule		Allow enough time to at 1 st site early	
	Routes, site access verified		Dead measurement sketches	
	Station sheet			
	Station description			
	Network Map		If required	
	Flashlight		If necessary	
	Equipment manuals		If necessary	
On site	GPS receiver		Make sure there is enough memory	
	GPS battery cable		If external battery used.	
	Vehicle gassed up			
	Set up Equipment			
	Measure Ht. and record			
	Measure antenna offset and record			
	Start survey		Verify settings	
	Receiver normal		Does it behave as expected? If any malfunction on port error and error message time.	
	Expected satellites tracked			
	Cycle slips only where expected		E.g. Satellite(s) behind building	
	Battery strength OK?			
	Field sheet filled?			
	End of session	Plan move to next site		
		Measure Height and record		
Verify antenna offset				
Stop session, take down equipment				
Is battery good for next session			If not start next session with backup	
Return at end	Field sheet turned in			
	Field sheet return			
	Equipment cleaned and stored			
	De-briefing		Anything peculiar has happened	
	Batteries on charge			
Vehicle gassed up				

Paragraph 2.15

Annexure III

Client Requisition No: KA/DSO/2019/171		Geo SRIM Reqn. No: 2019/125												
Client ID	SD Point ID	Requisition.No	Latitude (WGS84)	Longitude (WGS84)	Height (WGS84) (Meter)	Latitude (EVEREST) (T)	Longitude (EVEREST) (T)	E	Ellip Height (EVEREST) (T) (Meter)	Northing (Meter)	Easting (Meter)	Elevation (MSL) (Meter)	Hz quality	Ht quality
KA841G003	53C40154	2019/125 & KA/DSO/2019/171	N	N	E 62.843		N	E	160.414			-100	TGPS	nodef
KA841G001	53C40155	2019/125 & KA/DSO/2019/171	N	N	E 65.228		N	E	162.797			-100	TGPS	nodef
KA841G002	53C40156	2019/125 & KA/DSO/2019/171	N	N	E 67.984		N	E	165.554			-100	TGPS	nodef

Observed and Processed by:

A.B.C.

 Govt.surveyor

Checked by:

A.B.C.
 SS (Geodetic/ PRO., ISM, SGO)

Certified by:

A.B.C.

 Snr.SS (Geodetic/ PRO., ISM, SGO)

Paragraph 2.20

Annexure IV

Station Observed	32C20042	E132001202	32C20042	E132001202
Ht. of Target :	1.58 m	1.60 m	1.58 m	1.60 m
VERTICAL ANGLES AND DISTANCES				
Face Left :	91 52 35	85 19 24	91 59 29	85 19 21
Face Right :	268 07 59	274 41 03	266 07 55	274 41 04
Sum :				
Angle :	51 52 18	04 40 49.5	51 52 17	04 40 48.5
Slope Distance :	91.025	140.901	91.026	140.902
Mean Slope Distance :	91.026	140.901	91.027	140.901
Horiz. Distance :	91.026	140.901	91.027	140.902
Elevation :				
HORIZONTAL ANGLES				
Face Left :	00 00 00	157 50 16	30 00 30	181 50 58
Face Right :	179 59 40	337 50 11	210 00 22	07 50 48
Mean :	55.9 59 50	157 50 13.5	30 00 26	181 50 53
Angle :		157 50 23.5		157 50 27
Face Right :				
Face Left :				
Mean :				
Angle :				
Face Left :				
Face Right :				
Mean :				
Angle :				
Face Right :				
Face Left :				
Mean :				
Angle :				
Mean Angle :				

Traverse No. :	E1-32-0012
Station Occupied :	E1-32-0012-01
Description :	A6 Monument
Observed :	J.M.K.R. Jayasekara
Recorder :	J.M.K.R. Jayasekara
Instrument Used :	SOKKIA CX 102 (S.No. B0366)
Ht. of Instrument :	1.40 m
St. Elevation :	
Pressure of M.S.L. Ht. :	882
Atmospheric Dial Setting :	44
Temperature :	24°C
Sketch :	
Remarks :	Located at App. 350m from Borigama Junction towards Peradeniya.
Signature and Name :	J.M.K.R. Jayasekara
Date :	2014/05/17
Adjusted Co-ordinates :	N. 525 878.512 E. 418154.419

Paragraph 2.30

Annexure V

Job: ISM/2014 / KN/33		Traverse No: E1-32-0012		FB No: GEO 0104		Prepared by: J.M.K.R. Jayasekara		Page 9 of 10 Pages						
Instrument Station: E132001001		Instrument Height = 1.40 m												
Zero Position	REF Station	REF T.H.	VA to Ref. d m s	Dist to Ref. mean FL/FR	Target Stn 1	Stn 1 T.H.	VA to Stn 1 d m s	Dist. to Stn 1 mean FL/FR	HA to Stn 1 from Ref. d m s	Target Stn 2	Stn 2 T.H.	VA to Stn 2 d m s	Dist. to Stn 2 mean FL/FR	HA to Stn 2 from Ref. d m s
00° 00'	3200049	1.58	01 50 18.0	91.026	E132001001	m	04 40 49.5	140.901	157 50 23.5					
45° 00'	"	"	01 50 17.0	91.027	"	"	04 40 48.5	140.902	157 50 27.0					
90° 00'	"	"	01 51 18.5	91.027	"	"	04 40 49.0	140.903	157 50 14.5					
135° 00'	"	"	01 52 17.5	91.028	"	"	04 40 50.0	140.902	157 50 26.0					
MEAN			01 52 17.75	91.027			04 40 49.25	140.902	157 50 22.75					
Std. Div.														

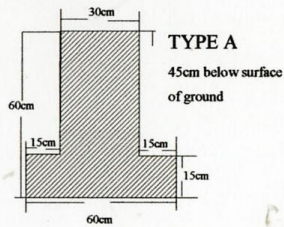
Instrument Station:		Instrument Height = m												
Zero Position	REF Station	REF T.H.	VA to Ref. d m s	Dist to Ref. mean FL/FR	Target Stn 1	Stn 1 T.H.	VA to Stn 1 d m s	Dist. To Stn 1 mean FL/FR	HA to Stn 1 from Ref. d m s	Target Stn 2	Stn 2 T.H.	VA to Stn 2 d m s	Dist. To Stn 2 mean FL/FR	HA to Stn 2 from Ref. d m s
MEAN														
Std. Div.														

Paragraph 2.41

Paragraph 7.20

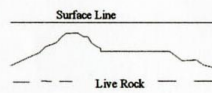
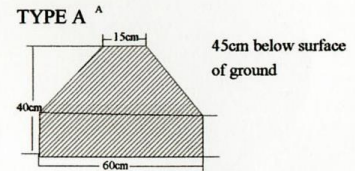
Annexure VI

TYPES OF SURVEY DEPARTMENT BENCHMARKS



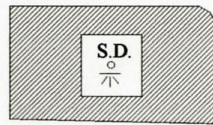
TYPE A
45cm below surface of ground

Bronze bolt set in concrete block embedded in the earth to a depth generally 45cm, impressed as for Type C. Dimension and shape of block variable but volume more than 45 cm cube.



TYPE B

Bronze bolt set in cement in face of dressed rock below ground surface. Dressed surface 15cm square, impressed as for Type C.

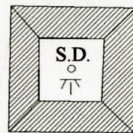


TYPE C

Bronze bolt set in cement, In rock concrete or masonry above ground surface. impressed with S.D. and Benchmark Sign.

TYPE D(OBSOLETE)

See Plate III of report on the Geodetic Levelling

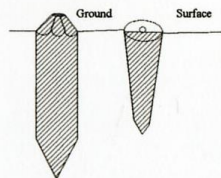


TYPE E

Bronze bolt set in rectangulations block(large). Surface of block 8cm above ground surface.

TYPE F

Bronze bolt set in rectangulations block(small). Dressed surface same as Type E.



TYPE G(TEMPORARY)

Wooden stake 8cm diameter 30cm long or Cement Picket 8cm diameter 20cm long.



TYPE H

Concrete block top 8cm square, base 10cm square, side 20cm crowsfoot impressed on top: centre mark: 2cm diameter without bolt. Buried flush with ground

Paragraph 2.46Annexure VII

Annexure VII

Raw data of Geodetic Leveling*P.L No. Fore Levelling from B M No. to B M No.*

Pt. No.	Staff Readings		Re. Level	Distance		Remarks
	BS	FS		BS	FS	
0	1.30215		0.00000	20.526		BM1
1	0.04880	2.99458	-1.69243	12.188	20.472	TP
2	0.45838	2.54939	-4.19302	14.942	11.926	TP
3	0.61600	2.20561	-5.94025	14.958	14.854	TP
4	0.14893	2.55015	-7.87440	14.937	15.061	TP
5	0.20297	2.67234	-10.39781	13.077	14.935	TP
6	0.17229	2.63815	-12.83299	19.763	12.872	TP
7	0.21460	2.97552	-15.63622	19.993	19.510	TP
8	0.40782	2.69809	-18.11971	19.896	19.854	TP
9	0.05798	2.63592	-20.34781	24.926	19.964	TP
10	0.06857	2.75626	-23.04609	21.975	24.815	TP
11	0.90832	2.25248	-25.23000	26.808	21.893	TP
12	0.85436	2.04324	-26.36492	24.949	26.364	TP
13	0.66622	2.06810	-27.57866	51.467	24.872	TP
14		1.69857	-28.61101		51.465	BM2
Total Distance				300.405	298.857	

No. of Stations -
 Distance Levelled -
 Traveled -
 Weather -
 Date -
 Time -

.....
Signature

Paragraph 2.46

Annexure VIII

ABSTRACT SHEET FOR PRECISE LEVELLING

From Kandy FBM to Dambulla FBM

P. L. No:- CPL-4 (2012)

Loops No.	Line No	Levelling Book		No. of Instrument Stations	Direction	Difference of Height (m)		Mean Difference of Height with Sign of Forward Levelling		Distance (m)	Discrepancies (mm)		Discrepancies (m) (Forward - Backward)	Cum. Of Discrepances (m)	Total Distance (Km)	Remarks	Height
		No.	Page			+	-	+	-		Allowable	Actual					
1	FBM-BM1	PL 30	1	8	Forward	17.36559				340			-0.00047	0.34		557.19912	
	BM1-FBM	PL 30	2		Backward	17.36606					-0.00047	539.83330					
2	BM1-BM2	PL 30	3	14	Forward	28.61101				600			-0.00176	0.94		511.22164	
	BM2-BM1	PL 30	4		Backward	28.61230					-0.00129	510.50097					
3	BM2-BM3	PL 30	5	16	Forward	0.72019				800			-0.00273	1.74		476.43347	
	BM3-BM2	PL 30	6		Backward	0.72116					-0.00097	454.10139					
4	BM3-BM4	PL 30	7	34	Forward	34.06674				1620			-0.00425	3.36		447.41488	
	BM4-BM3	PL 30	8		Backward	34.06826					-0.00152	443.51712					
5	BM4-BM5	PL 30	11	18	Forward	22.33158				1200			-0.00525	4.56		182.458200	
	BM5-BM4	PL 30	12		Backward	22.33258					-0.00100	191.608300					
6	BM5-BM6	PL 30	13	20	Forward	6.68559				1060			-0.00708	5.62		185.092850	
	BM6-BM5	PL 30	14		Backward	6.68742					-0.00183	186.919240					
7	BM6-BM7	PL 30	15	16	Forward	3.89742				1250			-0.00776	6.87		183.700550	
	BM7-BM6	PL 30	16		Backward	3.89810					-0.00068	183.55520					
99	BM08-BM99	PL 42	10	8	Forward	1.33618				640			0.00090	67.54		170.131260	
	BM99-BM08	PL 42	11		Backward	1.33528					-0.00090	173.754385					
100	BM100-BM100	PL 42	12	10	Forward	9.15053				480			0.00086	68.02		164.210925	
	BM100-BM99	PL 42	13		Backward	9.14967					-0.00086	164.2171					
101	BM101-BM101	PL 42	14	8	Forward	6.51541				540			-0.00008	68.56		0.009825	
	BM101-BM100	PL 42	15		Backward	6.51549					-0.00008						
102	BM102-BM102	PL 42	16	8	Forward	1.82659				630			0.00040	69.19			
	BM102-BM101	PL 42	16		Backward	1.82619					-0.00040						
103	BM103-BM103	PL 43	1	6	Forward	3.21853				360			-0.00032	69.55			
	BM103-BM102	PL 43	1		Backward	3.21885					-0.00032						
104	BM104-BM104	PL 43	2	8	Forward	0.14489				460			-0.00028	70.01			
	BM104-BM103	PL 43	2		Backward	0.14517					-0.00028						
105	BM105-BM105	PL 43	3	10	Forward	1.30603				530			-0.00081	70.54			
	BM105-BM104	PL 43	3		Backward	1.30684					-0.00081						
106	BM106-BM106	PL 43	4	8	Forward	5.38823				500			-0.00055	71.04			
	BM106-BM105	PL 43	4		Backward	5.38878					-0.00055						
107	BM107-BM107	PL 43	5	8	Forward	6.72912				540			-0.00040	71.58			
	BM107-BM106	PL 43	5		Backward	6.72952					-0.00040						
108	BM108-BM108	PL 43	6	12	Forward	3.62357				1000			0.00089	72.58			
	BM108-BM107	PL 43	6		Backward	3.62268					0.00089						
109	BM108-FBM	PL 43	8	16	Forward	9.53266				1120			-0.00160	73.70		164.210925	
	FBM-BM108	PL 43	9		Backward	9.53426					-0.00160	164.2171					
										345.073530	738.051725	73.190	-0.00974	73.70		164.2171	
										MSL Height =	-392.978195						0.009825

Certified by :

Name :
Designation :
Date :

Checked by :

Name :
Designation :
Date :

Prepared by :

Name :
Designation :
Date :

Paragraph 2.46

Annexure IX

ANNEXURE X

ADJUSTMENT SHEET FOR PRECISE LEVELING

P.L No: GPL- 4 (2012)

From Kandy FBM to Dambulla FBM

Date:- 24/01/2013

B.M	Mean Height Difference (m)	Distance (m)	Obtain Height Before Adjutment(m)	*Correction(m)	Adjusted BM Height (m)	BM ID
Kandy FBM			557.199120	0.000000	557.199120	FBM Kandy LB
FBM-BM1	-17.365825	340	539.833295	-0.000035	539.833260	PL-004-001
BM1-BM2	-28.611655	600	511.221640	-0.000070	511.221570	PL-004-002
BM2-BM3	-0.720675	800	510.500965	-0.000105	510.500860	PL-004-003
BM3-BM4	-34.067500	1620	476.433465	-0.000140	476.433325	PL-004-004
BM4-BM5	-22.332080	1200	454.101385	-0.000175	454.101210	PL-004-005
BM5-BM6	-6.686505	1060	447.414880	-0.000211	447.414669	PL-004-006
BM6-BM7	-3.897760	1250	443.517120	-0.000246	443.516874	PL-004-007
BM7-BM8	2.181800	970	445.698920	-0.000281	445.698639	PL-004-008
BM8-BM9	0.095340	900	445.794260	-0.000316	445.793944	PL-004-009
BM9-BM10	2.380250	1350	448.174510	-0.000351	448.174159	PL-004-010
BM10-BM11	3.151150	1100	451.325660	-0.000386	451.325274	PL-004-011
BM11-BM12	4.797185	1180	456.122845	-0.000421	456.122424	PL-004-012
BM12-BM13	25.170565	770	481.293410	-0.000456	481.292954	PL-004-013
---	---	---	---	---	---	---
---	---	---	---	---	---	---
BM97-BM98	-6.771490	350	181.122470	-0.003439	181.119031	PL-004-098
BM98-BM99	1.335730	640	182.458200	-0.003474	182.454726	PL-004-099
BM99-BM100	9.150100	480	191.608300	-0.003509	191.604791	PL-004-100
BM100-BM101	-6.515450	540	185.092850	-0.003544	185.089306	PL-004-101
BM101-BM102	1.826390	630	186.919240	-0.003579	186.915661	PL-004-102
BM102-BM103	-3.218690	360	183.700550	-0.003614	183.696936	PL-004-103
BM103-BM104	-0.145030	460	183.555520	-0.003650	183.551870	PL-004-104
BM104-BM105	-1.306435	530	182.249085	-0.003685	182.245400	PL-004-105
BM105-BM106	-5.388505	500	176.860580	-0.003720	176.856860	PL-004-106
BM106-BM107	-6.729320	540	170.131260	-0.003755	170.127505	PL-004-107
BM107-BM108	3.623125	1000	173.754385	-0.003790	173.750595	PL-004-108
BM108-FBM	-9.533460	1120	164.220925	-0.003825	164.217100	FBM Dambulla LB

73,700

*Correction = $\frac{\text{Actual value-Obtained value}}{\text{No. of Stations}} \times \text{Station No.}$

FBM Kandy= 557.199120 m
 Obtained error = -0.003825 m
 Allowable error = 0.023694 m

Prepared by:

Checked By:

Certified by:

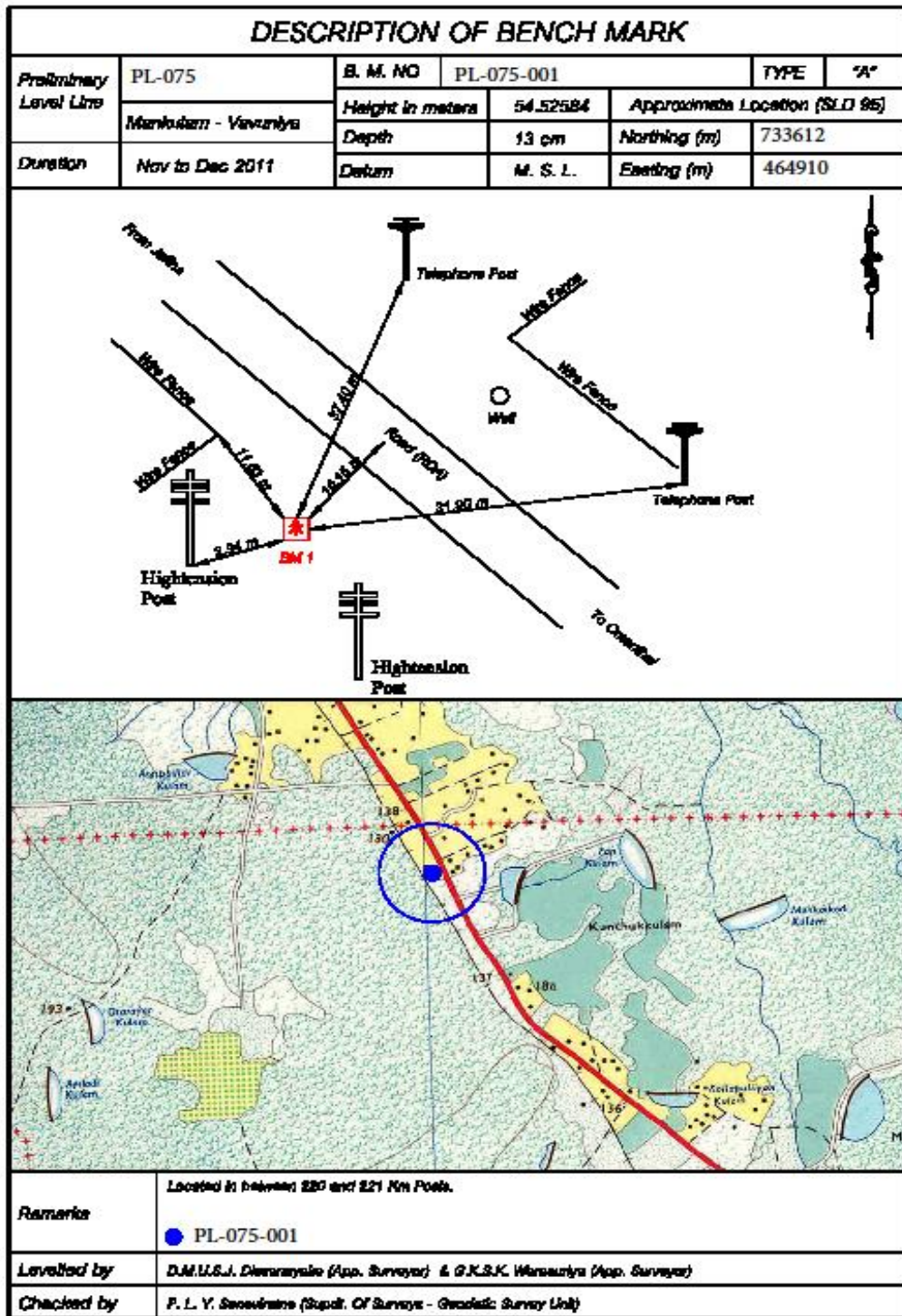
Name:
 Designation:
 Date:

Name:
 Designation:
 Date:

Name:
 Designation:
 Date:

Paragraph 2.46

Annexure X



Paragraph 2.48

Annexure XI

මැනුම] ඇල්206
Survey]115 L 206
(F 2*S.& E)2/61

මූලික පිල් ලකුණේ වාර්තාව
FUNDAMENTAL BENCH MARK REPORT

සැලකිය යුතු - (1) දුර බැහැර පෙදෙස්හි පිහිටි මූලික පිල් ලකුණු පිළිබඳව අවුරුද්දකට වරක් ද : අවහිරකම් සිදුවීමට ඉඩ ඇති , නගර වල හෝ ජනාවාස ප්‍රදේශවල ඒවා පිළිබඳව, හයමාසයක් පාසාද වාර්තාකළ යුතු වේ.

(2) අවවාද යි, කාණු බිලේ මාර්ගයෙන් සුද්ධ කළ නොහැකි තැන්පත් ජලය හෝ වැඩෙන ගස් මුල් ඇති බවට සැක කළහොත් මිස, කුටිය ආවරණය හෝ විවෘත නොකළ යුතුය.

Note - (1) Fundamental Bench Marks in out of the way places are to be reported on annually; those in towns or in inhabited areas where interference is likely, every six months.

(2) CAUTION - The chamber should *not* be uncovered or opened unless it is suspected to contain the growing roots of trees or stagnant water which cannot be cleared through the drain hole.

මූලික පිල් ලකුණේ නම]
NAME OF FUNDAMENTAL BENCH MARK]

පරීක්ෂා කරන නිලධාරීගේ වාර්තාව
Report by Inspecting Officer

- (1) (අ) ඉහළ බෝල්ට් ඇණයේ සහ කප්ගල් කණුවේ තත්ත්වය.
(a) Condition of granite pillar and upper bolt.

- (ආ) කානු බිලය හිර වී තිබුණද? එය සුද්ධ කෙළෙහිද?
(b) Was the drain hole found block ? Has it been cleared out ?

- (ඇ) කුහරයෙහි ජලය, මුල් යනාදිය ඇති බවට සැක කෙළෙහිද? එසේ නම්, එය විවෘත කර සුද්ධ කෙළෙහිද?
(c) Is chamber suspected to contain water, roots, &e.? If so, has it been opened and cleared?

- (ඈ) කොරවුවේ වැටෙහි සහ දම්වැල්වල තත්ත්වය.
(d) Condition of fencing and wring of enclosure.

- (ඉ) පස්කණ්ඩියෙහි සහ පනා බැම්මෙහි තත්ත්වය
(e) Condition of earth embankment and any retaining walls.

(ඊ) මතුපිට කාණුවල තත්ත්වය
(f) Condition of surface drains.

(උ) මුල් වැඩීමෙන් පිල් ලකුණට කිසියම් හානියක් ගෙනදිය හැකි ගස් සම්පයෙහි තිබේද?
(g) Are there any tree in the vicinity the growth of the roots of which is likely to cause any damage to the bench mark?

(ඌ) කොරවුව සහ අවට සුද්ද කළෙහිද?
(h) Have the enclosure and surrounding been cleared?

(ඹ) පිල් ලකුණ සම්පයෙහි පිපිරවීම තහනම් කෙරෙමින් දැන්වීමක් තැබුවෙහිද?
(i) Has a notice been posted prohibiting in the vicinity of the bench mark ?

(ඞ) පිල් ලකුණට වෙන්කළ බිමෙහි හෝ අවට ප්‍රදේශයෙහි මෑතකදී කිසියම් ගලක් කඩා හෝ පුපුරවා තිබේද?
(j) Has any stone been blasted or broken recently in the neighborhood of the bench mark or within its reservation?

(II) දෝෂ මහභූර්මට ගත් පියවර.
Step taken to remedy defects'

(III) අවශ්‍ය යයි තීරණය කළ කිසියම් වැඩිපුර ක්‍රියාකිරීමක් සඳහා නිර්දේශ.
Recommendations for any further action considered necessary'

අත්සන }
signature }

දානම }
Date }

Paragraph 2.56

Annexure XII



GNSS OBSERVATION RECORD FORM
Control Point Establishment Using Network RTK of SLCORSnet

District :
Village / GN Division:

DS Area :
Point No. :

Location Diagram

Network RTK Method

- 1. VRS
- 2. VRS - BDS

Network RTK Solution:

N -
E -
h -

Note: Network RTK Solution should be fixed for recording

Surveyor Signature:

Surveyor Name:

Date:

CORRECTION SLIP

CORRECTION SLIP

CHAPTER III
PICKETS AND LANDMARKS
INDEX

D.S.R. Reference	Description	Page
	<u>Types of landmarks & pickets</u>	
3.1.	Types of landmarks & pickets and their conventional signs	1
	<u>Cement or clay pickets</u>	
3.2.	Mixture for cement pickets	3
	<u>Live Rock and Live Rock pickets</u>	
3.3.	Live rock landmarks and live rock pickets should be cut on large immovable masses of rock	3
3.4.	Preference to be given to establish live rock landmarks and live rock pickets	3
	<u>Sunk stones</u>	
3.5.	Usage of sunk stone	3
	<u>Use of permanent pickets</u>	
3.6.	Permanent pickets to be used when the land is steep	3
3.7.	Identification of permanent pickets in field	3
3.8.	Establishing series of four permanent pickets for future work	3
	<u>Prevention of burying unnecessary pickets on roads</u>	
3.9.	Prevention of burring unnecessary pickets on roads	3
3.10.	Obtaining old road surveys field sheets to locate existing permanent pickets	3
3.11.	Use iron nails to minimize the damages	3
3.12.	Responsibility of surveyors when picketing along roads	4

**CHAPTER III
PICKETS AND LANDMARKS**

Types of landmarks & pickets

3.1. Types of landmarks & pickets and their conventional signs

The following pickets and landmarks will be used in surveying: -

**Conventional Sign on Plan
and in Field Book in Black**

- | | | |
|--|----------------------------------|---|
| <p>(i) Landmarks of cut stone or of concrete,
As per (I) & (II) below will have a square at the top with a center mark and a broad arrow pointing to the center mark and buried with 10 cm above the ground.</p> <p style="margin-left: 40px;">(I) Landmarks of cut stone: -
Not less than 50 cm long, about 15 cm square at the base, 10 cm square at the top and dressed to a depth of 10 cm each side.</p> <p style="margin-left: 40px;">(II) Landmarks of concrete: -
Not less than 30 cm long, about 10 cm square at the base and 8 cm square at the top.</p> | <p style="font-size: 3em;">}</p> | <p>L</p> |
| <p>(ii) Live Rock Landmark: -</p> <p style="margin-left: 40px;">A center mark with broad arrow enclosed by a square figure of 10 cm sides, cut on live rock.</p> | <p style="font-size: 3em;">}</p> | <p>RL</p> |
| <p>(iii) 1500 m Climatic Contour Landmark: -</p> <p style="margin-left: 40px;">80 cm long plastic tube with diameter 8 cm filled with concrete, buried 30 cm below and 50 cm above the ground. The top is embossed "1500m" & letters "SD" cut on it.</p> | <p style="font-size: 3em;">}</p> | <p>CCL</p> |
| <p>(iv) Old Landmark</p> | <p style="font-size: 3em;">}</p> | <p>L on plan
OL in field book</p> |
| <p>(v) Old Rock Landmark</p> | <p style="font-size: 3em;">}</p> | <p>RL on plan
ORL in field book</p> |
| <p>(vi) Iron Rail on railway reservation boundaries</p> | <p style="font-size: 3em;">}</p> | <p>IR</p> |
| <p>(vii) Cement or stone block positioned by the Road Development Authority</p> | <p style="font-size: 3em;">}</p> | <p>RDA</p> |

- | | | |
|---|---|-------------------|
| (viii) Cement or stone block positioned by the Archaeological Department | } | AL |
| (ix) An old landmark found to have been moved | } | MOL in field book |
| (1) If the landmark is left in that position | — | L on plan |
| (2) If the landmark is replaced in the correct position an endorsement to be given in field book. | } | L on plan |

Conventional Sign on Plan and Field book in black

- | | | |
|---|---|-----|
| (x) Landmark Picket :- The same mark as in paragraph 3.1 (i), but buried 15cm below the surface of the ground, to be used as a permanent station of a traverse. | } | LP |
| (xi) Live Rock Picket :- A broad arrow (crow foot), with deep cut centre mark at the apex, cut on live rock. | } | RP |
| (xii) Sunk Stone :- A square stone of not less than 15cm cut with broad arrow (crow foot) and 10cm height. Buried to a depth of at least 5cm from the ground surface | } | SS |
| (xiii) (a) Cement or Clay Picket :- About 4cm. diameter & 10cm deep pointed at the bottom and with a dent for center mark. To be buried not less than 5cm. below the surface of the ground. | } | CP |
| (b) Traverse Cement or Clay Picket :- 5cm. diameter at top, 10cm.at the bottom and 20cm. in height. To be buried 10cm. below ground level. | } | TCP |
| (xiv) Wooden picket: - Will not be used in any circumstances as survey pickets, but may be used as temporary marks. | } | WP |
| (xv) Iron Nail :- See paragraph 9.38 | | N |

Note :-

- (i) Pickets under (i) to (xi) are regarded as permanent and (xii) to (xiii) as semi-permanent.
- (ii) For the old pickets or Landmark, The letter “O” in the field book will not appear on plan.

Cement or Clay pickets

- 3.2. Superintendent of Surveys, who is in charge of the Divisional Survey Office, will arrange the supply of cement or clay pickets that may be required. Two parts of clean sand to one of cement is a good mixture for cement pickets.

Live Rock Landmarks and Live Rock pickets

- 3.3. Live rock landmarks and live rock pickets will be cut only on large, immovable masses of rock, and not on boulders which are likely to be disturbed by erosion or by cultivation. All decayed rock must be chipped off and the marks will be cut about 1 cm deep with lines about 1cm wide.
- 3.4. Live rock landmarks and live rock pickets will be used in preference to landmarks and landmark pickets, as they are more permanent.

Sunk stones

- 3.5. Sunk stones should be used if clay or cement pickets are not suitable according to the situation of ground.

Usage of permanent pickets

- 3.6. Where the land is steep, or where earthwork is to be undertaken, permanent pickets will be buried where they are least likely to be interfered with or moved.
- 3.7. The buried permanent pickets shall be kept visible by a cairn of stones or shown in the field book by dead measurement taken to permanent features and prominent trees of long life. Trees so used may be blazed for purposes of identification unless they are easily recognizable by description, are cultivated, or are of special value.

Additional information or measurements to the culverts or boundaries of the gardens in the close vicinity to be recorded in the field books for easy identification of pickets.

- 3.8. Permanent pickets in series of four should be used to serve as points of departure for future work. On large surveys these series should be at intervals of not less than 10 lines and should preferably adjoin State land boundaries.

Prevention of burring unnecessary pickets on the roads

- 3.9. In order to prevent unnecessary pickets being buried on roads, any existing permanent pickets must be used again for further surveys, on or near the road.
- 3.10. Before commencing a survey on or near the road, surveyors should always refer the field sheets of old surveys or 16 chain RDs to ascertain whether there are any permanent pickets which can be used.
- 3.11. When picketing along roads and built up areas, the pickets will be buried by the surveyors, where possible, at the side of the roads or iron nails to be used (see paragraph 9.38) as far as possible to minimize the damages to the roads and pavements. Do not burry the pickets on the roads at any reson.

- 3.12. Surveyors should inquire from the Sri Lanka Telecom, National Water Supply and Drainage Board, Electricity Board and local authority whether any underground cables or pipelines exist along roadways under survey. Particular care should be taken not to cause any damages to these cables or pipelines in the process of searching for or establishing pickets. Any damages caused accidentally should be reported to the authority concerned without delay and a copy of the report forwarded to Provincial Surveyor General through District Senior Superintendent of Surveys.

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER IV

SPORADIC SURVEYS

INDEX

D.S.R. Reference	Description	Page
	<u>Request for surveys</u>	
4.1.	Requisitions for surveys	1
4.2.	Requisitions for surveys received at Surveyor General	1
4.3.	Requisitions received at District Survey Office	1
4.4.	Requisition covered by Land Commissioners surveyors	1
	<u>Issuing requisitions to field</u>	
4.5.	Actions to be received requisitions to Dist. S.O.	1
4.6.	Surveys for additional surveyors and money	2
4.7.	Requisitions for preparation of BOD, Staking out and acquisition to be send field without delays	2
4.8.	Categories of other survey requisitions.	2
4.9.	How to proceed by Supdt of Surveys (HQ) when the location of the survey requisition cannot be found	2
4.10.	Obtain Sub survey requisitions	2
	<u>Recovery of Survey Fees</u>	
4.11.	Survey fees	2
	<u>Classification and organization of Sporadic surveys</u>	
4.12.	Data entering to SRIMS data base	2
4.13.	District code for survey requisitions	3
4.14.	Categories of survey requisitions	4
4.15.	Classes of survey requisitions	5
4.16.	Review of classification of requisitions by Senior Superintendent of Surveys	6
4.17.	Sending requisition to Divisional Survey office	6
4.18.	Responsibility of Superintendents of Surveys to commence the work	6
4.19.	Requisition return to field for amendments	6
4.20.	All documents' to be sent to DSO with completed requisitions	6
4.21.	Metric key sheet number	6
4.22.	Action to be taken when the location of the land cannot be found in the field	6
	<u>Office investigation and points to be followed</u>	
4.23.	Applying of documents for investigated requisitions	7
4.24.	Planning to investigate several survey requisitions	7
4.25.	Handling large survey requisitions	7
4.26.	Obtaining old plan and TL from DMS database	7
4.27.	Obtaining land information from L96 And L 96A	7

D.S.R. Reference	Description	Page
4.28.	Updating SRIMS database	7
4.29.	Report regarding the exceeds of estimated time for a requisition	8
4.30.	Providing instructions to perform each survey	8
	<u>Important points for Field work and Plan work</u>	
4.31.	Facts about land clearing	8
4.32.	Survey of land that recommended for alienation	8
4.33.	Survey of boundaries of unsettled lands	8
4.34.	Cut out of extent within the limits	8
4.35.	Small extent of State land enclosed by new work	8
4.36.	Treatment of balance area by less than 01 hectare in F.V.P. areas	8
4.37.	Detached Lot	9
4.38.	Small discrepancies between new and old surveys of streams	9
4.39.	Land Base Ordinance due to natural factors	9
4.40.	Special attention to be drawn when survey of reserved land	9
4.41.	In corporation of new survey with Village Plans, Title Plans, Diagrams, Diagram Plans and Engineering Survey Plans	9
4.42.	Requisitions for tracing of Title Plans and information on it	9
4.43.	Treatment of old preliminary Plans survey made prior to 1910	9
4.44.	Treatment of lots included in the Waste Land Ordinance, Final or Settlement Order	9
4.45.	Survey of 'ticket of occupancy' land	10
4.46.	Treatment of lots under Lease Plan and lease Diagrams	10
4.47.	Getting last information according to survey area	10
	<u>Supervision</u>	
4.48.	Monitoring surveyors engaged in sporadic surveys	10
	<u>Field work, Plan work and Tenement Lists</u>	
4.49.	Writing of Tenement list	11
	<u>Computations of Extents</u>	
4.50.	Area computation	11
	<u>Fixation</u>	
4.51.	Boundary fixation	11
	<u>New surveys within old surveyed area</u>	
4.52.	New surveys within landmarked P.Ps	11
	<u>Identification of lots in field</u>	
4.53.	Plan work in Identified lots	12
	<u>Acquisition surveys</u>	
4.54.	Acquisition surveys in F.V.P./ F.T.P. areas	12
	<u>Lands brought under the Land Settlement Ordinance</u>	
4.55.	Survey lands brought under the L.S.O	12

D.S.R. Reference	Description	Page
	<u>National map reference</u>	
4.56.	Key sheet numbering	12
	<u>Matters concerned by the Surveyor</u>	
4.57.	Language to be used in plans	13
4.58.	Endorsement when completing requisitions	13
4.59.	Sign in plan and TL for surveying and drawing by surveyor	13
	<u>Signing of Plans</u>	
4.60.	Signing plans by S.S.	14
4.61.	Signing plans by Snr.S.S	14
4.62.	Disciplinary action regarding erroneous surveys	14
	<u>Key Sheets</u>	
4.63.	Amendment of Key Diagram	14
	<u>Amendments of old documents</u>	
4.64.	Amendment of old records	15
4.65.	Amendment of different types of plans	15
	<u>Amendment and Proscription Tracings</u>	
4.66.	Facts to include in amendment and proscription tracings	16
4.67.	Facts to include in 16 Chain RD amendment tracings	16
4.68.	Amendment or proscription tracing to be send to SGO	17
	<u>Important factors on new surveys inside the old survey areas</u>	
4.69.	New surveys covered by un-landmarked P.Plan or P.Plan lot	17
4.70.	Preparing separate Insets/ supplements for separate villages	17
4.71.	New Insets to F.T.P. where land is cut out from state areas	17
4.72.	Preparing separate supplement for all surveys in F.V.P.	17
4.73.	Responsibility of amendments of old records in Dist.S.O.	17
4.74.	Amendments of statutory plans after print issued	17
	<u>Issuing Prints of Plans</u>	
4.75.	Sending certified plan copies to S.G.	18
4.76.	Print issuing of Acquisition survey plans	18
4.77.	Print issuing of other survey plans	19
4.78.	Print issuing for Government Department	19
	<u>Forest Surveys</u>	
4.79.	Forest surveys falling within F.V.P. areas	19
4.80.	Forest surveys falling within F.T.P. areas	19
4.81.	Forest surveys falling outside the F.V.P./F.T.P. areas	20
4.82.	Plan sheets for forest surveys	20
4.83.	Forest surveys falling within Block/Topographical preliminary plans	20
4.84.	Dealing of encroachment in forest surveys	20
4.85.	When forest surveys falls partly in different types of areas	20
4.86.	Separate plan for forest reserve and proposed reserve	20

D.S.R. Reference	Description	Page
4.87.	Assigned lot numbers in Final Settlement Preliminary Plans	20
	<u>Survey Report Forms</u>	
4.88.	Various types of reports for sporadic surveys	21
4.89.	Completing report form by surveyors	21
4.90.	Check of survey report form by Superintendent of Surveys	21
4.91.	Completing of survey report forms in District Survey Office	21
	<u>The destruction of files</u>	
4.92.	Condemning of survey requisition files	22
	<u>Survey Requisition Schedule</u>	
4.93.	Surveyors schedule of requisitions for survey	22
4.94.	One schedule to be used for all type of requisitions for survey	22
4.95.	Passed requisitions to be entered in schedule	22
4.96.	Original entries in schedule of requisitions should not change	22
4.97.	Forwarding schedule of requisitions to Superintendents of Surveys	22
4.98.	Maintaining schedule of requisitions at District Survey Office	22
4.99.	Examination of schedule of requisitions by Superintendent of Surveys and reporting to Dist. S.O.	23
4.100.	Separate register to be maintained for each DS area on issuing prints	23
	<u>Surveyor's Report</u>	
4.101.	Extract of surveyor's report to be send	23
	<u>Filing the documents in a systematic manner</u>	
4.102.	Filing of all documents at District Survey office	23
4.103.	Filing certified copies of plans and TLs at Branch of Document management and professional Standards at SGO	23
4.104.	Final Colony Plan/ Colony Plan/ Final Urban Plan/ Urban Plan/L.D.PPs, I.S.PPs, F.S.PPs and etc. will not be prepared in future	23
	Annexures	
<u>Annexure 01</u>	Distribution of lands for grants under L.D.O.	24

CHAPTER IV SPORADIC SURVEYS

Request for survey

- 4.1. Divisional Secretary will forward requisition for surveys, when a survey is required to get done, to the relevant District Senior Superintendent of Surveys. Also other Government Departments, Semi Government Organizations and District Courts send their requisition for surveys to the relevant District Senior Superintendents of Surveys.
- 4.2. If requests for surveys made by other Government Departments, Semi Government Organizations and District Courts are received in the S.G.O, they will be forwarded to the relevant District Senior Superintendents of Surveys. Surveys for special projects are normally received by the S.G. and will be referred by Addl.S.G.(Field) to the relevant District Senior Superintendents of Surveys with necessary instructions.
- 4.3. On receipt of a requisition in a District Survey Office, it has to be examined to ascertain whether it contains all required information and annexures and its completeness for carrying out the required survey without any difficulty. If request for survey is found to be incomplete and/or lack of required information, necessary actions have to be taken to get the complete information or return back to the applicant.
- 4.4. It is expected that the surveys described below are to be carried out by the Surveyors who are attached to Land Commissioner General's Department.
 - (a) Surveys for regularization/alienation of encroached state lands
 - (b) Surveys for preparation of Blocking out surveys
 - (c) Surveys for staking out.
 - (d) Surveys for identifying state lands
 - (e) Surveys for re-establishing disputed boundaries of state lands for which grants have been issued

In case such Surveyors are not attached to Divisional Secretariat Offices, Divisional Secretary may request for these surveys and District Senior Superintendent of Surveys has to take steps to accomplish such surveys.

Issuing requisitions to field

- 4.5. Upon receiving a requisition for survey in District Survey Office which is executable, actions should be taken to update SRIMS with all information pertaining to the requisition including name and reference number of the client. Then it will be decided, after examining the requisition, if survey fees are to be charged according to paragraph 4.11. And if so, District Senior Superintendent of Surveys should prepare an estimate for cost of survey and send to the client for early settlement prior to commencement of the surveys. If necessary, copies of the same will be sent to the parties concerned.

No further actions will be taken on that job and the requisition for survey will be retained in District Survey Office until survey fee is deposited in the D.S.O. Once the survey fee is

fully settled the requisition, after necessary actions in terms of paragraph 4.12, will be issued to field to initiate the work without delay.

- 4.6. If extra resources such as surveyors, money, vehicles etc. are needed or the requested survey to be completed within a stipulated time period, the matter has to be reported to Provincial Surveyor General with suggestions or alternatives, if any, with reasons.
- 4.7. Requisitions for Survey for land acquisitions, preparation of B.O.D.s and staking-out, should be issued at the earliest, directly to the relevant Divisional Survey Office after necessary registration.
- 4.8. Superintendent of Surveys (HQ) should be thoroughly investigated all other requisitions for surveys in office and should make the classification of the work and locate the land correctly in 16 RD, or 1:10,000 map, metric key sheet, F.V.P. or FTP and should prepare a list of old required documents and hand it over to the District Senior Superintendent of Surveys within 03 days.
- 4.9. If the Superintendent of Surveys (HQ) is unable to locate the land described in the requisition or listing all required documents, he will report the matter to the District Senior Superintendent of Surveys who will then send the requisition with necessary instructions to the respective Superintendent of Surveys of the Div.S.O. for the execution.
- 4.10. When a sub requisition is issued for a requisition issued to field, number of lots to be covered by original requisition, estimated survey work and land extent should be mentioned. In turn, the District Senior Superintendent of Surveys will take necessary steps to update SRIMS accordingly and issue system generated requisition numbers of each requisition to the relevant Div.S.O. In the remarks column of the requisition form in SRIMS in which information pertaining to the original requisition are contained cross entries should be made to that effect. At the same time, the original requisition number should be entered in the remarks column of the new requisition form.

Recovery of survey fees

- 4.11. Survey fees should be decided according to circulars issued by the Surveyor General from time to time. However, when it is not clear or difficult to workout cost of survey owing to special reasons or at a special occasion, the matter should be reported to Additional Surveyor General (Field) with details through the respective Provincial Surveyor General and necessary instructions should be obtained.

Classification and organization of Sporadic surveys

- 4.12. When SRIMS is updated with details of requisitions for which survey fees to be recovered or not to be recovered automatically generates a number which has to be used as a requisition number. When a requisition is entered to SRIMS, its category will be selected in accordance with paragraph 4.14 and priority will be in accordance with paragraph 4.15.
All requisitions for surveys should be issued to the respective Div.S.O. through SRIMS. The hard copy of the requisitions, however, should be sent by post along with the covering letter which is also generated by SRIMS, with copies of the covering letter to the relevant institutions.

In the requisition register which is maintained at District Survey Office, the same requisition number generated by SRIMS should be entered simultaneously as S.G.'s requisition number with relevant information to update the requisition register.

- 4.13.** This requisition number so generated by SRIMS is composed of District code, D.S. area code, year of issue followed by a serial number.

Eg: MA/RAT/2011/180 (District – Matale; D.S.Division – Rattota)

The following Prefixes should be used as [District codes](#).

W.P.	Colombo	Co
	Kalutara	KA
	Gampaha	GA
N.W.P.	Kurunegala	KU
	Puttalam	PU
N.P.	Jaffna	YA
	Vavuniya	VA
	Mannar	MA
	Mulativu	MUL
	Kilinochchi	KI
N.C.P.	Anuradhapura	AA
	Polonnaruwa	PO
C.P.	Kandy	MAHA
	Matale	MA
	Nuwara-Eliya	NU
E.P.	Trincomalee	TRI
	Batticaloa	BT
	Ampara	AM
S.P.	Galle	GA
	Matara	MR
	Hambantota	HA
Sab.P.	Kegalle	KE
	Ratnapura	R
Uva.P	Badulla	B
	Moneragala	MO

SRIMS also generates unique code for each and every Divisional Secretariat. If any change to the name of a Divisional Secretariat is noticed or a Divisional Secretariat is newly established District Senior Superintendent of Surveys should inform Information Technologies (IT) branch of S.G.O. in writing in order to update SRIMS accordingly.

When a survey requisition is issued by District Survey Office itself, the D.S.O. code has been defined in SRIMS as 'DSO' that should be used in requisition number.

Eg: MO/DSO/2018/125 (125th requisition issued in 2018 by Monaragala District Survey Office)

- 4.14. For the purpose of reporting progress of surveys in various returns, requisitions for survey are divided into eight main categories as shown below. The category into which the requisition falls is determined and written on the requisition.

Main Category	Sub Category	Description of Category
2. Surveys of Land Marking	2.1	Grants issued under Land Development Ordinance
	2.2	Land Grants (Special Provision) - Vesting
	2.3	Land Grants (Special Provision) – Issuing Grants
	2.4	Misc. Land Alienation - Landmarking
	2.5	L.R.C. Vesting and Statutory Determination
	2.6	Landmarking Surveys in Settlement Centers
	2.7	Landmarking of Irrigable & Homesteads
	2.8	Demarcation Surveys
	2.9	Landmarking Surveys - Forest
	2.10	Landmarking Surveys - Estate Plantation
	2.11	Condominium Surveys
	2.12	Landmarking Surveys - Perimeter
	2.13	Redefinition of boundaries with landmarks
	2.14	Misc. Landmarking surveys
3. Misc. Surveys	3.1	Land Alienation - Staking out State homesteads
	3.2	Land Alienation - Staking out State paddy lands
	3.3	Forest Surveys – (without landmarking & contours)
	3.4	Town Surveys– (without landmarking & contours)
	3.5	Perimeter Surveys – (without landmarking)
	3.6	Preparation of BOD
	3.7	Setting out FSL
	3.8	Staking out Surveys in Settlement centers (Mahaweli)
	3.9	Misc. Surveys in Settlement Centers (Mahaweli)
	3.10	Irrigable & Homesteads - Staking out (Mahaweli)
	3.11	Irrigable & Homesteads - Misc. Surveys (Mahaweli)
	3.12	As built surveys (Site surveys)
	3.13	Writing of Supplementary Tenement List
	3.14	Miscellaneous (Forest Surveys using HHGPS)

Main Category	Sub Category	Description of Category
4. Acquisition Surveys	4.1	Acquisition. Surveys - Sec. 2 (without RDA)
	4.2	Acquisition Surveys - Sec. 6 (without RDA)
	4.3	Acquisition. Surveys - Sec. 2 (for RDA)
	4.4	Acquisition Surveys - Sec. 6 (for RDA)
5. Engineering Surveys	5.1	Detail & Contour Surveys (ES)
	5.2	Canal Trace Surveys (Strip surveys)
	5.3	Final Canal Surveys (Center line)
	5.4	Road Surveys -(Strip & Corridor surveys)
	5.5	Channel Trace Surveys
	5.6	Close Contour Surveys
	5.7	Town Surveys with Contours
	5.8	Survey of existing roads
6. Mapping	6.1	Map Revision
7. Court Commission Surveys	7.1	Court Commission Surveys
8 Cadastral Surveys	8.1	Cadastral Surveys under Title Registration
	8.2	Sub divisions under Title Registration
9. G.P.S. Control Surveys	9.1	G.P.S. Control Surveys (WP, SP, NWP, CP, NP & ISM Geodetic)
	9.2	GCP Surveys - point selection, preparation diagrams, Surveying, leveling etc.
	9.3	E.D.M. Traverse/ Level Line
	9.4	Precise Leveling

4.15. Requisition for surveys will be taken up on [priority basis](#). The classification of requisitions for surveys should be done according to their requirements and priorities. Accordingly every requisition is classified into three classes.

Class A Requisitions which are important, urgent and charged with survey fees. They should be done urgently, holding other requisitions in hand and completed within three months of receipt as a general rule.

Class B Requisitions which are not necessarily to be expedited but which should not be delayed unnecessarily. As a general rule, Class B requisitions should be completed within 06 months of receipt.

Class C Requisitions which will be taken up in the ordinary course. Class C requisitions should be completed within 12 months of receipt.

When entering Survey requisition data in SRIMS, class of survey requisition should be entered as 'priority – high' for classes A & B and as 'priority- normal' for Class C. The category, sub category also to be selected in comply with 4.14 when entering to SRIMS.

- 4.16.** The District Senior Superintendent of Surveys should review the classifications of priority of incomplete requisitions at least once in 6 months and revise them suitably in concurrence with the Divisional Secretaries/ relevant requesting agency, if necessary. SRIMS data base should be updated according to this amended information.
- 4.17.** The requisition along with the below mentioned information provided by the Senior Superintendent of Surveys will be issued to the respective Divisional Superintendent of Surveys for executing the work.
- (a) When the survey work falls outside finally settled area –
 - (i) Whether a Preliminary Plan should be prepared, or,
 - (ii) Whether an existing Preliminary Plan lot should be amended and a supplementary Tenement list prepared.
 - (b) When the survey work falls within finally settled area –
 - (i) Whether a supplementary will be issued, or,
 - (ii) Whether only a supplementary Tenement list will be issued while making amendments to F.V.P.
 - (c) It is the responsibility of the Superintendent of Surveys of Div.S.O. to amend the estimated period of completion of the work, if necessary, in SRIMS.
- 4.18.** Superintendent of Surveys should check the works commenced are completed as soon as possible. Surveyors should neither be allowed to get accumulated halfway done works nor retain completed but un-passed plans with them for long time.
- 4.19.** When plans are returned by District Survey Office to Divisional Survey Office for amendments, entries to that effect should be made in SRIMS. The Superintendent of Surveys who receives such plans should attend to them promptly and complete within two weeks and handover to Snr.S.S. The Superintendent of Surveys in Div.S.O. must ensure that, except under special and unavoidable circumstances, thus amended plans are returned within two weeks' time period to D.S.O. Any amendments to Tenement list should be redirected for the amendments within the TLDMS system itself.
- 4.20.** Old documents and field books used for the completed work should be submitted to the District Survey Office along with newly prepared plans. If these documents are, however, required for other works in hand, the Surveyor can retain them with him until he completes such works.
- 4.21.** The respective number of 1:50,000 and 1:10,000 maps in which the surveyed land falls should be printed as metric reference numbers on the plan. Key sheet number (Metric Key Sheet No) will be the sheet number followed by the relevant square number out of 4 squares of 1:10,000 sheets as in [paragraph 4.56](#).
- 4.22.** If the work cannot be located correctly, the matter should be reported to the Superintendent of Surveys (HQ) and according to his instructions. Also it is possible to download information pertaining to the land in question, from the departmental website which maintains digital data of completed works, which can be used for identifying and locating the land correctly. Only if the Superintendent of Surveys decides that it should be further investigated in field he may send a Surveyor for the location.

Office investigation and points to be followed

4.23. Superintendent of Surveys, at their inspections, should check whether the survey work is in progress in accordance with SRIMS and if not, actions should be taken to update it. If the survey work falls outside F.V.P. area all Field Sheets required for the survey should be identified. If the work falls within F.V.P. or F.T.P. area he should obtain TL of F.V.P./F.T.P., Final Report, Field Sheets of F.V.P./F.T.P. relevant to the survey and only required Field Books. It should be noted that no applications should be made for all Field Books mentioned in Block Survey Sheets.

4.24. All efforts should be made by the Surveyor to investigate several requisitions come under same area simultaneously.

Note: The Surveyor who is engaged in the survey work should collect further information of the work from persons nominated for pointing out boundaries of land or relevant Divisional Secretary or Department who made the request for survey.

4.25. In case of large requisitions of which the works apparently take longer time to be completed and scattered, the Surveyor should divide them into several small requisitions suitably in consultation with his/her Superintendent of Surveys.

For these, sub requisitions for surveys should be requested from Senior Superintendents of Surveys with relevant information as paragraph 4.10.

4.26. All documents required for the survey should be obtained by the Surveyor two weeks prior to commencement of the field work. Information on old plans can be obtained from the Land Information Systems (LIS) and Scanned images of old plans and connected TL can be obtained from Document Management Systems (DMS) of the departmental web portal through District Senior Superintendent of Surveys. Only tracings of plans that are not available in the DMS should be applied for from the Snr. D.S.G. (DM & PS).

4.27. Surveyor should compare L96A information on actions taken against old PP lots with L96 information obtained from the Divisional secretary or Provincial Land Commissioner. If it is noticed that any discrepancies exist between them, the matter should be reported forthwith along with both L96A and L96 Forms to the Snr D.S.G. (DM & PS) for verifications. Both Forms returned by Snr. D.S.G. (DM & PS) with his report, should be annexed with the completed requisition file and sent to the D.S.O.

If the works are falling inside F.V.P./F.T.P. areas and the information provided by L96 form do not compare with that of F.V.P./F.T.P. and T.L.s, similar actions mentioned above should be followed and reported to Snr. D.S.G. (DM & PS) .

If it is understood that any objections against the survey are presumable according to the L96 information and/or substantial details are not provided in L96 Forms the matter should be reported to Superintendent of Surveys seeking for instructions

4.28. When a survey requisition is executed the Government Surveyors have to update SRIMS with information of work completed on each and every day.

The information so entered by the Surveyor should be checked regularly basis by the Superintendent of Surveys in-charge-of the Div.S.O. to ascertain their correctness and update the SRIMS.

- 4.29. When the time taken to complete a survey work exceeds the estimated time period, the Superintendent of Surveys should reason out in his report the causes for discrepancy between the actual time taken and the estimated. And he should, at the same time, update SRIMS with estimated time period for conclusion of work of the survey requisition originally entered in SRIMS.
- 4.30. Basic and important instructions for correct procedures to be adopted in carrying out surveys on each requisition should be provided in writing by the Superintendent of Surveys to the Surveyor. In addition to that, detail instructions could be obtained by the Surveyor as and when necessary from the Superintendent of Surveys. It behooves the District Senior Superintendent of Surveys to look into the work progress in order to ensure that the work is done as planned. For this, the information obtained from SRIMS can be used.

Important points for field work and plan work

- 4.31. All possible precautions should be taken by the Surveyor not to cause any undue damages to crops in the land while clearing, picketing, and landmarking etc. by Survey Field Assistants. Further, the Surveyor should ensure that such tasks they are entrusted on are done in correct manner and without objections from the land owners. Also the Surveyor, as far as possible, should make all efforts to minimize obstacles and obstructions against survey works and unnecessary travels to the work site, and thereby expedite the work.
- 4.32. When it is clearly observed that the land pointed out is different from the land that is for alienation it should not be surveyed. In such an eventuality, the Surveyor should submit a tracing showing the differences to the District Senior Superintendent of Surveys through his/her Superintendent of Surveys along with a report to that effect.
- 4.33. Boundaries of unsettled lands which are not defined or which do not follow natural features should be made as straight as possible. Surveyors should endeavor to get claimants agreed before such surveys are carried out.
- 4.34. When the extents of the lands are specified, the land should be partitioned as [paragraph 8.12 and 8.13](#) for demarcation surveys and [Annexure I](#) for surveys under L.D.O., and as shown below for other surveys.
- 4.35. Small State lands encompassed of an extent of about 01 hectare or less, which are wholly or partly enclosed by new survey work must be defined, and lotted after laying all reservations in order to facilitate them to be dealt with, without further survey. They will be described in the remarks column of the Tenement list as “lotted to complete plan.”
- 4.36. [In a F.V.P. area](#) where a part of a State land is cut out, the balance area, if 01 hectare or less and unlandmarked, must be re-surveyed, defined, and plotted in the F.V.P. Sheet. In this case too, the remark “Lotted to complete the plan” should be given in Tenement lists. A reservation, a path, a stream or other State land which will not be alienated, should not be added to the balance area. In exceptional cases, prior approval should be obtained from the District Senior Superintendent of Surveys.

- 4.37. A portion of a lot, in the event of a fresh survey has become detached from the original lot, and can be conveniently included in the new survey should be lotted and described in Tenement lists as “Detached Lot.” This regulation applies only to F.V.P. lots and landmarked PP lots which cannot be cancelled.
- 4.38. When there are small differences between new and old surveys of a stream, the newly surveyed boundary should be adopted. When the work adjoins a stream which forms the boundary of a V.P. or F.V.P. the old course of the stream, and if there are differences, should be drawn and adopted.
- 4.39. When a land is accreted due to natural causes prescribed procedures should be followed in terms of section 108 of State Lands Ordinance of 1947. An extract of same is given below.
- “Any alluvial or other accretion to any land disposed of by the State by any instrument of disposition executed before or after the commencement of this Ordinance shall, together with all rights appertaining or belonging to such accretion, be the property of the State and is hereby declared to be vested in the State.”
- 4.40. Special attention should be paid when reserves, proposed reserves or areas mapped out for other purposes are involved. Requisitions that contain any portion of such lands should not be taken up for surveys without special instructions. Refer Chapter X for Reservation.
- 4.41. Village Plans, Title Plans, Diagrams, Diagram Plans, Lease Plans and Engineering Survey Plans which have been incorporated in the new survey areas or adjoining to them should be investigated and dealt with appropriately.
- 4.42. Tracings of Title Plans and information related to them can be obtained through scanned images of old plans and connected TL from new Document Management Systems (DMS) of the departmental web portal through District Senior Superintendent of Surveys. Applications for only tracings of documents that are not available in the DMS should be sent to the Snr. D.S.G. (DM and PS).
- 4.43. Old Preliminary Plans that consist of surveys done prior to the year 1910 in which the State Landmarks Ordinance came into force, will be considered as cancelled, if no sales or settlement have been made on them. They can be used only for reference. Lots which have been sold or settled will be treated as private lots while those which have not been finally settled or sold have to be re-surveyed. Unsettled lots which contain cultivation over 30 years old should be treated as private unless they fall within road reservations.
- 4.44. Every lot, shown in original field sheets, that comes under Waste Lands Ordinance or final or settlement order should be referenced as follows in blue colour.

Lots declared to be considered as the Government

❖	state (crown) by Final Order	-	FO/C
❖	state (crown) by Settlement Order	-	SO/C

Lots declared to be considered as the Private

❖	private by Final Order	-	FO/P
❖	private by Settlement Order	-	SO/P

These codes should be printed closer to the lot number inside the lot.

It should be born in mind to act on lots when they have been declared private or state as follows.

- a) Boundaries and extents of lots declared 'Private' must be maintained as in title plans.
- b) Lots which have been decreed as private in a Court of Law should be treated in the same manner as Title plans.
- c) Boundaries of lots declared 'State' must be maintained as it was, as far as possible.

4.45. Boundaries of land held on 'ticket of occupancy' need not be separately surveyed but particulars of the 'ticket of occupancy' should be mentioned in Tenement lists.

4.46. With regard to the lands where Lease Plans and Lease Diagrams have been issued the lot nos. with prefixes 'LP' & 'L' should be shown in field sheets in black and red colours respectively. These lots are also edged in pink colour in all copies of F.V.P. When dealing with such lots, inquiries should be made from the Divisional Secretary on Form L96 with the remark 'Has lease expired?'

The lots of unexpired lease plans or lease diagrams should be maintained as was in the title plans.

4.47. The Surveyor should obtain [last information](#) from the District Survey Office. for each requisitions for surveys separately. When requests for last information are made to the D.S.O., the required details must be mentioned categorically, pertaining to the area in which the new survey work falls as follows.

F.V.P. area	State lands in F.T.P. area	Inset plan area in F.T.P.	un-surveyed area or P.P. area
<p>Used</p> <p>(i) Last Supplement number (ii) Last Sheet number (iii) Last Lot number (iv) Last T.L. page number (v) Balance area lot number (vi) Balance area extent</p>	<p>Used</p> <p>(i) Last Inset number (ii) Last Sheet number (iii) Last Lot number (iv) Last T.L. page number (viii) Balance area lot number (vi) Balance area extent</p>	<p>Used</p> <p>(i) Last Supplement number (ii) Last Sheet number (iii) Last Lot number (iv) Last T.L. page number</p>	<p>New P.P. number</p>

Supervision

4.48. Supervision of Surveyors has been described in detail in chapter X of Departmental Standing Orders. Superintendent of Surveys should adhere to those standing orders. In addition, regulations from paragraph 4.26 to 4.30 should be followed up.

Especially, the survey journals of Surveyors who are engaged on Sporadic Surveys should be carefully scrutinized including the programme for the following week and ensured that the Surveyors should engage at least for two days of actual surveying per week.

Field work, Plan work and Tenement Lists

- 4.49
- (a) Refer Chapters 11 & 12 for field work and plan work.
 - (b) See [paragraph 12.60 to 12.84](#) for Tenement List
 - (b) Tenement lists should be prepared by using software provided by the Survey Department.
 - (c) Every page of Tenement lists should be sequentially numbered. Approving of Tenement lists should be made in accordance with 4.59(a) and 4.61 (a,b).
 - (d) Specimens of Tenement lists which are prepared through data base are given in Annexure 01 in Chapter XII

Computations of Extents

- 4.50. Computations of extents in plans have to be done as per Chapter XIII.

Fixations

- 4.51. Fixation is used to compare the boundaries between old surveys and new surveys when required to do so. When necessity arises to show old boundaries in the new plan the old boundaries are fixed with the help of original details and shown in red by using fixation tracings.
- (a) Fixations given on block survey sheets should be accepted for future surveys. Surveyors should not call for field sheets showing the original plans.
 - (b) Fixation details that have not been surveyed in connection with the new work should not be inked.

New surveys within old surveyed area

- 4.52. (a) **In Preliminary Plan (P.P.) areas;** New surveys are carried out for various purposes in previously landmarked P.P. areas. In such instances, a fresh P.P. should be prepared on A3 size sheets while proscribing the area covered by the new survey in the original P.P. The Preliminary Plans such as Irrigation Survey P.P. (I.S.P.P.), Miscellaneous Survey P.P. (M.S.P.P.), Town Survey P.P. (T.S.P.P.), and Land Development Survey P.P. (L.D.S.P.P.) will not be issued in future.

In all above cases, the extents of original lots should be maintained and reference to the extent of old lot (Original lot) should be given in TL as “See Lot No.....in Page No. ”. If the page number is not available in the D.S.O. as in the case of old P.P.s the District Senior Superintendent of Surveys should get down those copies from S.G.O.

- (b) **In finally settled area;** Similarly, a fresh Supplementary Plan on A3 size and Tenement lists should be prepared when the new survey work falls inside finally settled areas such as F.V.P., F.T.P., etc.. The old F.V.P/F.T.P. will be amended giving references to new plan numbers in red colour.

Identification of lots in field

- 4.53. If no new survey is required as the lots are already surveyed and identifiable either by inspection or by re-opening old boundaries only supplementary Tenement lists giving up-to date information pertaining to the land should be prepared. The extents should be referenced to that of the original lots as in 4.52(a).

Acquisition surveys

- 4.54. State lands fall in the acquisition surveys in F.V.P./ F.T.P. areas should be included in the acquisition plans. Tenement lists of acquisition surveys should contain only the lots with their extents to be acquired. The balance areas of such state lots should be lotted in F.V.P. /F.T.P. sheets and included in the separate Supplementary Tenement lists. The lot numbers and extents of the acquired lots to be shown in the supplementary Tenement lists too. Refer Chapter VI for details

Lands brought under the Land Settlement Ordinance

- 4.55. When the surveys of the lands under Land Settlement Ordinance on a memo forwarded by the Commissioner of Land Settlements (previously Settlement Officer) is carried out the adjoining title plan, diagram plan or preliminary plan numbers should be given in addition to name of land, descriptions and claimants name. Refer Chapter VIII for details.

National Map reference

- 4.56 Standard map reference number should be given in marginal information column. The location of the land should be established first in 1:50,000 Topo sheet. Then the respective key sheet number should be determined as in the example given below.

Metric Sheet No; 55/1/1 and 55/1/3

					55				
1	2	3	4	5					
6	7	8	9	10					
11	12	13	14	15			1	2	
16	17	18	19	20			3	4	
21	22	23	24	25					

Matters concerned by the Surveyor

- 4.57.** Plans and all entries in field books should be made in Sinhala language. Yet the plans and Field Book keeping can be done in English Language with the prior approval in writing from the District Senior Superintendent of Surveys under special circumstances. The Surveyors whose written language is not Sinhala may work in English language.

When many surveyors are engaged in the large area surveys, the Superintendent of Surveys should make arrangements for the preparation of plans in one suitable language. If an officer is not responsible for the entire work, the portion for which he is responsible should be clearly indicated. All officers who sign, check and approves the plans should sign at the allocated spaces with their names & designation written underneath the signature.

- 4.58.** It is the responsibility of the Surveyor to ensure that the field data collected for preparation of the plan is accurately entered into the TL database and to store the survey data in the right digital data layers. The Surveyor should be responsible for the accuracy of the Plan and TL and should be examined by the Superintendent of Surveys as specified in 4.60. After completion of a Survey Requisition according to paragraph 4.59, the Surveyor should cancel the Survey Requisition form with the signature written in the following details in red on the space provided.

- ❖ Year and month of survey
- ❖ Plan number including Sup. No., Sheet No., Inset No.s etc.
- ❖ Metric field sheet No.
- ❖ Lot number(s)
- ❖ Extent

If the requisition is for identification of land which has already been surveyed the following statement should be made therein.

“Identified by Inspection or re-opening old boundaries as lot number in plan number

- 4.59.**
- (a) After ensuring that all points for examination are in order, the Surveyor should mention the month and the year of survey and sign all sections of the plan for surveying and drawing, and all pages of the Tenement list. Ensure that the name should always be printed below the signature. The Grade and date of signing need not be entered.
 - (b) Photocopies of the documents/letters which are to be given attention of the client or other relevant institutions should be filed in the requisition file. The originals should be sent to the respective client or relevant institutions.
 - (c) Field books and properly arranged survey requisition file should be submitted for plan checking. Surveyor should arrange all documents connected to the survey in chronological order. It means consecutive order of survey activities such as relevant survey report form, canceled requisition, list of allottees, Grama Niladhari form, L 96 and L 96A information, other letters or their photo copies, last sheet and lot information, computation forms, allottee signature sheets, relevant amendment and proscription tracings, surveyor’s report etc.

- (d) It is the responsibility of Surveyor to ensure that SRIMS is updated with information pertaining to the completed survey at the time of submission of plans to the Superintendent of Surveys for examinations.

Signing of Plans

4.60. When checking plans the Superintendent of Surveys should be satisfied on accuracy and completion of survey as required by the client. Furthermore he/she should check Field books, cancelling of survey requisition, important letters regarding survey, surveyor's report, computation of extents, relevant tracings and other relevant documents. The Superintendent of Surveys, after examining all the points in [Annexure II of Chapter XII](#) should sign all the documents.

4.61. (a) Superintendent of Surveys will place the signature with the name, designation and date on all the sections of the plan and all the pages of the Tenement list, should forward them along with requisition file with connected documents to the District Senior Superintendent of Surveys.

(b) The Senior Superintendent of Surveys will place the signature with the name, designation and date on behalf of Surveyor General on the first section of the plan and the last page of the Tenement list, on his satisfaction. In case of having the plan contained more than one section and the Tenement lists more than one page, the District Senior Superintendent of Surveys must write above his signature as "Section 1 to ... and pages 1 to" in plan and Tenement lists respectively. Print the name, designation below the signature as follows.

(Name).....
 Senior Superintendent of Surveys,District
 On behalf of Surveyor General
 Date.....

4.62. If the plan is found to be erroneous or computation of extents are inaccurate, even in the case of a plan with a single lot, and such errors have a significant impact, the Senior Superintendent of Surveys of the District should initiate disciplinary actions against the Surveyor and the Superintendent of Surveys. The copies of letters connected to such actions should be retained in their personal files maintained in the D.S.O. If it is observed that the Surveyor continuously makes same kind of errors, the matter should be reported to the Provincial Surveyor General for necessary actions.

Key Sheets

4.63 a) Senior Superintendent of Surveys of the district should maintain 1:4000 Metric key diagram for each rectangular of 4km x 2.5km covering entire un-surveyed area of the district. Senior Superintendent of Surveys of the district should identify required Key sheet for his district and should obtain from Senior Superintendent of Surveys (Mapping). Senior Superintendent of Surveys (Mapping) will print required metric key sheets by enlarging 1:10,000 map sheets or 1:50,000 where 1:10,000 sheets are not available, into 1:4,000 scale and dispatch to the District Survey Office.

- (b) 1:4,000 Key Diagram number with the suffix “Key” consists of the sheet squares of 4 x 2.5km should be printed at the right hand top corner. The name of the district for which the Key Diagram is issued is printed on the left hand top corner.
- (c) The outer boundary of the new survey will be plotted by the Surveyor on the Key Diagram and inked. The PP number will also be shown in ink. This key diagram should be well preserved as it has to be used for a long period of time.
- (d) The preliminary plan number will be entered inside the corpus of the survey in the Key Diagram. When a PP falls in more than one Key Diagram, the portions of the survey, which fall within the different diagrams, will be shown within the respective key diagrams. The PP number will be inserted on every Key Diagram.

Amendments of old documents

4.64.

- a) The outer boundary of any Preliminary Plans (PP), Title Plans (TP), Diagrams, Diagram Plans (DP) or Settlement Ordered private lots which may be included in the new survey will be inserted in pencil on the original field sheets. P.P. numbers of the new surveys will be referenced in the old sheets.
- b) When the whole or a portion of the new survey falls within a town survey area, the Senior Superintendent of Survey’s copies of the town survey prints should be amended in red and amendment tracings traced from the prints should be forwarded to the Document Management and Professional Standards branch for amendment of S.G.'s copies.
- c) Similar procedures should be followed for surveys falls within Irrigation Survey Preliminary Plan (I.S.P.P.), Forest Survey Preliminary Plan(F.S.P.P), Land Development Survey Preliminary Plan (L.D.S.P.P.) and Miscellaneous Survey Preliminary Plan (M.S.P.P)

4.65.

- a) By means of amendment tracings prepared in accordance with 4.66 all diagram copies of finally settled plans such F.V.P., F.T.P., F.C.P. etc. should be amended showing the outer boundary of the newly surveyed area in red colour with a yellow band inside along the outer boundary and giving references to the new Sup. plan or Inset plan in red colour. All lots within thus amended area should be amalgamated using the sign \int in red colour across the old boundaries and old lot numbers will be written off with a single straight line. Similarly, relevant field sheet should be amended in pencil.

Apart from that, old lot numbers of original Tenement lists should be cross referenced with the symbol – | – and new lot numbers should be given in red against such lot numbers.

- b) The outer boundary of the new survey should be shown in relevant old P.P. in pencil and hachured with the help of proscribing tracing. The new P.P. Number should be given in red inside the corpus of the land. The old lot boundaries within the new P.P. should be amalgamated using the sign \int in red and old lot numbers will be deleted by a

single straight line in red. Except the original copy all the other copies of Tenement lists should be cross referenced in red with symbol –|– and original should be cross referenced in pencil, described as “Proscribed by PP No.”.

Amendment and Proscription Tracings

- 4.66. The aim of preparation of amendment and proscription tracings is solely to amend old records, once correctly identified, in which new work falls with information of new work and thereby, to facilitate identify new works carried out in it when old plans are investigated. Therefore, two copies of such tracings with the information such as north line, scale, old plans/F.S. Nos, new plan No., and fixation data sufficient to fix the old plan in new plan should be prepared. Tracings thus prepared for amending different types of plans should carry the following information in tabulated form.

Amendment Tracings			Proscription tracings
In F.V.P./F.C.P./ areas	Within balance areas of F.T.P.	In F.T.P. inset (inside an Inset)	In un-surveyed areas (P.P. areas)
Reqn. No.	Reqn. No.	Reqn. No.	Reqn. No.
F.V.P.No.	F.T.P.No.	F.T.P.No.	Date checked
Sup. No.	Inset No.		Field Sheet No.s
Sheet No.	Sheet No	Sup. No.	Metric Key Sheet No.
Lot No.s	Lot No.s	Sheet No	Original P.P.no.
T.L. page No.s	T.L. page No.s	Lot No.s	New P.P.No.
F.B.No.s	Lot No. of bal. area	T.L. page No.s	F.B.No.s
Approved date of plan	Extent of bal. area	F.B.No.s	No. of lots
	F.B.No.s		Approved date of plan
	Approved date of plan	Approved date of plan	

- 4.67. Two copies of amendment tracing of 16 chain RD should be sent with the plans of newly surveyed and completed areas not within final unsettled area (Eg : F.V.P. / F.T.P. / F.C.P.). Following details must be included on these tracings.

1. Number of 16 chain RD, square number and Grid Cuttings
2. Requisition Number
3. Date Checked
4. Preliminary Plan Number
5. Field Sheet Number
6. Metric Key Sheet Number (1:4,000)
7. Number of Lots
8. Land Extent

One copy of amendment tracings should be sent to the Document Management and Professional Standard branch by District Senior Superintendent of Surveys in order to amend 16 Chain RD.

- 4.68. District Senior Superintendent of Surveys should send one copy of amendment and proscription tracings to the Document Management and Professional Standard branch in order to amend SG's copies of plans while retaining the other in the requisition file.

[Important factors on new surveys inside the old survey areas](#)

- 4.69. When a new survey is done in an area covered by un-landmarked PP or lot in a PP a new P.P. should always be issued and the old P.P. or part of it, as case may be, will be proscribed. If it is found that no action has been taken on such PP they can be cancelled with permission of Snr.D.S.G. (DM. & PS).
- 4.70. When work falls in more than one village, field work entries for the part of work falls in each village should be made in field book relevant to each village. Also different plans should be prepared for each village.
- 4.71. If new work falls in an area of F.T.P., a fresh Inset will be issued. If new work falls in inset of F.T.P. a Supplement will be issued.
- 4.72. For all subsequent surveys done in F.V.P. a Supplement will be issued
- 4.73. It is the responsibility of the District Senior Superintendent of Surveys to ensure, before approving plans and issuing certified prints, that all relevant old documents such as Field Sheets, Diagrams, Key Sheets, 16 Ch. R.D.s etc. in respect of new plans received from the field have been amended in D.S.O.
- 4.74. a) Whenever statutory plans are amended or cancelled a certificate to that effect should be included in Original Field Sheets giving reference to the request letter of the Ministry or Divisional Secretary. In addition, all certified prints of plans issued to requesting agency and other institutes, if any, should be called for and endorsed with the same certificate. An amendment tracing containing this certificate along with certified copy of the original plan should be made available to Document Management and Professional Standard branch. No requests should be made to DM & PS branch in S.G.O. calling for previously sent certified copies of plans for the inclusion of subsequent amendments as they are not sent back to field under any circumstances.
- b) In case of re-establishment of misplaced old L.M.s similar actions as described above should be adopted.
- c) For the lots that are identified by re-survey or by re-opening boundaries, a supplementary tenement list will be issued giving up-to-date tenement information relating to the old lot number.
- d) It is the responsibility of the Senior Superintendent of Surveys attached to DM & PS branch in S.G.O. in issuing the certified copies of S.G.'s old records.
- e) All copies of plans prepared for each building block as required by the General Manager- NHDA, should be certified by the District Senior Superintendents of Surveys
- f) When it is needed to amend plan copies of P.P.'s and F.V.P. , Divisional Secretary and Senior Superintendent of Surveys and found that it can be done in D.S.O. after only

verifying documents, actions should be taken to amend it in D.S.O. itself without directing to field. In that case, endorsement should be made in black on the plan sheets while showing amendments in red colour, to that effect placing their signatures along with name, designation and date by the Senior Superintendent of Surveys and a Superintendent of Surveys.

- (g) If, however, name/s of claimant and name of the land in the tenement list have to be totally amended the requisition should be issued to a field surveyor for the preparation of a new tenement list after verification in field.

Issuing Prints of Plans

- 4.75. The copies of newly prepared plans, once ready for disposal, will be issued by the District Senior Superintendent of Surveys in terms of 4.76 to 4.78 along with a report containing the facts that are considered to be important to the client.

At the same time, Surveyor General's copy (certified) of the plan should be sent to the Document Management and Professional Standards Branch at S.G.O. through the respective Provincial Surveyor General. It can be confirmed, weather S.G.'s copies so sent are received by the DM and PS branch in S.G.O. through the INFODM in SRIMS.

After the plan is approved by the District Superintendent of Superintendent, it will be inserted into the ADITS database and a scanned copy of the scanned plan will be sent by email to the concerned Government Surveyor.

Digital Data of the plan should be uploaded through the departmental web to the LIS branch. Also SRIMS will be used to send the digital data file to LIS branch. Action to be taken in this regard are appended in the Chapter XXII (Digital Data Management) in detail.

- 4.76. Prints of acquisition survey plans should be issued as follows

a) Acquisitions for developments

Surveyor General	1 (Certified Copy)
Divisional Secretary	2 (one copy certified)
Chief Valuer	1
Ministry of Lands	1
Relevant Linear (Applicant) Ministry	1
Relevant Department or Institute	1

b) Acquisitions for village expansion

Surveyor General	1 (certified)
Divisional Secretary	2 (one copy certified)
Ministry of Lands	1
Provincial land Commissioner	1

4.77. [Prints of other survey plans](#) should be issued as follows.

a) Copies of plans prepared for issue of grants

Surveyor General	1 (certified)
Divisional Secretary	2 (one copy certified)
Provincial land Commissioner	1

b) Copies of plans prepared for vesting or leasing

Surveyor General	1 (certified)
Divisional Secretary	2 (one copy certified)
Relevant institute/applicant	1
Provincial land Commissioner	1

c) Copies of plans prepared for Cadastre Maps

Action to be taken vide [paragraph 21.77](#)

d) Copies of plans prepared for blocking out of land marking lands for NHDA

Surveyor General	1 (certified)
National Housing Development Authority	2 (one copy certified)
Provincial Land Commissioner	1

e) Issue of Supplementary T.L.s

Surveyor General	1 (certified)
Divisional Secretary	2 (one copy certified)

4.78. If the Sup. T.L. is issued for a State Lot, which is to be handed over to a Government Department, the prints will be issued as follows

Surveyor General	1 (certified)
Divisional Secretary	2 (one copy certified)
Relevant Department	1
Provincial Land Commissioner	1

Forest Surveys

4.79. Plans of Forest surveys falls within F.V.P./V.P. areas are prepared as Supplements to F.V.P./V.P. and lot numbers assigned from the last lot number used in the F.V.P./V.P. The area covered by the Forest Survey will be edged in yellow on the F.V.P./VP. and referenced to the Forest Survey showing the Supplement number and the name of the Forest Reserve, as “Survey of Forest Reserve”.

4.80. Similarly, when the forest is falling within F.T.P./ Topo.P.P. areas it will be surveyed as Insets to F.T.P./ TP and lot numbers assigned from the last lot number used in the F.T.P./TP.

- 4.81.** i) When the forest is falling in outside F.V.P./F.T.P. areas, Preliminary Plans will be prepared.
- ii). The sanction of the Commissioner General of Title Settlement should be obtained prior to commencement of the survey in Topo P.P.
- iii). Plans of forest surveys will be prepared on the scale of 1:4,000. If the area is large, a composite plan should be prepared on the scale of 1:10,000, in addition to the 1:4,000 scale plans. All topographical details should be surveyed and shown on the plan.
- iv). Boundaries of Divisional Secretariat and Village boundaries will be shown by relevant symbols in ink. Portions within each village will be lotted separately. When plan is on the scale of 1:10,000 such Topographical features need not be surveyed but can be transferred from old plans and drawn in ink.
- 4.82.** Forest surveys too are drawn on A3 field sheets like other plans.
- 4.83.** Forest Surveys falling within Block Survey areas or Topographical Preliminary Plan (Topo. PP) areas will be shown in pencil and cross referenced to the new survey in the respective Block Survey or Topographical P.P. field sheets.
- 4.84.** If there are encroachments inside the proposed forest reserves within F.V.P. /F.T.P. areas they will be landmarked and surveyed, if the sanction has been given to exclude such encroachments by the Conservator General of Forests. Such plans are drawn as supplements to F.V.P./F.T.P. with TL to enable the Divisional Secretary to take action. If it is outside the F.V.P. /F.T.P. areas, PP or Cad plan will be prepared
- 4.85.** When a Forest Survey falls partly within Block Survey area, F.V.P. area and outside F.V.P. area, three plans will be prepared separately in terms of paragraphs 4.79, 4.80, and 4.81 and cross-referenced to each other.
- 4.86.** In addition to the above, a separate plan of the Forest Reserve or proposed Forest Reserve will be prepared on the scale of 1:10,000. Once plotting of the outer boundary of the forest reserve which is newly landmarked and surveyed the essential Topographical features within the area under survey also should be shown in the Plan. Divisional Secretariat areas & village boundaries will be shown on the 1:10,000 plans drawn on the A3 sheets. Village boundaries abutting on the forest should also be shown on the Forest Plan. Assigning lot numbers in these sheets will be in conformity with the lotting in F.V.P. Supplements, Topo PP, Block Survey, etc. as referred to in paragraphs. 4.79, 4.80, 4.81 and 4.84.
- Numbering of these A3 sheets will be done in accordance with respective 1;10,000 sheet number. Name of the Forest Reserve or the proposed Forest Reserve should be shown at the right hand top corner of the plan.
- 4.87.** The numbering of lots in Finally Settled PP's that are already issued will continue from the last lot number used in the respective Finally Settled P.P.

Survey Report Forms

- 4.88.** Report forms for Sporadic Surveys under 8 categories and report form for Cadastre Surveys are enumerated below. These forms include Surveyor's report and Superintendent of Survey's examination notes.

The forms to be used are listed below.

- S 411 - Acquisition surveys outside finally settled area
- S 412 - Acquisition surveys in finally settled area
- S 413 - Miscellaneous surveys outside finally settled area
- S 414 - Landmarking L.D.O. allotments in finally settled area
- S 415- Landmarking L.D.O. allotments outside finally settled area
- S 416 - Miscellaneous surveys in finally settled area
- S 417 - Staking out surveys outside finally settled area
- S 418 - Staking out surveys in finally settled area
- S 419 – Cadastral Surveys

- 4.89.** The Surveyor will fill in all items in page 3 of the relevant form, which is the Surveyor's report. Items, which do not pertain to his survey, will be struck off and for certain items the appropriate words will be used by striking off irrelevant words. The Surveyor should go through every item in the Form and write his report very carefully. If any matters to be mentioned in the report but not provided in the Form the Surveyor can mention those points overleaf of page 3. These items will be numbered in continuation from the last item number printed on page 3. The Surveyor will sign the report at the end, giving his designation and date. In addition this report the Surveyor should prepare a separate report including all matters important to the client of the requisition.
- 4.90.** The Superintendent of Survey's examination notes are given on page 2 of the form. The Superintendent of Surveys should examine the plans against each item and if any item deemed not to be relevant to the particular survey it should be struck off. .
The Superintendent of Surveys will tick off in ink, in the given rectangular cage against each item to indicate that he has checked those items and should sign and designation and date at the bottom of the page.
- 4.91.** Relevant section of front page of this Form will be filled in by the Subject Clerk/ M.T.O. in the District Survey Office. The estimated time and the estimated date of completion may be filled in by the Surveyor, but these will have to be checked by the Superintendent of Surveys himself. At the same time SRIMS should be updated by the Surveyor. The cages from "Plan completed on" to "Plans sent to District S.O." will be filled in by the Surveyor while updating SRIMS with those information and checked by the Superintendent of Surveys when he receives the documents.

Additional to If any amendments are found to be in the report the District Superintendent of Surveys should return it to field for amendments.

At the District Survey Office, the report and the examination notes of Superintendent of Surveys will be filled by the M.T.O on behalf of District Senior Superintendent of Surveys. If any amendment to be done it should be referred back to the Superintendent of Surveys for corrections and it should be filed in the requisition file.

After checking the report form by the Superintendent of Surveys (HQ) attached to the District Survey Office or the M.T.O. who is in charge of the subject, District Senior Superintendent of Surveys will sign it. Items that are not applicable to the survey will be struck off on this page. The word 'for' against the 'Senior Superintendents of Surveys' will be struck off.

The destruction of files

- 4.92.** The requisition files should be stored in the document room of the District Survey Office in systematic manner to enable to trace it at later stage conveniently. All requisition files that are not required to retain in the D.S.O. any further even after five year period and also unwanted documents in the requisition files that are to be preserved should be destroyed after proper condemn process. Acquisition Survey Requisition Files and Court Survey Requisition Files should never be destroyed.

The board of condemn is appointed by Provincial Surveyor General for documents in DSO comprising of the District Senior Superintendent of Surveys and two other Superintendent of Surveys. The process of condemning documents should be done annually. A list of condemned survey requisition files should be maintained in the document room of the DSO.

Survey requisition Schedule

- 4.93.** Surveyors should maintain a schedule of requisitions in form (S426) and enter all information pertaining to the requisition in it, including the Ministry reference number. Requisitions received for amendments of plans will be entered in red in these forms.
- 4.94.** Only one Schedule form should be maintained for all the requisitions in hand.
- 4.95.** When a requisition is passed by the Superintendent of Surveys, the Surveyor will strike off the entries in the Schedule Form, and enter the date of passing of the requisition by the Superintendent of Surveys in red. When a requisition is transferred to another Surveyor or DSO, the relevant entries should be struck off indicating name of the Surveyor/D.S.O. to whom it is transferred with the date of the transfer. The Surveyor should also take actions at the same time to update SRIMS accordingly.
- 4.96.** No previous entries in the Schedule of Requisition form should be altered and no new forms should be taken up as well without substantial reasons in place of the ones now in use. However, if new forms are substituted, the old forms should also be attached to the new set of forms.
- 4.97.** These Forms should be forwarded to the Superintendent of Surveys at the end of every month.
- 4.98.** Superintendent of Surveys should maintain a register of requisitions for surveys and it should be updated continuously with the information extracted from schedule of requisitions received from Surveyors, new requisitions and the requisition in hand at the end of every month. With this register it should be possible to state current situation of the requisition. As this information are updated in SRIMS data system, it could be cross examined with the schedule of requisition.

- 4.99.** Superintendent of Surveys should prepare a summary of progress of the completed requisitions, collecting information from the schedule of surveyors and send it to the District Survey Office on the second working day of every month. It is advisable to check and compare this information with SRIMS.

District Senior Superintendent of Surveys will also prepare a summary of progress based on the information of progress reports of Superintendent of Surveys and send it to the Provincial Surveyor General Office before the 10th working day of every month.

- 4.100.** Relevant information of completed requisitions for each Divisional Secretariat should be maintained by the District Senior Superintendent of Surveys. In addition to this basic information of requisition, the plan number, date of issue of prints etc. should be included in this register. Also he should ensure that SRIMS is updated with such information to enable the management to accrue information of the district progress at any time.

District Senior Superintendent of Surveys should be in a position to state the position of any requisition with the help of these registers and data bases maintained in the District Survey Office.

Surveyor's Report

- 4.101.** The certified copies of plans should accompany a detail report which consists of matters of interest to the Divisional Secretary. This report should be prepared by the Surveyor and examined by the Superintendent of Surveys and finally, certified by the Senior Superintendent of Surveys

Filing the Documents in a systematic manner

- 4.102.** Preliminary plans on A3 size together with the original tenement lists and certified copies of them will be filed in folios of 25 plans each separately and protected.

Similarly, F.V.P./F.T.P. sheets along with their tenement lists (originals) & certified copies will be filed under each F.V.P./F.T.P.

- 4.103.** Certified copies of all maps and plans and their tenement lists prepared by Survey Department for statutory purpose will be filed in the Document Management and Professional Standards Branch at S.G.O.

- 4.104.** Final Colony Plan, Colony Plan, Final Urban Plan, Urban Plan, Land Development Survey Preliminary Plan, Irrigation Survey Preliminary Plan and Forest Survey Preliminary Plan etc. will not be prepared any further. If such requirement arises only Cadastral Maps will be prepared.

When carrying out surveys in such areas, plans will be prepared as in F.V.P. and V.P. areas.

Subsequent surveys in Cadastral survey areas should be carried out in accordance with [paragraph 21.81-21.108](#)

Paragraph 4.34**Annexure I**

Surveys for issue of grants under L.D.O. should be carried out in a way that the procedures stipulated in Land Commissioner General's Circular No. 2013/02 dated on 2013.10.31 in connection with the circular No. 02/2013 dated 2013.11.25 can be implemented.

01. When the extent of the land occupied on tenure is more than that of the permit

- i). If the difference in extents of the land occupied and that is given in the permit does not exceed 10% and also the difference is not more than 10 perches, the land will be surveyed according to occupied boundaries.
- ii). If the difference in extents of the land occupied and that is given in the permit does not exceed 10% and the difference is more than 10 perches, the land will be surveyed showing the excess land separately.
- iii). If the difference in extents of the lands occupied and that is given in the permit exceeds 10% only the extent given in the permit will be surveyed. However, if the extent of excess land is less than the minimum limit of partition of the Local Government Body in which the land is situated, the extent of the land occupied will be surveyed.

02. When the extent of the land occupied on tenure is less than that of the permit

- i). If the difference in extents of the land occupied and that is given in the permit does not exceed 10%, the land will be surveyed according to occupied boundaries.
- ii). If the difference in extents of the land occupied and that is given in the permit exceeds 10%, the land will be surveyed according to occupied boundaries with the prior approval of Land Commissioner General or Provincial Land Commissioner.

03. When dealing with paddy lands provided with irrigation facilities the followings, in addition to those mentioned above, should be taken into consideration.

- i). If and only the extent of the land occupied is less than what is given in the permit and the land is provided with permanent water supply, the extent of the land occupied will be surveyed.
- ii). If the extent of the land occupied is more than what is given in the permit and the extent of excess land is less than 2 roods, the extent of the land occupied will be surveyed.
- iii). If the extent of the land occupied is more than what is given in the permit and the extent of excess land is more than 2 roods, the extent of the permit will be surveyed. Such excess lands will be surveyed provided that a permanent water supply to that land is available.

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER V
COURT COMMISSION SURVEYS
INDEX

DSR Reference	Description	Page
	<u>Occasions of issuing Court Commissions</u>	
5.1.	Legality of Court Commissions issued to Surveyor General	1
5.2.	Issuing of Court Commissions by the courts	1
5.3.	Requirement of issuing court commissions	1
	<u>Charging of survey fees</u>	
5.4.	Survey fees for the execution of Court Commissions	1
5.5.	Occasion in which the Court Commissions are extended free of charge	1
	<u>Special points of implementation of court commissions</u>	
5.6.	Understanding the content of Court Commissions	2
5.7.	Court Commissions received by S.G.O.	2
5.8.	Top priority for execution of Court Commission surveys	2
5.9.	Utilizing officers to execute Court Commission surveys	2
5.10.	Time estimation to complete work	2
	<u>Notice of survey work</u>	
5.11.	Notice to all parties and Grama Niladhari	2
	<u>Field work</u>	
5.12.	Staking out and pointing out boundaries	2
5.13.	Dealing with a claimant who is not a party mention in the court commission	3
5.14.	Decision making of accuracy	3
5.15.	Field book used in Court Commission surveys	3
	<u>Preparation of fixation tracing</u>	
5.16.	Preparation of fixation tracing	3
5.17.	Fixation	3
	<u>Plan work</u>	
5.18.	Plotting new plan into original scale	3
5.19.	Special considerations when preparing tracing	3
5.20.	Assigning of lot numbers	3
5.21.	Using colours on plan and printing plan copies	4
5.22.	Details to be included into tenement list.	4
	<u>Preparation of Surveyor's Report</u>	
5.23.	Factors to be considered for preparing of report	4
	<u>Plan Checking</u>	
5.24.	Checking plans by Superintendent of Surveys	4
	<u>Approved of plans and issuing copies</u>	
5.25.	Preparing a concise report for sending to court and approved plan	4

DSR Reference	Description	Page
5.26.	Issuing copies	5
	<u>Protecting Documents</u>	
5.27.	Protection of relevant document of court commission	5
5.28.	Issuing of documents related to the Court Commission surveys	5
	<u>Dealing correspondence</u>	
5.29.	Correspondence with courts	5
5.30.	Information regarding delays of Court Commission surveys	5
	Annexures	
<u>Annexure I</u>	Form to be provided to new partners under section 18 (3)	6
<u>Annexure II</u>	Plan specimen of Court Commission Surveys	
<u>Annexure III</u>	Tenement List specimen of Court Commission Surveys	
<u>Annexure IV</u>	Things to be careful for preparing of Tracings related to the Court Commission Surveys	7
<u>Annexure V</u>	Format of Surveyor's Report under 18(1)(A) section	9

CHAPTER V
COURT COMMISSION SURVEYS

[Occasions of issuing court commission](#)

- 5.1.** Occasion of issuing Court commissions by the District courts to the Surveyor General are as follows.
- (a) Request from any party of a Court commissions relating to land in a District Court or by the Court of its own for the submission of plan and survey report.
 - (b) Whenever state lands are involved or suspected to be involved, Attorney General also will become a party to the case in order to safeguard the interest of the state. In such instances a court commission will be issued by the Courts to the Surveyor General on the request of the Attorney General.
 - (c) When the District Court orders in accordance with Section 18 (3)(a) of the Partition Law No. 21 of 1977 (Chapter 82 of Legislative Enactment of Sri Lanka)
- 5.2.** In addition to the District Court the Magistrate Courts, the High Courts, the Court of Appeal and the Supreme Courts could also make orders to the Surveyor General for the submission of plan and survey report on a request made by any party or by the courts of its own. However, a Court Commissions will not be issued and merely a court order is issued.
- 5.3.** When executing the Court Commission Surveys mentioned in 5.1 paragraph above, prior to the acceptance of the plans and related field records of Registered Licensed Surveyors by the courts, a new survey will be carried out in order to prepare a plan, field records and report to certify the accuracy of such plans and field records or with regard to survey carried out by two or more Registered Licensed surveyors, a fresh survey will be carried out to prepare a tracing, tenement list and a report or request made by any party of a case relating to land matters or by the Court of its own..
- The plans and the reports should be prepared when a Court Commission is issued by the courts for a preliminary survey under the partition Act and the orders mentioned in 5.2 paragraph.

[Charging of Survey fees](#)

- 5.4.** Immediately after receiving a court commission, prior to further action, it has to be verified that the commission has to be charged with a survey fees or not from respective parties. If a survey fee has to be charged action has to be taken to estimate the survey fees as per the circulars in force.
- Registrar of the court should be informed with survey fees, that has to be collected from the relevant parties and work could be commenced only after survey fees are paid to District Survey Office, who will inform the relevant parties. Copies of the above letter should also be sent to the relevant parties.
- 5.5.** A Court Commission under Section 18 (3) (a) of the Partition Act is issued for the purpose of checking the accuracy or making a change of a partition plan made by Licensed surveyor. All relevant documents such as plan and the field notes etc. of Licensed Surveyor are sent along with the Commission.

The Survey fees should not be notified for the payment of such commissions and the Survey fees should be notified along with the Plans and Reports relevant to the Survey. The courts may decide whether to pay or not and orders the relevant parties accordingly.

Where the commission has been issued at the request of the Attorney General, no survey fees will be charged.

Special points of execution of court commissions

- 5.6. Court Commission Surveys should always be carried out strictly in accordance with the requirements of the commission after a better understanding.
- 5.7. Court Commissions received from courts to the Surveyor General will be directed to the respective District Senior Superintendent of Surveys by Document Management and Professional Standards Branch (DM & PS) of S.G.O. In most occasions, Court Commissions are sent to the District Senior Superintendent of Surveys directly by court.
- 5.8. District Senior Superintendent of Surveys should give high priority for the completion of these surveys, and are expected to follow the progress of each commission until its completion. The completed survey request should be sent to the court a week prior to the date given in the court commission.
- 5.9. It will be always advisable to engage a senior or experienced surveyor for these surveys. In the absence of a senior surveyor, a new Surveyor could be employed in a court commission survey and in such cases the Superintendent of Surveys should closely supervise the work of the surveyor.
- 5.10. An estimate for completion of work should be made by the surveyor and forwarded to the District Senior Superintendent of Surveys through the Superintendent of Surveys. District Senior Superintendent of Surveys should find that the estimated date for completion is well ahead of the date given in the commission and necessary action to be taken.

Notice of Survey work

- 5.11. The Surveyor should give notice of survey to all parties and the Grama Niladhari for state lands at least two weeks before the survey prior to the commencement of survey work.

Field work

- 5.12. Newly formed boundaries after fixation should be staked out and pointed out to all parties and if the state lands are involved, such boundaries should be pointed out to the Grama Niladhari for necessary action. Landmarking of such boundaries will not be done.
- 5.13. When executing a court commission survey under section 18(3)(a) of the Partition Act, as mentioned in 5.1(c), the portions of adjacent lands fall inside subject land, after fixation done by the Licensed Surveyors specified in the Court Commission should be numbered separately. In the case of those claimants are not mentioned in the court commission, the Surveyor should handover the notice ([Annexure I](#)) according to 16 (3) paragraph of the Partition Act No.32 to enable such claimants to appear before courts on the next calling date of the commission, as

new parties if they so desire. Claimants who are not partners, their addresses and the nature of the claims should be mentioned in the report prepared by the surveyor section vii of 18(1)

- 5.14. Field work should be done to maintain the accuracy of the scale of the original plan presented with court commission and the new plan should be drawn to the same scale of the original plan.
- 5.15. Numbered Field Books should be used for fieldwork.

Preparation of fixation tracing

- 5.16. When the original plans are sent with the commission, they can be used for the preparation of tracings for fixation. Otherwise the Government surveyor should obtain the relevant original plans personally from the record room of the courts for the preparation of fixation tracings. Such tracings should be certified by the Surveyor treating them as true copies. Surveyor should make a note as “I certify that this tracing is a true copy- prepared by me personally from the originals” and signed by him and Superintendent of Surveys also should check and counter sign.
- 5.17. All fixations should be precise, and any discrepancy should be reported in detail. In fixation tracings, the data used for fixation should be ticked off thus (√) and fixation classified. Superintendent of Surveys should check the fixation tracings, classify according to [paragraph 9.67](#) and certify.

Plan work

- 5.18. Plan work should be done on the [scale of the original](#) sheet along with the commission. However a larger scale may be used to illustrate the differences. If necessary such work may be shown as an inset.
- 5.19. When preparing the tracing of Court Commission Survey, special attention should be given to the following aspects. (See [Annexure II](#))
- To indicate “ District/ High court case No” at the top of tracing, S.G.’s reference No. in the middle and bottom of within bracket and the scale below.
 - To show the location of survey land at the top right corner of the tracing
 - Province,
 - District,
 - Divisional Secretariat,
 - Within municipal limits,
 - No..... Division,
 - Village
 - To show the North line as appropriate
 - Abbreviations used in the tracing should be given under reference closer to the land parcel.
- 5.20. All State lands falling within the corpus of a Registered Licensed Surveyor's plan should be surveyed and lotted separately.

The lots formed after the fixation of plans of each and every Registered Licensed Surveyor should be lotted and scheduled according to the requirements of the commission. The Licensed Surveyor will use alphabetic letters when assigning lot numbers of the plan. Those numbers should not be reused in the tracing. For example, if the Licensed Surveyor uses letters A to P, then the government surveyor must start with Q to Z and then from AA, AB and so on. If English letters are used for numbers, the letters I, L, and O should not be used as fragment numbers to prevent ambiguity of the plan.

- 5.21. The plans should be drawn on an A3 size sheet and separate colours should be used for the boundaries of each and every Registered Licensed Surveyor. As it is an often requirement of the court commission to superimpose the boundaries of a plan prepared by the Licensed Surveyor, such boundaries must be shown in green on the tracing prepared. The boundaries of the plans prepared by the Department should be drawn in red after the fixation. Separate colours must be used for each land parcel prepared by several Licensed Surveyors. Newly surveyed boundaries which do not coincide with the boundaries mentioned above will be shown in black and a note should be given clearly on the plan with regard to the colours used. The required tracing copies with necessary data should be printed from such plan so prepared.

Note:

The boundaries of Plan No. prepared by Licensed Surveyor is shown in green.

The superimposed boundaries of plan No. prepared by Licensed Surveyor, which do not coincide with those boundaries are shown in The boundaries of P.P. which do not coincide the Licensed Surveyor's plan are shown in red. The newly surveyed boundaries which do not coincide with any of those are shown in black.

- 5.22. The schedule of lots prepared by the Government Surveyor should include the lot numbers, extent of lot, name of land, number of trees of different cultivations with their ages, detailed descriptions of buildings and names of claimants with their addresses, whether the land has been leased, a reservation and an encroachment etc. A reference to the old plan should be given with regard to the lot numbers in the plans of Registered Licensed Surveyors and Lot numbers in government plan. (See [Annexure III](#))

Preparation of Survey Report

- 5.23. The Government Surveyor should prepare a printed detail report including important points of interest as per the requirements of the commission for the submission to the courts. No words to be included in the report for the loss of credibility of the survey. Do not report unnecessary things.

Refer [Annexure IV](#) for details in the preparation of tracing, tenement list and report pertaining to court commission surveys.

Report for partition cases of the court commissions to be prepared according to the specimen ([Annexure V](#)) under paragraph 18.1 (a) of the Partition Act.

Plan Checking

- 5.24. Originals of all the plans, Schedule of lots, report and connected documents prepared by the surveyor in accordance with the requirements of the commission should be signed by the Surveyor giving his name and designation. The Superintendent of Surveys will examine the work and satisfy with the accuracy and completeness of the work and forward to the District Senior Superintendent of Surveys with digital data and all other completed connected documents. Amendments given by the Senior Superintendent of Surveys should be completed and returned promptly.

Approval of plans and issuing copies

- 5.25. The Superintendent of Surveys and Senior Superintendent of Surveys should ensure that the report prepared by the Surveyor is in accordance with paragraph 5.5 and fulfilled the requirement of the court correctly.
The Surveyor should submit two copies of tracings / plans which was prepared using standard colours vide paragraph 5.21 on A3 size department printed paper, schedule of land parcels, survey report, survey file and field books to Senior Superintendent of Surveys for approval on behalf of the Surveyor General.
- 5.26. Senior Superintendent of Surveys should prepare a separate comprehensive report including special points important for the court, based on the Surveyors' report and also tracing/ plan copies and tenement lists with surveyor's report as annexures should be sent to the court on behalf of the Surveyor General.
When the Attorney-General is a party to the case, a copy of the report with extra tracing/plan and tenement list which were submitted to the court should be submitted by the Senior Superintendent of Surveys to the Attorney-General as well.

Protecting the Documents

- 5.27. The original A3 size tracing and the file of papers of the requisition to be kept systematically in a safe place at the record room of District Survey Office. These papers will be needed for giving evidences in courts or to brief the State Counselor of the Attorney General's Department when ever request is made.
- 5.28. All documents relating to court commission surveys are not issued directly to the public. If a request is made in writing by the Registrar of the courts the relevant documents could be issued to any party or any applicant of the case on the prescribed payment.
This is an entitlement that any party could enjoy under the provisions of the "Right to information Act".

Dealing Correspondence

- 5.29. All the correspondence with the court to be dealt through the Registrar of the relevant court.

- 5.30.** It is the responsibility of the District Senior Superintendent of Surveys to submit the tracing/ plan, schedule of tenement list and the report to the courts before the date given in the commission. In case if the work gets delay due to the reson given in paragraph 5.10 or unavoidable and justifiable reasons, the District Senior Superintendent of Surveys should submit a brief report with regard to the delay to the Registrar of the courts, well before the due date given in the commission, and get an extension. Do not obtain such extensions repeatedly.

Paragraph 5.13

Annexure I

FORM OF NOTICE TO BE SERVED BY
SURVEYOR ON CLAIMANT OR AGENT

(Section 16 (3))

In the District Court of

Action No.....

A.B.....Plaintiff

Vs.

C.D..... Defendants

and others

To :

(Insert name of claimant or agent)

You are hereby notified that action No has been instituted in the District Court of under the Partition Law, No. 21 of 1977 , as amended by act. No. 32 of 1987 , for the partition / sale of the land / lands called and situated in the village / villages ofin theDistrict.

If you claim any interest in the land / lands you are hereby required to move to be added as a party to the aforesaid action on or before the day of 20..... And file your statement of claim, and to comply with the requirements of section 19. This case will be next called in open court on the day of20.....

Signed

Commissioner

This day of 20.....

Paragraph 5.19

Annexure II

Section 1 of 1 Section

COURT COMMISSION SURVEY – TRACING No: Tri/DSO/2018/33
DISTRICT COURT OF KANTALE – CASE No: L 204/16

Requestion for Survey: { District Court of Kantale, Case No: L. 204/16
(SC's No: Tri/DSO/2018/33)

Scale 1 : 2000

Village : Vendasanpura Unit-15
G.N. Division : Vendasanpura Unit-15,
Division No.227Q
D.S Division : Kantale
District : Trincomalee
Province : Eastern

Legend
L : Landmark
St : Stake
WLF : Wire Live Fence
P : Permanent Building
M.Well : Masonry Well
U : Undefined
Cul : Culvert
Road(PS) : Road(Pradeshiya Saba)
Road (ID) : Road (Irrigation Department)

Field Book No : E.D.M. 1387

NOTE:
1. Boundaries of F.C.P. 28 superimposed thereon are shown in Red.
Newly surveyed boundaries are shown in Black where they do not coincide with the above.
2. It has been lotted alphabetically and the letters I and L have not been used for lotting.

Boundaries Pointed Out By: Y.G.Nandimithra, Grama Niladhari of Vendasanpura,
Division No.227Q, K.M.G.S.R.Senevirathna,
Colonization Officer, Sakalasuriya Mudiyselage
Jinadasa (Plaintiff) and Rupasinghe Pedige Suranga
Sampath (Defendant).

Surveyed and Drawn by : A.B.M.Silva
Govt Surveyor
May to June 2018

Checked by : A.C.Perera
Suptd of Surveys

Approved by : A.K.Fernandu
Snr. Suptd. of Surveys
Trincomalee District
on behalf of the Surveyor General

Paragraph 5.22

Annexure III

Page 1 of 2 Pages

TENEMENT LIST OF TRACING No: Tri/DSO/2018/33
DISTRICT COURT OF KANTALE — CASE No: L 204/16

Page 1 of 2 Pages

Village : Vendarasanpura Unit-15
G.N. Division : Vendarasanpura Unit-15,
Division No.2270
D.S Division : Kantale
District : Trincomalee
Province : Eastern

Field Book No. & Page No.	Lot No.	Land		Village	Reference No. of the Commission & Survey Requisition No.	Name of Applicant	Extent Hectare	Remarks
		Name	Description					
EDM # 1387 2	A		Garden contains mixed cultivation including One(1) Burutha tree 30 years	Vendarasanpura Unit-15	(SG's No: Tri/DSO/2018/33)	Parties of the Court Case No: L. 204/16	0.0284	Part of Lot 409 in F.C.P. @28. Reserved for Road. Encroachment by Plaintiff of Sakalasuriya Mudiyanseelage Jinadasa of No:1028, Unit-15, Vendarasanpura, Kantale, (284 Sq.m) (OA, 1R, 11.23 P)
EDM # 1387 2	B	Vendarasanpura watte	Garden contains Two(2) permanent buildings, One(1) masonry well and mixed cultivation including Seventy Six(76) Coconut trees 3-30 years, Five(5) Mango trees 5-20 years, Four(4) Jak trees 10-30 years, Eleven (11) Kohomba trees 7-20 years, Two(2) Tamarind trees 20-30 years, Two(2) Teek trees 5 years, Two(2) Burutha trees 10 years, Two(2) Cashew trees 5 years, Four(4) Halimilla trees 5 years and Seven (7) Ketakala trees 5-10 years	Vendarasanpura Unit-15	District Court of Kantale, Case No: L. 204/16	Parties of the Court Case No: L. 204/16	0.6703	Part of Lot 392 in F.C.P. @28. Grant No: @284,7490 has been issued to Sakalasuriya Mudiyanseelage Jinadasa of No:1028, Unit-15, Vendarasanpura, Kantale. Presently occupied by Plaintiff of Sakalasuriya Mudiyanseelage Jinadasa of No:1028, Unit-15, Vendarasanpura, Kantale, (1A, 2R, 25.0P)
EDM # 1387 3	C	Vendarasanpura watte	Garden contains mixed cultivation				0.0042	Part of Lot 392 in F.C.P. @28. Grant No: @284,7490 has been issued to Sakalasuriya Mudiyanseelage Jinadasa of No:1028, Unit-15, Vendarasanpura, Kantale. Presently occupied by R.P.Chithirapala of No:1033, Unit-15, Vendarasanpura, Kantale, (42 Sqm) (OA, OR, 1.66 P)
EDM # 1387 3	D	Vendarasanpura watte	Garden contains mixed cultivation				0.0009	Part of Lot 392 in F.C.P. @28. Grant No: @284,7490 has been issued to Plaintiff of Sakalasuriya Mudiyanseelage Jinadasa of No:1028, Unit-15, Vendarasanpura, Kantale. Presently occupied by Defendant of Rupasinghe Pedige Suranga Sampath of No:1027, Unit-15, Vendarasanpura, Kantale, (9 Sqm) (OA, OR, 0.36P)

Surveyed and Drawn by : A.B.M.Silva
 Govt Surveyor
 May to June 2018
 Checked by : A.C. Perera
 Supt of Surveys
 Approved by : A.K.Fernando
 Snr. Supt. of Surveys
 Trincomalee District
 on behalf of the Surveyor General

Boundaries pointed out by { Y.G.Nandimithra, Grama Niladhari of Vendarasanpura, Division No.2270, K.M.G.S.R.Senevirathna, Colonization Officer, Sakalasuriya Mudiyanseelage Jinadasa (Plaintiff) and Rupasinghe Pedige Suranga Sampath (Defendant). }

[Paragraph 5.23](#)[Annexure IV](#)**Things to be Careful for preparing of Tracings related to the Court Commission Surveys**

1. Show the northern line and scale.
2. Specify Province, District, Divisional Secretary's division and the village correctly.
3. Specify tracing number, case number and the name of the court correctly.
4. Describe the field book numbers correctly.
5. All information in the tracing to be described in the legend.
6. Information about boundaries point out & pointed out by.
7. Select colours for superimposed boundaries and specify under the relevant explanatory note.
8. When superimposed boundaries cannot be distinguished describe in an inset.
9. Explain the adjoining boundaries correctly.
10. Describe period of the Surveys correctly.
11. Describe details about surveyed & drawn, checked and passed correctly.

Things to be Careful for preparing of Tenement list related to the Court Commission Surveys

1. Specify Province, District, Divisional Secretary's division and the village same as shown in the tracing.
2. Specify the tracing number, case number and the name of the court same as shown in the tracing.
3. Describe the field numbers same as shown in the tracing.
4. Information about boundaries those were pointed out same as shown in the tracing.
5. When the extent shown as Acres, Roods and Perches, consider 1Ha=2.4711 A
6. Name of the applicant and remarks column to be described correctly.
7. Describe details about period of surveying, surveyed & drawn, checked and passed same as shown in the tracing correctly.

Things to be Careful in preparing of Report related to the Court Commission Surveys

1. Prepare correct report according to type of surveys.
2. All information of the surveys to be included in the report under the each paragraph.
3. Lots of plans of Registered Licensed Surveyors to be balanced and shows in a chart.
4. It should not include credible credentials on surveys. Never report uncertainty things.
5. If it is in contradiction with or a specific description, it should be noted under special note.
6. Describe about fulfil of the court commission, information about report prepared, checked, and passed accurately.
7. All related documents were attached to the report to be numbered and described in the back side of the file.
8. The field book should be completed and the relevant notes and certificates should be indicated there.
9. Digital data of amended tracing and tenement list of report should be submitted with report.

Paragraph 5.23

Annexure V

FORMS OF SURVEYOR’S REPORT

Section 18 (1) (a) of the Partition Act

In the District Court of

.....

Action no

.....Plaintiff

Vs.

..... Defendants

Preliminary Plan Nodated.....

- (i) Date fixed for commencement of survey:
- (ii) (a) Date of Issue of notice of survey to parties:
(b) Date of oral proclamation of survey:
- (iii) Date of survey:
- (iv) Nature of land surveyed with details of buildings, walls, fences, wells, trees, plantations and other improvements thereof:
- (v) Whether or not the land surveyed is substantially the same as the land sought to be partitioned as described in the schedule to the plaint:
- (vi) Parties present:
- (vii) Person who pointed out the land to be surveyed:
- (viii) Claimants, other than parties, their addresses and nature of claims:
- (ix) Result of investigation of any particular fact or matter specifically referred to in the commission:
- (x) Existing means of access to the land from the nearest public road:
- (xi) Facts, matters and circumstances relating to the survey or to the land surveyed, which may be necessary for, or prove of assistance in, the adjudication of the partition action.

I,.....do hereby solemnly, sincerely, and truly declare and affirm/do make oath and state as follows:-

1. I am in the Commissioner appointed in the above case.
2. I duly executed the Commission issued to me in the above action in accordance with the directions given therein, and to the best of my knowledge, information and belief the foregoing particulars and my Plan No.....dated.....and the certified plan copy and Tenement lists are true and accurate

Prepared by:

Checked by:

.....

.....

Govt. Surveyor

Supdt. of Surveys

D.S.R.

COURT COMMISSION SURVEYS

The above is a true extract of the Survey Report prepared by the Government Surveyor
..... and I respectfully present it to the Court.

.....
Senior Superintendent of Surveys
.....District

CORRECTION SLIPS

CHAPTER VI

ACQUISITION SURVEYS

INDEX

D.S.R. Reference	Description	Page
	<u>Process of the Land Acquisition</u>	
6.1.	Terms relating to surveys under the Land Acquisition Act	1
	<u>Surveys under section 2</u>	
6.2.	Notice of section 2(2) of the Land Acquisition Act and request for Survey	1
6.3.	Matters relating to Survey Requisition & pointing out boundaries	1
6.4.	Priority for Acquisition Surveys	1
	<u>Notice for Surveys</u>	
6.5.	Prior notice to land owner by register post	1
6.6.	Occasions for fortnights' notice	1
	<u>Pointing out boundaries for surveys</u>	
6.7.	Pointing out boundaries by the authorized officer or representative	2
6.8.	When an officer does not appear for pointing out boundaries	2
	<u>Protesting for the Survey</u>	
6.9.	Taking action when object to survey	2
	<u>Field work of surveys under Section 2</u>	
6.10.	Taking care not to do any damage	2
6.11.	Taking action when the damages are unavoidable	2
6.12.	Powers to enter a land for a survey under the Acquisition Act	2
6.13.	Presence of the officers nominated to point out boundaries	2
6.14.	Caring for the requests of the applicant company and the owners	2
6.15.	Use of an appropriate surveying method	2
6.16.	Connecting all surveys to the National Geodetic Control Network	2
6.17.	Include the topographical information for the survey	3
6.18.	Note down the specific points in the field book	3
	<u>Preparation of Advanced tracing for Section 2 Surveys</u>	
6.19.	The action to be taken when the area is part of a large lot	3
6.20.	Indication of the tracing about the pointing out of boundaries	3
6.21.	Preparing Advanced tracing	3
6.22.	Entering the Heading and the requisition number in the Advanced Tracing	3
6.23.	Writing Land Commissioner General's number in acquisitions for Village Expansion	3
6.24.	Location of the land	3
6.25.	Lot numbering for different claims	3
6.26.	Endorsement of no action regarding state land	3

D.S.R. Reference	Description	Page
6.27.	Tenement list for Advanced tracing	3
6.28.	Checking and approving of Advanced tracing	3
6.29.	Issuing plan copies	3
6.30.	Storing survey file in Record Room for use for surveys under section 6	4
	<u>Survey activities under Section 6</u>	
6.31.	Gazette notice under section 5 and survey under section 6	4
6.32.	Assigning final surveys under Section 6	4
	<u>Field work under section 6</u>	
6.33.	Using digital data relevant to the survey under section 2 for section 6 surveys	4
6.34.	Intended objectives using digital data relevant to section 2 survey	4
6.35.	Road reservations should not be separated	4
6.36.	Taking action on buildings in the land or boundary	4
6.37.	Taking action on private roads within estates	4
6.38.	Providing information on valuable crops and all buildings	4
	<u>Scales of Plans</u>	
6.39.	Determination of the scale of Acquisition plans	4
	<u>Plan work of surveys under section 6 Surveys</u>	
6.40.	Preparing plans according to survey area	5
6.41.	Taking action of the landmarked preliminary plans or adjoin it	5
6.42.	Taking action of more than one claimant	5
6.43.	Taking action on Title Plans, outright grants and other plans	5
6.44.	Taking action to fix a private land boundary of F.V.P/ F.T.P areas	5
6.45.	Action when the area is in the surveyed land for issuing grants	5
	<u>Tenement Lists</u>	
6.46.	Previous survey information in the tenement list	5
6.47.	Representing the details in the tenement list when there are more claimants	6
6.48.	Representing the details in the tenement list for the religious places	6
6.49.	Representing the details in the tenement list for town areas	6
6.50.	Indicating the names of the lands to be acquired in the tenement list	6
6.51.	Indicating only the lands to be dealt with in the tenement list	6
6.52.	Preparing the tenement list under section 38 (a) of the Acquisition Act	6
6.53.	Writing the requisition number and the requirement in the tenement list	6
6.54.	How to prepare plans for state lands and encroachment	6
6.55.	Dealing of remaining portion of private land in F.V.P./F.T.P./ Cadastral areas	6
6.56.	Dealing of state lands in F.V.P/ F.T.P. areas	6
	<u>Amendments of old documents</u>	
6.57.	Mark new plans on the old plan and make Reference notes	7
6.58.	When the take this to other page acquisition is completed, the land parcel should not be canceled and how to do the further activities	7

D.S.R. Reference	Description	Page
	<u>Follow the Acquisition (Amendment) Act</u>	
6.59.	About the three occasions to take action vide the Acquisition (Amendment) Act	7
6.60.	Survey Requisition for amendment of above plans	7
6.61.	Sending amendment plans	8
6.62.	Not necessary to send a gazette notification with survey requisitions	8
	Annexures	
<u>Annexure I</u>	Functions under each section of land acquisition act	9
<u>Annexure II</u>	Specimen forms of letters sent to the landowner to present at the time of surveying or pointing out boundaries under sections 2 & 6 surveys	11

CHAPTER VI

ACQUISITION SURVEYS

Process of the Land Acquisition

- 6.1.** When the Government needs to acquire land for public purpose actions have to be taken by all relevant authorities under the provisions of Land Acquisition Act. Therefore, surveyors who are engaged on surveying for land acquisition should acquire a thorough knowledge of each statement and orders of the Land Acquisition Act. ([Annexure I](#)) Action has to be taken under sections 2, 3, 4, 5, 6 and 38(A) of Land Acquisition Act in respect of surveying for the acquisition of lands and sections 39(1), 39A (1) and 50 for revocation of vesting orders, divesting of lands where actual possession has been taken and abandonment of acquisition proceedings respectively. The following regulations should be adhered to when carrying out field activities for acquisition of lands in order to facilitate the acquiring officer to minimize the disputes and secure the legality of the land acquisition process.

Surveys under section 2

- 6.2** When the Minister of Land decides that a land in any area is needed for any public purpose, under section 2(1) of the Land Acquisition Act, he may direct the Acquiring Officer of the area to cause a notice to be exhibited in some conspicuous places in that area in accordance with section 2(2) of the Land Acquisition Act with a copy to Senior Superintendent of Surveys of the relevant District.

After the notice under section 2 (2) is exhibited in some conspicuous places in that area, the Acquiring officer will issue the survey requisition together with a copy of the notice exhibited and other connected papers, to the Senior Superintendent of Surveys to prepare an advance tracing of the land proposed to be acquired.

- 6.3** When the requisition for survey under section 2 is referred to District Senior Superintendent of Survey, the acquiring officer will inform the local representatives of the applicant institution to assist in locating the land and pointing out boundaries to the surveyor who is entrusted with the survey activities.
- 6.4** These surveys should be completed within a short period of time on priority.

Notice for Surveys

- 6.5** The claimants of the land or their representatives should be given at least 7 days' notice of the date of survey vide [Annexure II](#) by registered post to enable them to present at the time of surveying for pointing out boundaries. The receipt issued by the post office should be attached to the completed papers of the requisition file.
- 6.6** A fortnight's notice in writing should be given to officers of the Railway and similar Departments, who may have to travel from Headquarters. In addition to the written notice other modern communication techniques like telephones, e-mail must be used to contact such officers and organize surveying work for both parties' convenience.

Pointing out boundaries for survey

- 6.7** The boundaries of all the acquisition surveys must be pointed out on the ground by the officer nominated or someone duly authorized by him in writing. These letters of authority should be attached to the completed papers of the requisition file.
- 6.8** When the officer nominated to point out boundaries does not turn up on the date fixed, the surveyor should report such cases to the Superintendent of Surveys who will discuss with relevant institutions to resolve the problem. If Superintendent of Surveys is facing difficulties to give a solution, then he should inform Surveyor General through Provincial Surveyor General/ Senior Superintendent of Surveys to take appropriate action with the relevant Ministry who has requested the Acquisition of land.

Protesting for the Survey

- 6.9** If objections or obstructions are encountered, it should be conveyed to the Acquiring Officer to obtain police protection for the completion of field work.

Field work under Section 2

- 6.10** Surveyors must ensure that no damage is caused to the cultivation, properties and boundaries during the clearing and surveying of the land intended to be acquired.
- 6.11** If damage of any value is unavoidable, then the Surveyor should obtain a statement signed by the owner of the land or his representative giving details of the damage.
- 6.12** The Surveyor assigned to carry out the survey is authorized to exercise the powers conferred on him by the provisions of Sub-Section (3) of section 2 of the Acquisition Act, to enter any occupied building or any enclosed court or garden. He should ensure that at least seven days written notice to be given to the occupants of that building.
- 6.13** A schedule of signatures of the local agents of the applicant institutions and land owners or authorized representatives, should be obtained for pointing out boundaries of the proposed land for acquiring. It should be ensured that the persons mentioned above have participated by themselves. That list of signatures should also be attached to the requisition file.
- 6.14** The surveyor should survey and point out to the boundaries established with stakes to ensure that the rights of the claimants of the land and the requirements of the applicant institution are maintained.
- 6.15** The preliminary survey for preparing the advance tracing under section 2 will be done by Theodolite/ Total Station or other suitable method of surveying. The perimeter of the land required for acquisition and the boundaries of all claims and identified State lands within the perimeter will be demarcated by stakes and surveyed.
- 6.16** Requisitions for section 2 surveys will be issued to the field without investigation in the District Survey Office, as old work need not be investigated during these surveys. All these surveys should be connected to National geodetic control network.

- 6.17** Some prominent topographical features like roads, buildings, culverts, wells, etc, in the vicinity should where available be shown on the advance tracing to enable the owner and the applicant institution to locate the land to be acquired correctly.
- 6.18** The surveyor should record in the field book whether the claimants were present in person or by representative or absent, the stakes indicating the area to be acquired were shown to them and they agreed to the corpus of the Survey.

Preparation of Advanced tracing for Section 2 Surveys

- 6.19** Where the area to be acquired is part of a larger block of land, the whole or part of the outer boundary of the large block to be sketched on the advance tracing. On a small scale it will facilitate the location of the land to be acquired.
- 6.20** A clear description of the names of the Grama Niladhari, owner of the land or their representatives who will present at the time of marking the boundaries, should be given on the advance tracing.
- 6.21** Advance Tracing is prepared from the A3 Field Sheets on which surveyed data are plotted.
- 6.22** The requisition number and the purpose of the acquisition just below the number should be given as the heading of the Advanced Tracing. In addition to that, the Divisional Secretary's Requisition number, reference number of the Ministry of Lands, reference number of the applicant Ministry/ Institution (if any) and Surveyor General's reference number should also be given below the heading.
- 6.23** The Land Commissioner General's number should also be shown on the Tracing in acquisition surveys for village expansion.
- 6.24** Also, the situation (village, if it is included in Urban / Municipal council, relevant ward number and name within brackets under village, the name of the Grama Niladhari Division, D.S's Division, District and Province) will be given in the N-E corner of the tracing as in a preliminary plan.
- 6.25** The land will be surveyed as claimed and the different claims are lotted separately using alphabetical letters except the letters "I" and "O" according to ascending order.
- 6.26** An endorsement to the effect that "State lands within the area shown on t h e tracing have not been dealt with" should be made.
- 6.27** If the space of the tracing is not sufficient enough the schedule of boundaries with lot numbers, name of land, extent, claimant's name and address, abutting descriptions (viz. North, East, South, West) should be prepared on another A3 size tracing.
- 6.28** Immediately after the Advance Tracing is checked by the Superintendent of Surveys, it has to be forwarded to the Senior Superintendent of Surveys for approval.
- 6.29** After the approval Senior Superintendent of Surveys will issue true copies to Divisional Secretary, Ministry of Lands and the Ministry of the applicant department / organization according to paragraph 4.76. Copies to claimants should be issued on payments, if they request.

- 6.30** It is the responsibility of Senior Superintendent of Surveys to keep the A3 original field sheet, 1:10,000 location tracing and properly prepared requisition file including all connected documents together with digital data at District Survey Office. These documents should be used for investigation of old work at the time of surveying under section 6.

Survey activities under section 6

- 6.31** Soon after the Minister's declaration under section 5 is issued, the Divisional Secretary will issue a requisition for survey under section 6 of the Land Acquisition Act to District Senior Superintendent of Surveys. After making necessary arrangements, District Senior Superintendent of Surveys should issue it to the field immediately with instructions to complete the work giving priority.
- 6.32** The work to be completed giving highest priority and the Superintendent of Surveys should assign the final survey under section 6 to the surveyor who has prepared the advanced tracing as much as possible.

Field work under section 6

- 6.33** Landmark the outer boundary only using available digital data relevant to the advanced tracing prepared under section 2 and prepare an acquisition plan according to the requirement of the requisition for survey. Field book keeping should be done according to Chapter XI.
- 6.34** It is expected to achieve the followings.
- (a) Land to be acquired should be surveyed and shown accurately as shown in advance tracing.
 - (b) Acquisition Surveys should be completed in a short space of time.
- 6.35** Reservations for roads inside the land surveyed for acquisition will not be laid.
- 6.36** The entirety of a building that abuts on a boundary of an acquisition survey or part of a building falls in an acquisition survey should be surveyed and shown on plan.
- 6.37** Private roads within estates for acquisition should not be surveyed.
- 6.38** Detail information regarding all buildings and valuable plantations should be given. Trees within a lot should not be enumerated in the case of extents exceeding 2 Hectares unless they are scattered or few in number. But all the trees in the lands within Municipal Council areas should be enumerated despite the extents.

Scales of Plans

- 6.39** Acquisition survey plans, except; those over 4 hectares and acquisitions for village expansion will be drawn on the 1:2000 or 1:1000 or 1:500 scales, according to the sizes of the lots and values of the lands. Plans of acquisitions for village expansions may be drawn on the scale of 1:4000. Instruction should be obtained from Superintendent of Surveys in this regard and act accordingly.

[Plan work of surveys under section 6](#)

- 6.40** (a) Acquisitions falling within the areas in block survey or in a Topo Preliminary Plan or in a Final settled area or in a unsettled area should be surveyed and drawn in A3 sheets as an inset or a supplement.
- (b) Acquisitions in areas that have been block surveyed, and areas awaiting settlement or the issue of the final report by the settlement officer, each and every lot should be balanced and if the balance area exceeds two hectares, the outer boundary of the original plan should be replotted and shown.
- (c) For cadaster areas see [paragraph 21.49 – 21.53](#)
- 6.41** If the boundaries of landmarked preliminary plans fall within an acquisition survey or adjoin it, must be surveyed and shown on the new plan. Boundaries of old preliminary plans on which action has been taken and which cannot be cancelled, must be shown and referred to as in the case of landmarked preliminary plans, but they may be surveyed as they now exist.
- 6.42** If more than one claim are involved the surveyor should inquire from the claimants and/or Grama Niladhari whether the land had been subjected to a partition case. If a partition plan is available and a boundary dispute is likely, he should fix the internal boundaries. Existing boundaries will be accepted if there are no appreciable differences. Otherwise the partition boundaries should be laid down and the portion between them and the existing boundaries lotted separately.
- 6.43** When the lands of Title Plans, outright grant diagrams or land declared as private under the settlement orders fall within the lands for acquisition surveys, action should be taken vide [paragraph 12.42](#)
- 6.44** When it is necessary to fix a State/Private boundary within finally settled areas (Eg. F.V.P./F.T.P.), the F.V.P./F.T.P boundary should be replotted and checked with an enlargement as described in [paragraph 9.57](#)
- 6.45** The lands surveyed for issue of grant diagrams fall within the lands for acquisition should be shown in firm red lines, and the portions of land covered by Diagram Plan or Restricted Grant Diagram should be lotted separately and described as 'Claimed by State'. A lot number should be assigned for the balance portion and referred to the original identity with the relevant details.

[Tenement Lists](#)

- 6.46** When any [Title Plan, Diagram Plan](#) or part of Title Plan is included in the land to be acquired, reference to relevant TP number/Diagram number must be indicated within brackets against each lot in the previous lot reference column of the tenement list after the old lot number. Reference must also be made to old Preliminary Plan Lots, which have been or can be cancelled, but their boundaries will not be shown on plan.

In F.V.P./F.T.P. areas the names of the claimants with their addresses will be entered as "Claimed by of" after the above information in the Tenement List.

- 6.47** When there are more than one claimant for one lot, Names and addresses of all claimants must be recorded in the Tenement List.
- 6.48** For lands where religious places are maintained, the names of the guardians of the religious place should be mentioned in the Tenement List.
- 6.49** In town areas the assessment numbers with the names of roads should be entered after the name of the land as Assessment No. Road or premises bearing assessment No. or part of premises bearing assessment No. whichever is applicable.
- 6.50** All the names of lands surveyed for acquisition should be given. The expression "etc" should not be used.
- 6.51** Except for lots of land to be acquired, any other details should not be listed on an acquisition tenement list. Viz :
- (i) when an acquisition is necessary because of a declaration or formation of a severance lot;
 - (ii) to be given in exchange;
 - (iii) Land shown on the acquisition sketch and found to be state to be included in a Supplementary tenement list.
- 6.52** When land has been acquired under Section 38(A) of the Land Acquisition Act, it should be borne in mind that the land has already been vested in the State. Hence when writing up tenement lists of such lands the name of claimant should be entered as "State". The following remarks should be made against such lots: -
- "Taken over under Section 38(A) of the Land Acquisition Act. Original claimants (Here state names and addresses of original claimants) for finalizing acquisition proceedings".
- 6.53** Divisional Secretary's requisition number, purpose of the acquisition, reference numbers and dates of the Ministry of Lands and relevant Ministry of the applicant Government Department/ Organization and S.G's reference number and date should be indicated respectively in the Tenement List.
- 6.54** State Lots which are not included in the acquisition sketch, but are separated and defined for the use of the Department/ Institution concerned, and any encroachments adjoining the survey will not be shown on the acquisition plan. Separate preliminary plans with connected tenement lists should be prepared for such lots. Vide [paragraph 4.54](#).
- 6.55**
- (a) The original lot numbers and extents of the balance portion of private lands in F.V.P./F.T.P will not be changed and amended.
 - (b) The balance extent of each and every lot the Cadastral survey areas should be shown in the plan separately, vide [paragraphs 21.49 – 21.53](#).
- 6.56** When any State Land, which does not appear in the advance tracing, is surveyed and demarcated in connection with an acquisition, such lots will be drawn on a supplement to the

F.V.P. and the F.V.P amended and a Tenement list prepared. The original F.V.P. tenement list should be referenced for new supplement.

Amendments of old documents

- 6.57** The outer boundary of a new acquisition survey will be inserted in pencil on the original field sheets of all Preliminary Plans, Title Plans, Diagrams, Diagram Plans, S. O./Private Lots which may be included in the Acquisition. Reference to the acquisition plan number should be given on these field sheets.
- 6.58** (a) If acquisition proceedings have been completed, any surveyed lot of an acquisition survey plan may not be cancelled or amended. A new P. Plan or supplement to F.V.P./F.T.P. will be issued for a fresh survey within such lots. Reference should be given in the remarks column of the tenement lists, against such lots thus: "Part of acquired lot.....". The outer boundary of new plan in an acquisition plan should not be amended in any instance, vide [paragraph 4.65](#). But proscribe in pencil as in the case of P. Plans.
- (b) Amendments may, however, be made to an acquisition plan while acquisitions in progress at the request of the Acquiring Officer. Such amendments will first be made on the original A3 sheets. If it becomes necessary to sub divide an original lot, the original lot number will be crossed out on plan and the lot numbers for sub-divisions from the last lot number can be used on the plan. A fresh tenement list should be prepared and prints obtained. The old number should be crossed out in the original tenement list with a large red cross across the lot number and inserting "See lot page" in red in the remarks column.
- (c) All copies of the print issued should be recalled and amendments made in the District S.O. in red to agree with the original. The amendments should be certified by the District Senior Superintendent of Surveys, with a remark "Lot ... amended and "lots ... and ... inserted – Vide Divisional Secretary's Letter No. of This certificate should be made "on behalf of the Surveyor General".

Follow the Acquisition (Amendment) Act

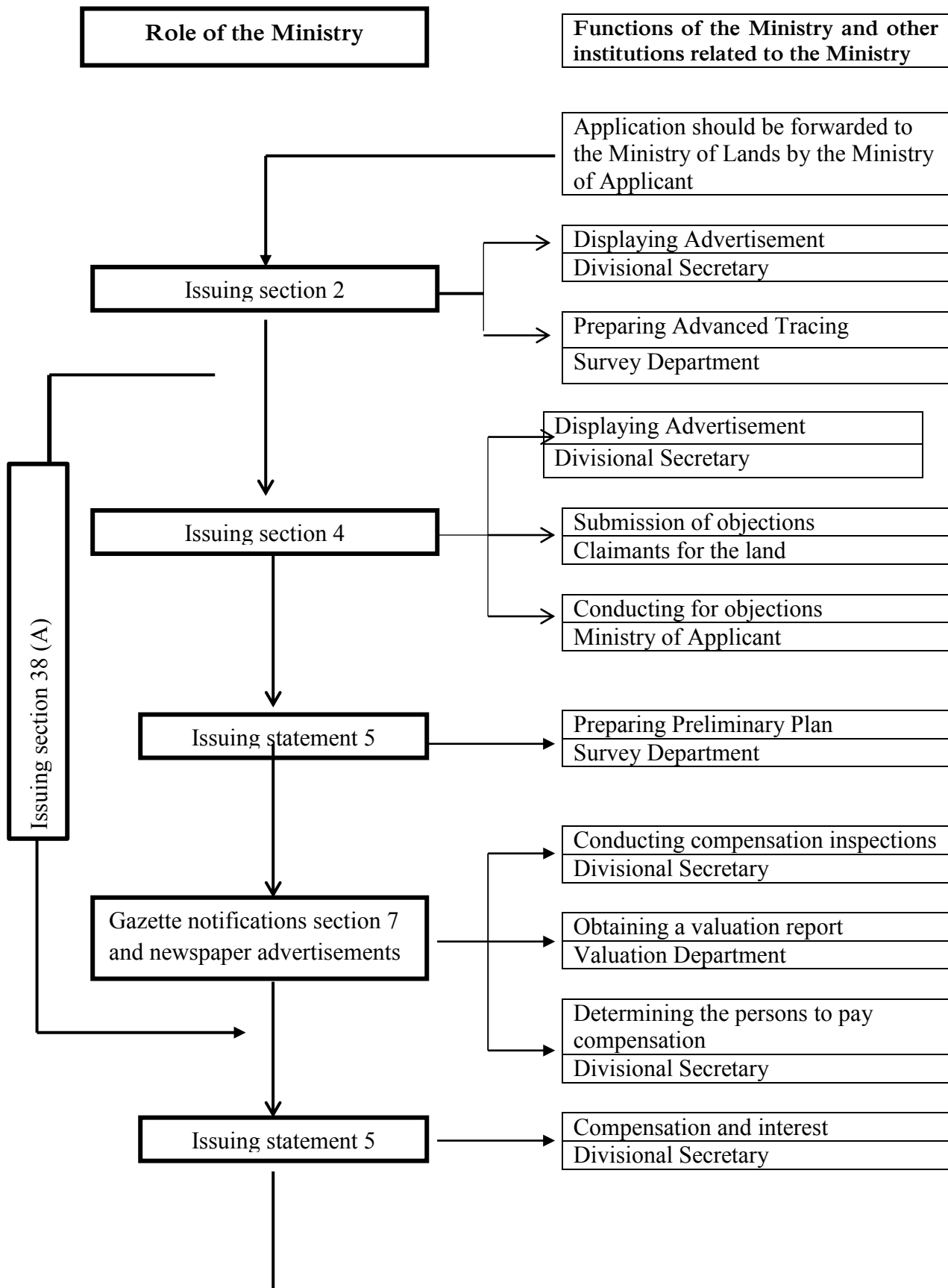
- 6.59** As amended by Land Acquisition (Amendment) Act No. 28 of 1964, the Minister of Lands possesses the power to act under the following three contexts after the acquisition of any land.
- (i) Revocation of vesting orders under section 39 (1)
 - (ii) Divesting of land where actual procession has been taken under section 39 (A)1
 - (iii) Abandonment of Acquisition proceedings under section 50
- 6.60** After receiving the approval of the Minister of Lands to act under the above three contexts, the relevant Divisional Secretary will be informed by the Ministry of Lands. Thereafter, Survey requisitions will be issued to District Senior Superintendent of Surveys by the Divisional Secretary for the amendment of plan pertaining to the above matter.

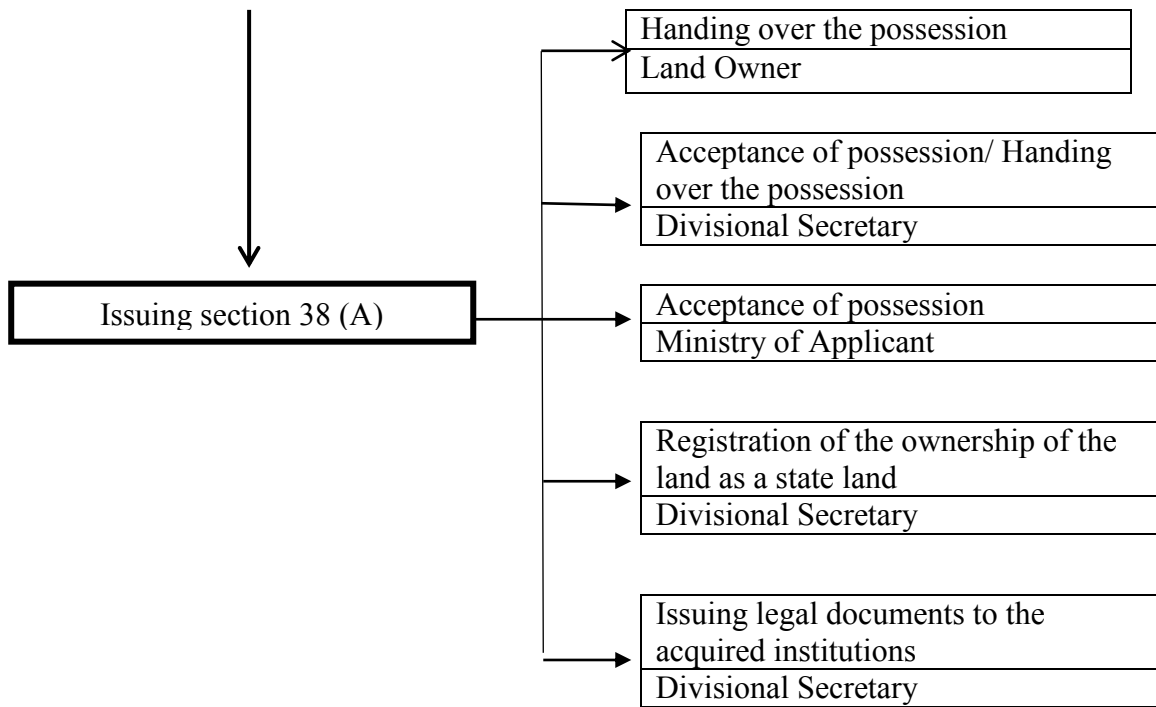
- 6.61** Having taking action accordingly, the amended plan copies should be sent to the Ministry of lands, Divisional Secretary and Other Institutions by the Senior Superintendent of Surveys.
- 6.62** As the gazette notification will be published after the said amendments, no gazette notification should be requested from Divisional Secretary with the requisition for survey to amend the plan and the above amendments should be made in the new supplement or PP. [See paragraph 4.74.](#)

Paragraph 6.1

Annexure I

The acquisition process





Paragraph 6.5

Para 9.22

Annexure II

Form 1

(to be used for surveys following a Declaration under Sec. 2 or a Direction under Sec. 4.)

NOTICE

To
of

Notice is hereby given that in pursuance of directions issued to me by the Surveyor-General acting with the authority of the Acquiring Officer of the Province/District* under the provisions of Section 2(3) /4(2)* of the Land Acquisition Act. Chapter 460 of the Legislative Enactments (1956 Revision), I, the undersignedtogether with the necessary staff will enter upon the land calledsituated in the village ofin.....of the aforesaid Province/District* onday of20.....at aboutand on subsequent days, for the purpose of surveying the said land.

.....
Govt. Surveyor

Date

** Strike out what is inapplicable*

Form 2

(to be used for surveys following a Declaration under Section 5.)

NOTICE

To
of

Notice is hereby given that in pursuance of authority issued to me by the Surveyor-General in terms of Section 4 of the Land Surveys Ordinance, Chapter 456 of Legislative Enactments, I, the undersignedtogether with the necessary staff will enter upon the land calledsituated in the village ofinof the aforesaid District in theProvince, on the.....day of20.....at aboutand on subsequent days for the purpose of surveying the said land for acquisition under the Land Acquisition Act, Chapter 460 of the Legislative Enactments (1956 Revision).

.....
Govt. Surveyor

Date:

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER VII
ENGINEERING SURVEYS
INDEX

D.S.R. Reference	Description	Page
	<u>Formation of Engineering Surveys</u>	
7.1.	Preparing proposal by District Senior Superintendent of Surveys	1
7.2.	Documents & instruction to be sent by District Senior Superintendent of Surveys to Superintendent of Surveys	1
7.3.	Establishment of Geodetic Survey Control Point	1
7.4.	Handling horizontal and vertical control network information	2
7.5.	Role of the Superintendent of Surveys	2
7.6.	Assigning surveyors for detailed traverse and level line	2
7.7.	Role of surveyors assigning for blocks	2
	<u>Field Work</u>	
7.8.	Entering field noted in field book	2
7.9.	Field book for Engineering Surveys	2
	<u>Traverses</u>	
7.10.	Surveying of control traverses along grid line	2
7.11.	Entering coordinate sheets of detail traverse on field books	2
7.12.	Details of survey along the grid lines and common boundaries	2
	<u>Clearing</u>	
7.13.	Instructions at the first inspection of the Superintendent of Surveys	2
7.14.	Clearing grid lines	2
7.15.	Setting out of spot height lines according to direction of clearing	2
7.16.	Clearing of extra spot height line	3
7.17.	Scrutinize of daily progress in clearing	3
7.18.	Deployment of Survey Field Assistants for clearing	3
7.19.	Maintains of clearing progress diagram	3
	<u>Establishment of Bench mark</u>	
7.20.	Construction and numbering of bench marks	3
7.21.	Temporary bench marks at terminal points	3
	<u>Detail Surveys</u>	
7.22.	Instruction for Detail Surveys	4
7.23.	Using recent survey information	4
7.24.	Survey of boundaries of different cultivations	4
7.25.	Sketching the boundaries of jungles	4
7.26.	Survey of village boundaries	4
7.27.	Obtaining necessary information from the Grama Niladhari to prepare Survey Report	4
7.28.	Showing outer boundary of land given out under L.D.O.	4

D.S.R. Reference	Description	Page
7.29.	Importance of natural features and all construction surveying	4
	<u>Advanced Leveling</u>	
7.30.	Preparation of details of level lines and benchmarks sketches	4
7.31.	Detail Leveling	4
7.32.	Turning points	4
7.33.	Heights on or along features parallel to spot height lines	4
7.34.	Heights of rocks	5
7.35.	Leveling of watercourses and streams	5
7.36.	Heights inside or center the streams	5
7.37.	High flood level heights	5
7.38.	Additional heights for 1 m contours	5
7.39.	Diagrammatic index page for level book pages	5
7.40.	Reduces and closes in level book	5
7.41.	Error distribution	5
	<u>Bench Mark List</u>	
7.42.	Bench mark list	5
7.43.	Maintains of bench mark list by Superintendent of Surveys	5
7.44.	Changes to bench mark list	5
7.45.	Destroy of level books	5
	<u>Field Checks</u>	
7.46.	Estimating the amount of daily clearances	5
7.47.	Field checks for leveling	6
7.48.	Field checks for determining the location of contour lines	6
7.49.	Field checks for traversing and detail survey	6
	<u>Plan work</u>	
7.50.	Abbreviations used in Engineering Surveys	6
7.51.	Abbreviations on index page of field book	6
7.52.	Use of software for Plan work	6
7.53.	Selection of scale, plan sheet and colour for plan printing	6
7.54.	Sheet edge comparisons	6
7.55.	Preparing an index of adjoining sheets	6
7.56.	Grid values on plan sheet	6
	<u>Printing Copies</u>	
7.57.	Additional set of sheets for District Survey Office	7
7.58.	Preparing extra digital copy	7
	<u>Old Survey work</u>	
7.59.	Fixations or replotting to old work	7
7.60.	Dealing of encroachments	7
7.61.	Dealing of private lands	7
7.62.	Showing of old work	7
	<u>Contours</u>	
7.63.	Contour interpolations	7
7.64.	Inking of contours	7

D.S.R. Reference	Description	Page
7.65.	Draw contour lines through the details of the ground	7
7.66.	Printing of heights on plan sheet	7
7.67.	Benchmark details on plan sheet	7
7.68.	Benchmark values on plan sheet	7
	<u>Numbering of the engineering survey sheets</u>	
7.69.	Field sheet numbering	8
7.70.	Dealing of assigning same numbers to two sheets	8
	<u>Printing on engineering survey plans</u>	
7.71.	Printing of Ela/ stream names	8
7.72.	Printing of claimants detail	8
	<u>Key Diagram</u>	
7.73.	Maintain key diagram by surveyor	8
7.74.	Preparation of key diagrams	8
7.75.	Scale of key diagram	8
7.76.	Preparation of composite key diagram	8
7.77.	Separation of key diagram using suffix	8
	<u>Progress Reports of Engineering Surveys</u>	
7.78.	Standard forms for preparing report	9
7.79.	Returns by surveyors to Superintendent of Surveys	9
7.80.	Returns by Superintendent of Surveys to Senior Superintendent of Surveys	9
7.81.	Field progress reports	9
7.82.	Records for future references	9
7.83.	Diagram maintained by Senior Superintendent of Surveys	9
7.84.	Maintains of Topographical sheet at District Survey Office for Engineering Surveys	9
	<u>Channel Trace Surveys</u>	
7.85.	Purpose of channel surveys	9
7.86.	Constructions of channel and work planning	10
7.87.	Main channels and branch channels	10
7.88.	Numbering of tracts and channels	10
7.89.	Ozolid prints for channel surveys	10
7.90.	Survey requisition of channel trace issued to field	10
7.91.	Coordination of canal trace surveys	10
7.92.	Obtaining channel survey tracings	10
7.93.	Transfer the centerline of the channel	10
	<u>Setting out the Center Line</u>	
7.94.	Setting out of centerline	10
7.95.	Centerline survey and plotting	10
7.96.	Setting out of cross sections	10
7.97.	Setting out center lines of curves	10
7.98.	Procedure to setting out the cross sections	11
7.99.	Leveling of centerline	11

D.S.R. Reference	Description	Page
7.100.	Taking perpendicular cross sectional levels to the center line	11
7.101.	Plan work for channel tracings	11
7.102.	North line in channel tracing	11
7.103.	Showing detail in channel tracing	11
7.104.	Blue grids in channel tracing	12
7.105.	Cross sections and longitudinal sections in channel	12
7.106.	Plan work of existing and abandoned streams	12
7.107.	Checking and Approving of channel trace survey tracings	12
7.108.	Key diagrams for channel trace surveys	12
7.109.	Returns for channel trace surveys.	12
<u>Village Tank Surveys</u>		
7.110.	Definition to village tank surveys	12
7.111.	Things to be consider of village tank surveys	12
7.112.	Baseline and spot heights	13
7.113.	Survey and leveling of streams and rocks	13
7.114.	Establishment of benchmarks	13
7.115.	Instruction for plan work	13
<u>Dam Axis Surveys</u>		
7.116.	Definition of dam	13
7.117.	Factors decide the dam constructions	13
7.118.	Plans to determine the area for dam construction	13
7.119.	Definition to dam axis surveys	13
7.120.	Dam axis Survey procedures	13
7.121.	Importance of flood heights and flood escapes	13
7.122.	Specifications for Plan work	13
<u>Annexures</u>		
<u>Annexure I</u>	Specimen of a descriptive sketch of a Benchmark	14
<u>Annexure II</u>	List of Bench Mark	15
<u>Annexure III</u>	Conventional signs to be used on Engineering Survey key diagrams	16
<u>Annexure IV</u>	Progress diagram of plan work	17
<u>Annexure V</u>	Leveling progress diagram	19
<u>Annexure VI</u>	Field progress return for Engineering Surveys	20
<u>Annexure VII</u>	Field progress return for Channel Tracing	22

CHAPTER VII

ENGINEERING SURVEYS

Formation of Engineering Surveys

- 7.1** The District Senior Superintendent of Surveys has to prepare proposals for Engineering survey under the following headings and send to the Additional Surveyor General (Field) through Provincial Surveyor General.
- (i) **Horizontal survey** – If new horizontal control points to be established using Global Navigation Satellite System (GNSS), request with proposal should be sent to D.S.G. (Geodetic)
 - (ii) **Bench marking and leveling** - If secondary or tertiary leveling is to be undertaken, as in (i) above proposals should be prepared and copy of which should be sent to D.S.G. (Geodetic Surveys)
 - (iii) **Advance work.** - Survey Field Assistants must be profitably employed in clearing and picketing of traverse routes, clearing and benchmarking of level lines at 1km grids and half km grids.
A careful estimate of the staff requirements for completion of the advance work should be prepared considering all relevant facts.
 - (iv) District Senior Superintendent of Surveys should identify requirement of all type of resources and supports which are need to be obtained from client institution. Action should be taken to obtain required facilities while maintaining close coordination with relevant institutions and their local heads.
 - (v) Listing of requirement of human and other resources.
- 7.2** When the District Senior Superintendent of Surveys suggestions is approved, Superintendent of Surveys (HQ) should prepare following documents. Thereafter work has to be entrusted to the relevant Superintendent of Surveys with instructions.
- (i) Traverse and level diagrams on the 1:50,000 map.
 - (ii) A diagram on the 1:50,000 scale showing all major surveys already executed and abutting on work taken up. Numbers of abutting engineering survey sheets should be given together with the year of survey.
 - (iii) Latest Aerial Photographs or satellite images of the relevant area.
 - (iv) Key diagram (layout) of engineering survey sheets showing 1 km grid in 1:50,000 map for work assignment.
 - (v) Specification for survey.
- 7.3** Setting out and clearing of the 1 km grids and laying of Benchmark/ Geodetic Survey Control Station should be done as soon as possible. Immediately after that, D.S.G. (Geodetic) should be informed to establish horizontal control network by GNSS observations. In parallel to that, leveling of benchmark also should be done. Superintendent of Surveys should employ his whole staff or this task with systematic plan.

- 7.4** On enablement of this vertical and horizontal control network, Superintendent of Surveys should send the 1:50,000 map showing control station with their coordinates, benchmark sketches with values and grid lines to the District Senior Superintendent Surveys.
- 7.5** Superintendent of Surveys on receipt of the documents referred to in paragraph 7.2 will plan a system of detailed traverse and level lines which will be done along the boundaries of blocks to be assigned to different surveyors.
- 7.6** As far as possible each surveyor should be assigned blocks corresponding to the sheets that are taken up. If it becomes necessary to assign work to two surveyors in the same block, leveling should be assigned to one surveyor and detail surveys to the other.
- 7.7** Surveyor should study the block using Aerial photograph or Satellite images in addition to physical inspection to plan traverses for the survey of internal details and boundary information. Similarly he should plan for establishment of level line inside the block and along the boundary. Before start the work programme should get approved by Superintendent of Surveys.

Field Work

- 7.8** Field books notes are maintained as per Chapter XI and Chapter XXII. Examples of Field book notes are [Annexures I to IX of Chapter XI](#).
- 7.9** As far as possible field books relating to any one sheet should bear consecutive numbers.

Traverses

(See Chapter II for details)

- 7.10** In the case of control traverses surveyed along grid lines, greater care should be devoted as any error is reflected as a corresponding error in the latitude or departure.
- 7.11** Co-ordinate sheets of all traverses should be pasted in field book and kept signature it. Surveyors who are engaged in Sporadic Surveys will be able to find information in the field of Engineering Survey field books.
- 7.12** Details of Survey along the boundaries of grid sheets should be done by only one surveyor as practice Eastern and Southern boundaries are taken from particular block.

Clearing

- 7.13** The Superintendent of Surveys on his first inspection of the Surveyor should indicate directions of spot height lines that are to be cleared after studying the work plan. This is decided after reviewing the aerial photos / satellite images.
- 7.14** Clearing will be done from both ends and checked at every intervening $\frac{1}{2}$ km grid. If an error of more than 5m is observed, within a $\frac{1}{2}$ km section, this should be re- cleared.
- 7.15** Spot height lines will be set out by the Surveyor as indicated by the Superintendent of Surveys, at intervals of 100m/50m, from both ends if it extends to more than 1km in any

one block, and from one end if less than 1km while setting out, 50m/20m from each and of the spot height lines will be cleared. This interval may vary according to requirements of client as indicated in specification of survey.

- 7.16** Spot height lines should be extended to 50m or an additional spot height line cleared beyond the perimeter of the area taken up for survey in a particular year, if the abutting area had not been surveyed earlier. This is necessary to ensure the correctness of contours at the perimeter.
- 7.17** The efficiency of a Surveyor engaged on engineering surveys depends largely on his capability to organize his Survey Field Assistants to produce the maximum clearing. To ensure this Surveyor should scrutinize the daily progress in clearing and, if necessary, verify in the field to satisfy himself that any low clearing output reported is actually due to the nature of the clearing involved.
- 7.18** Three or four Survey Field Assistants should be assigned to groups for clearing.
- 7.19** A clearing progress diagram on the scale of 1:50,000 should be maintained showing the clearing done every day of the week in different colors. The head of Survey Field Assistant should maintain the clearing progress diagram on the scale of 1:10,000 and submit it at the end of each day to the Surveyor who will initial it after transferring the particulars to his diagram. It can also be maintained as a digital data entry using the new computer technology. This survey clearing progress diagram should be sent to the Superintendent of Surveys at the end of every week together with his journal and digital copy can be sent by email.

The cleared lines will be indicated in position in relation to the block. The colors to be used are:

-

1st day of the week	– Red
2nd day of the week	– Blue
3rd day of the week	– Yellow
4th day of the week	– Brown
5th day of the week	– Green
6th day of the week	– Black
7th day of the week	– Brown

Establishment of Bench mark

- 7.20** Type “E” bench marks without brass bolts (See [Annexure VI in Chapter II](#)) will be constructed at the inter-sections of 1 km grids respectively, at safe places. Bench mark numbers will be inscribed on the bench marks when the concrete is still wet. Letter and numbers should be in script direction of West to East.
- 7.21** Temporary bench marks (setout wooden pegs tapered at the top) will be buried at the terminals of spot height lines in any block assigned to a Surveyor. These will be numbered in terms of Appendix 25 to the Technical Instructions. When level line running for assign heights for these Temporary bench marks, those should be used as turning points and not as intermediate point or detail point.

Detail Surveys

(See Chapter IX for details)

- 7.22 Detail surveys should be done before the detail leveling of spot heights is started. All topographical features such as railways, roads, paths, streams, bunds, rocks, and important buildings should be surveyed or transferred.
- 7.23 If recent surveys of streams, roads, paths, and revenue boundaries of the E.S area exist, those may use in productive manner without resurveying.
- 7.24 Boundaries between different cultivations and state, private ownership will be surveyed and shown in block.
- 7.25 Approximate boundaries of high jungle, low jungle and Damana within State lands should be sketched and shown in dotted lines on large scale contour plans. Their extents should be computed to the nearest hectare and entered on a sheet, which may be forwarded with the report.
- 7.26 All village boundaries should either be surveyed or re-plotted direct from old field books, where such surveys are available, or sketched from cutting taken on grid lines. Boundaries thus, sketched will be shown on field sheet in conventional signs for village or revenue boundaries.
- 7.27 The information regarding the number of houses and families in each village together with the approximate population should be obtained by the Surveyor in the field in consultation with the Grama Niladhari and entered on a schedule which will be forwarded with the report.
- 7.28 The outer boundary of lands given out under the Land Development Ordinance but which have not been developed should be shown in dotted line on the field sheet and described.
- 7.29 It is important to survey all constructions and features, which indicate the form of the country, which may be of use to the Engineer. e.g. streams, dry streams and channels and bunds, excavations and embankments, rock areas and boundaries.

Advance Leveling

- 7.30 A tracing on the 1:50,000 scale should be prepared with details of newly established level lines (minor and higher), including the route of the level lines, type of bench marks established, their numbers and values and the field book and level book numbers, and sent along with the benchmark sketches ([Annexure I](#)) to the District Survey Office or to D.S.G. (Geodetic) as the case may be. Benchmark sketches will also appear in the last pages of the level book and the index page should be endorsed accordingly.
- 7.31 **Detail leveling** – Detail leveling is leveling done to obtain spot heights in systematic manner and heights on or along natural or artificial features covering the respective area.
- 7.32 TBM should be established at points used when starting or closing a level line and the height of any TBM used as a turning point of a level line
- 7.33 Special care should be taken to obtain heights on or along features, which run parallel to spot height lines.

- 7.34 Sufficient heights should be taken on rocks to enable Engineers to estimate their size and approximate shape. The height of the highest point should be observed. In obtaining the height of the highest point if ordinary leveling is not feasible, theodolite heighten may be used, and the method of stepping using a linen tape can also be adopted.
- 7.35 If spot height lines are so placed in relation to sections of watercourses and if heights at an average of 100 m apart along the streams are not obtainable, such sections must be leveled to provide adequate heights.
- 7.36 If the bed height cannot be obtained due to depth of water, heights as far inside the stream as possible should be obtained and shown in position on plan.
- 7.37 If discernible, the high flood level should be given at least at 5 points in every $\frac{1}{2}$ km. The Irrigation Department requires these values to build colonists' cottages in areas, which will not be submerged in the event of floods. The Surveyors should pay special attention to obtaining such heights.
- 7.38 Additional heights should be observed where necessary after 1m contours have been approximately sketched. When two or more self-contours having the same value adjoin, sufficient heights should be observed to determine whether these would form a single self-contour.
- 7.39 Diagrammatic index of the contents of each page of a level book will be maintained by the surveyor. This will be pasted on the cover of the level book.
- 7.40 Level books should be reduced daily and the 'close' should be worked out.
- 7.41 Errors need not be distributed for spot height leveling but should always be distributed for leveling to establish bench marks.

Bench Marks List

- 7.42 The values of benchmarks, when finalized, will be entered in a form ([Annexure II](#)) called the benchmark list. The values thus entered will be checked with the level book and E.S. Sheet by the Superintendent of Surveys and initialed.
- 7.43 The Superintendent of Surveys will maintain benchmark lists for the whole area on the lines indicated in the specimen annexed. It will compile the benchmark list after reference to the Surveyor's benchmark lists. The values thus entered will be final and used in the key diagrams.
- 7.44 The Surveyor should not change the benchmark values without intimating such changes to the Superintendent of Surveys after his benchmark list has been initialed.
- 7.45 After engineering survey plans have been printed and hard copies have been sent to the Document Management and Professional Standard branch and security copies of digital data should be sent to the LIS branch at Head office. All level books used for detail leveling will be destroyed after 5 years by the District Survey Office.

Field Checks

- 7.46 The Superintendent of Surveys should check the rate of clearing of each gang during the beginning of the field season. He should be present during clearing for at least 2 hours to

be able to estimate fairly the average output of clearing. The District Senior Superintendent of Surveys will set a norm for clearing.

- 7.47** The checks must consist of re-leveling lines already completed or independent lines of leveling. Superintendent of Surveys is responsible for all leveling done under his charge being closed within the error allowed.
- 7.48** The form of the ground indicated by contours should be checked by the Superintendent of Surveys by inspection on the spot, by leveling additional lines to cut across the form of contours or by tracing contours in all cases, which appear doubtful. In addition to this he should make the check in the more open and undulating areas and elsewhere, if necessary on every sheet.
- 7.49** The Superintendent of Surveys must check a sufficient portion of traverse, detail survey and must sign a certificate to this effect on every engineering survey plan. The certificate will contain reference to the field books in which the field checks appear. A certificate should be written and signed in every engineering survey sheet. Reference should be made to field books that contain correct observations made in the field. He may employ any of the methods prescribed in the Technical Instructions Chapter IV, and is responsible for all surveys carried out under his charge, being of the required accuracy prescribed in paragraph 2.23. At least 10% of the work should be checked.

Plan work

- 7.50** The abbreviations shown in Annexure X of Chapter XI should be used in both plans and field books of engineering surveys to describe all detail survey information of boundaries.
- 7.51** Every engineering survey field book shall have reference to these abbreviations pasted on the back of the index page facing the first page of the field book. This should be done in district offices on all field books issued for engineering surveys.
- 7.52** Plans work should be done by the software provided by the Survey Department.
- 7.53** Plan should be produced using scale suitable as per client's specifications. In General detailed information will be plotted in black, contours in brown and will be drawn on A3 size field sheets of the scale of 1:5,000.
- 7.54** All the edges of each sheet should be compared with the edges of adjoining sheets by means of boundary comparison tracings or using soft copies. The descriptions of lots on either side should also be compared.
- 7.55** An index of adjoining sheets will be shown at the center of the Southern printing margin of the E.S. Sheet (this index will be similar to the one provided in 1:50,000 topographical sheets and will be useful to Surveyors and Officers of the client organization when they have to find out numbers of adjoining sheets without reference to the key diagram). It will be drawn on the scale of 1:50,000.
- 7.56** Grid numbers will be printed in black along the Southern and Eastern boundaries clear of any detail.

Printing Copies

- 7.57 Complete set of printed ES sheets should be placed in the document room of District Survey Office in addition to the client copy.
- 7.58 Two additional copies of digital map should be produced and handed over one copy to keep at document room of District survey Office. Other copy should be sent to Document management and Professional Standard branch at Head office. The relevant digital file must also be uploaded through the SRIMS database. After printing the engineering survey plans and issuing copies by the District Superintendent of Surveys, a hard copy should be kept in the District Survey Office.

Old Survey work

- 7.59 Each Surveyor should obtain all the old field sheets in his block after referring to the relative 16 chain RDs / Key sheets and show all private lands in position on plan by suitable fixation technique.
- 7.60 Encroachments will be surveyed in block.
- 7.61 It should be borne in mind that engineering survey plans are not revenue plans but are used by the Irrigation Department/ Mahaweli Authority to block out lands for alienation and design a network of channels. Therefore it is essential that all private lands should be separately shown to avoid their being included as State land for alienation.
- 7.62 It would be sufficient if Photostat reductions are used for incorporation of old work in Engineering Survey Plans.

Contours

- 7.63 Contours should be interpolated using software provided by the Survey Department. But continuity of contours and accuracy of interpolation should be checked by the Superintendent of Surveys before the print. It has to be determined whether additional heights are required.
- 7.64 The line thickness of index contours and datum contours should be 0.8mm and 0.3mm respectively on the 1:2,000 scale.
- 7.65 Contours will be broken at detail to enable further differentiation between contours and details.
- 7.66 Important and necessary spot heights should be printed on the E.S. Sheet. Additional heights referred to in paragraph 7.34, 7.36 and 7.38 should also be printed on E.S. Sheet.
- 7.67 The point where a bench-mark has been established should be shown by a square of side 1.5mm and the geodetic height should be entered in three decimal places. (Eg. 51.517)
- 7.68 Values of the main contours will be printed with the numbers reading uphill.

Numbering of the engineering survey sheets

- 7.69 Each sheet will be known by the number of the 4 x2.5 km sheet whose north-east corner falls on it or is nearest to the center of the sheet.
- 7.70 When two sheets have to be allotted the same number, the first sheet will be distinguished by the letter “A” after the number and the second sheet by the letter “B” after the number.

Printing on engineering survey plans

- 7.71 The names of streams & all details should be printed in black so as not to interfere with details.
- 7.72 Description of details and claimants should be printed in black.

Key Diagram

- 7.73 The Surveyor must be maintained a key diagram on a scale of 1: 50,000 on the back side of L 403 (Annexure 06).
- 7.74 A key diagram should be prepared by the Superintendent of Surveys with the help of his surveyors and it should include followings.
- (i) All bench marks in correct position with their values ([Annexure III](#))
 - (ii) Boundaries of sheets taken up, with their numbers.
 - (iii) Kilometer grid numbers outside the perimeter.
 - (iv) One or more natural features, which will help in orientation of the diagram on the 1:50,000 topographical sheets.
 - (v) Administrative boundaries with their names.
 - (vi) Reference to abutting irrigation schemes with their year of survey. The relevant old key diagram should be obtained and abutting boundaries indicted after reference to them.
 - (vii) The name of the engineering survey scheme, year of survey and the scale will be given preferably on the top in the north-west corner within the printing margin outside the body of the diagram.
- 7.75 The scale of the key diagram will be 1:10,000 or smaller scale in case of need, irrespective of the extent of survey.
- 7.76 If two or more parties are engaged in the survey of a particular scheme, as far as possible a composite key diagram ([Annexure IV](#)) should be drawn. The composite key diagram will be one which will cover the area of survey by more than one party.
- 7.77 If it is not possible to prepare a single key diagram for the entire area of survey in any one year/project, separate diagrams will be differentiated by the suffix A, B, etc., (e.g. Kawdulla Engineering Surveys, 1965- A).

Progress Reports of Engineering Surveys

- 7.78** The Surveyor should make individual reports on their work on the standard forms. As the whole area under surveys has, as a rule, one scheme each Superintendent of Surveys should make a comprehensive report on the whole area.
- 7.79** The following returns should be sent by the Surveyor to his Superintendent of Surveys.
- (i) The Surveyor should maintain the Traverse diagrams on the scale of 1:50,000. Updated Traverse and level progress diagrams and a field progress diagram on the form L 403 (Annexure VI) to reach him by last working day of the month.
 - (ii) Clearing progress diagrams along with the journal every week.
- 7.80** Superintendent of Surveys should send the following returns to the District Senior Superintendent of Surveys.
- (i) Clearing progress diagrams every fortnight.
 - (ii) Traverse and level progress diagrams and the field progress diagrams to reach the District S.O. by 2nd working day of the month. ([Annexure V](#)).
- 7.81** Superintendent of Surveys should maintain with them for their own information and for the information of inspecting officers a copy of the Field Progress Return.
- 7.82** **Records for future references** –Superintendent of Surveys should forward the following to their District Senior Superintendent of Surveys on completion of E.S.
- (i) 1:50,000 tracing of the area surveyed
 - (ii) Tracing of the scale of 1:250,000
 - (iii) Tracing showing the level lines, bench-marks, their values, field book and level book numbers with pages
- 7.83** District Senior Superintendent of Surveys will maintain 1:250,000 diagrams mounted on rollers showing all engineering and village tank surveys within the district. The areas under survey will have a broken band in green and the schemes completed will have a continuous band with the name of the scheme written within.
- 7.84** The District Senior Superintendent of Surveys will also maintain an album of 1:50,000 topographical sheets relating to the district wherein every engineering scheme will be shown in position. The numbers of sheets falling on the perimeter of the area taken up each year with grid number, values, major traverses and level lines which will help to forward his proposals for survey of the adjoining areas, without reference to any other documents, will be shown.

Channel Trace Surveys

- 7.85** Contours and heights indicated on the 1:50,000 contour prints are inadequate to decide the exact course of the channels for an accurate estimate of earthwork involved in the construction

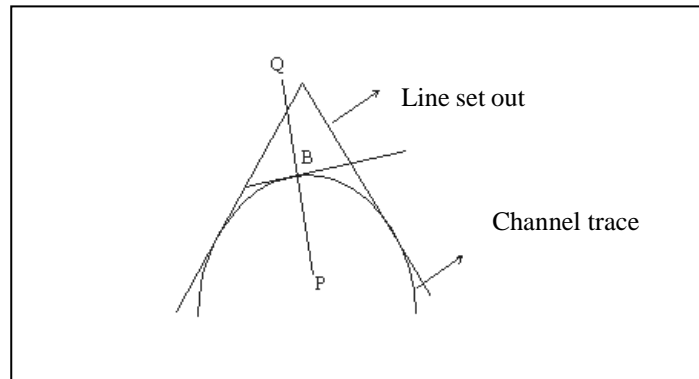
of the channels. Therefore it has to be provided a strip survey of the land on either side of the proposed channel on request of the client Organization.

- 7.86** Generally the construction of channels is done by contractors employed by the Irrigation Department/Mahaweli Authority and since sections are often given to different contractors for the convenience of design and handling units, each kilometer of the channel is treated as a separate unit.
- 7.87** In most major irrigation schemes, there will be two main channels referred to as the right bank main channel and the left bank main channel, a number of branch and distributary channels branching off the main channels or the main distributary channels and numerous field channels off the distribution channels.
- 7.88** The entire area under paddy in a particular scheme is normally divided into a number of tracts by the Irrigation Department/Mahaweli Authority and referred to as tract No. 1, 2, 3, etc. The distributary and field channels in a particular tract are numbered from unity and referred to as distributary or field channel No. 1, 2, 3, etc.
- 7.89** Channels are traced on engineering survey sheets and prints of each kilometer of the proposed channel are obtained by the Irrigation Department/Mahaweli Authority, incorporating a few natural features and grids with their numbers and other information which would help the Surveyor to orient these prints on the engineering survey sheets. The contours are usually not shown on these prints.
- 7.90** Once Channel trace prints and specifications for survey are received by the District Senior Superintendent of Surveys, it will be sent to the field with requisition for surveys.
- 7.91** The Superintendent of Surveys in charge of the party employed on channel tracing should obtain beforehand the engineering survey sheets, key diagrams and bench mark sketches relating to the scheme so that delays in obtaining all documents subsequently may be avoided.
- 7.92** On receipt of the channel trace prints, the Surveyor will make tracings of each print and transfer the centerline of the channel on to the corresponding engineering survey sheet. The data given on each print should suffice to give a good fixation. Whenever possible, action should be taken to get down digital copy of the channel trace form the client Organization to make the survey work much comfortable.
- 7.93** When transferring centerlines, it should be ensured that no gap exists between the end point of a kilometer and the starting point of the subsequent kilometer.

Setting out the Center Line

- 7.94** Bearings will be compiled, commencing and closing on old pickets, and the center line set out in the field with a Theodolite/ Total Station, but not more than 3 km of the trace could be set out without closing on old pickets.
- 7.95** On completion of the setting out of the center line, it will be surveyed to detail accuracy and plotted on the engineering survey sheet without chain lines.
- 7.96** Setting out of cross sections may be entrusted to the head Survey Field Assistant except at points where they have to be at right angles to the curve.
- 7.97** In setting out center lines of the proposed channels, it is not necessary to set out the curves shown on the channel prints unless specially requested.

- 7.98 The channel trace as indicated on the prints is not the final trace but the proposed trace and survey is required to determine the exact trace. Cross sections have to be set out at right angles to the trace and the following procedure will be adopted.



Referring to the diagram above- if the cross section has to be set out through B, a tangent through B is drawn and then a line QBP at right angles using a parallel ruler and off-set scale or using the digital drawing. The bearing of the line QP can be obtained from the plan. The point Q can be fixed in the field by scaling the distance from the previous cross section on plan.

The cross section can now be set out.

Leveling

- 7.99 The centerline will be leveled to detail line accuracy, starting and closing on previously established benchmarks. Not more than three kilometers will be leveled without closing on benchmarks. All bench marks and pegs buried along the center lines at the intersections of cross sections will be used as turning points.
- 7.100 Cross sections will be leveled by starting and closing on pegs. They will be at the cross sections on the centerlines. If the time interval between leveling of the longitudinal section and the cross sections is appreciable or, there is reason to suspect movement of the cross section pegs, then the leveling of the cross sections should be commenced on the previous peg and closed on the peg subsequent to the one under consideration.

Plan work

- 7.101 Plan work should be done by the software provided by the Survey Department. Printing will be done on tracing paper for reproduction on the scale of 1:5,000 unless otherwise stated and digital files of maps should be systematically named and save in hard disc and compact disc. Additional copy should be sent to the District Senior Superintendent of Surveys for his records.
- 7.102 The trace will be oriented on A3 sheet so as to have it horizontal as far as possible. A North line will be drawn in black on the North-East corner of the tracing and will be 4cm long.
- 7.103 All detail surveys appearing on the engineering survey sheets within the strip will be shown on the tracing.
- (i) All spot heights will be entered in black. Concrete pegs will be shown as black dots of 0.8 mm with their appropriate numbers.

- (ii) Benchmarks will be shown as in the case of engineering survey plans.

- 7.104** Blue grids of the A3 field sheets will be traced and shown away from the main body to the plan in the four corners with values.
- 7.105** Cross sections or longitudinal sections will not be drawn except when asked for, but sufficient space will be left below every plan for drawing of the longitudinal section.
- 7.106** When channel trace surveys of existing and abandoned channels are done, cross sections will also be drawn by the Surveyor. Each cross section will be plotted separately and the plotting will be graph-height against distance, on the scale indicated by the client Organization (usually 1:100 / 10 feet to 1 inch).
- 7.107** On completion of the plan it will be examined by the Superintendent of Surveys and forwarded to the District Senior Superintendent of Surveys with completed file of requisition. Distribution of both soft and hard copies will be done by Senior Superintendent of Surveys.
- 7.108** All newly establish bench marks will be indicated in position in the corresponding engineering survey key diagram in red and certified. A certified benchmark list should be sent along with the key diagram.

Reports

- 7.109** Each Surveyor will have to maintain following apart from the usual returns.
- (i) Clearing progress diagram on the scale of 1:5,000 (forward it to the Superintendent of Surveys along with the journal weekly).
 - (ii) Field progress return of Form L 403 ([Annexure VI](#))
 - (iii) 1:50,000 tracing of the channel showing progress.

The Superintendent of Surveys will have to maintain following apart from the usual returns.

- (i) A register of requisitions for the party grouping different categories of channels.
- (ii) A Field progress return for the entire party ([Annexure VI](#) & [Annexure VII](#))

This will be forwarded to the District Senior Superintendent of Surveys to reach him by the 2nd working day of the following month. The Field progress return will be sent to the Provincial Surveyor General Office to reach him before 10th of the month

Village Tank Surveys

- 7.110** These are similar to the 1:5,000 contour surveys except for the fact that spot height lines are at right angles to a base line, which is pre-determined.
- 7.111** The flat survey will be confined to the area shown in the sketch forwarded with the requisition. Private and State lands and topographical features should be surveyed.

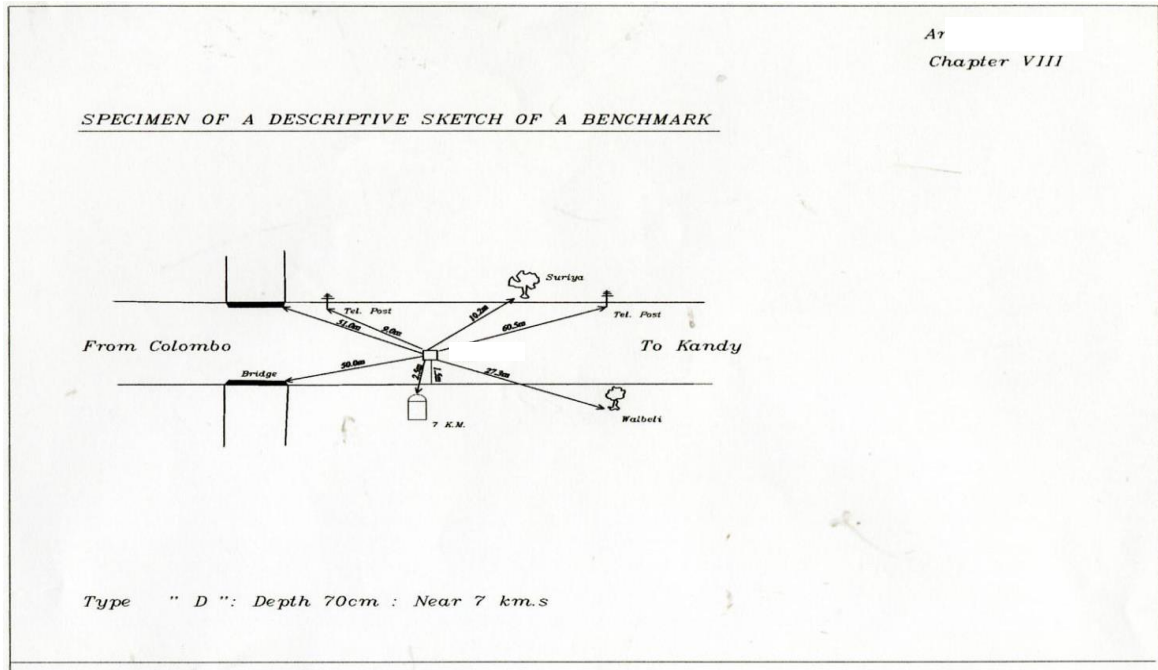
- 7.112** A suitable base line will be laid down and leveled to the accuracy of a minor line. If the extent exceeds 400 hectares, the line should be treated as a tertiary line. Spot height lines will be set out at right angles to the base line at intervals of 100m and spot heights taken 50m apart.
- 7.113** All streams should be surveyed and height of banks near pickets or at closer intervals recorded, where necessary. Rock out-crops should be surveyed separately and a few random heights to include the highest point obtained.
- 7.114** Two permanent benchmarks should be established on or near the bund.
- 7.115** Plan work should be done by the software provided by the Survey Department. All details, benchmarks, base lines and grid lines, contours and significant spot heights will be shown in black ink. These Village tank sheets should be examined by the Superintendent of Surveys and approved by District Senior Superintendent of Surveys.

Dam Axis Surveys

- 7.116** Perennial sources of water like streams or rivers cannot be effectively utilized for irrigation purposes without artificial measures like the construction of reservoirs. Reservoirs are constructed in this case by constructing a dam across the river.
- 7.117** A dam is designed to be constructed at a suitable point along the river giving due consideration to the volume of water carried by the river, lay of the land, in and around the dam site and the extent of the irrigable area.
- 7.118** The Irrigation Department/Mahaweli Authority will be able to locate the approximate position of the dam if engineering survey plans of the area are available.
- If these are not available, the Survey Department is requested to make a dam site survey which will generally be on the same specification as the 1:5,000 close contour surveys, unless otherwise stated. The extent involved will depend on the nature of the plans available for location of the dam site area.
- 7.119** When the approximate position of the dam is decided on by the Irrigation Department/Mahaweli Authority, the centerline is fixed. This is called the 'Dam axis'. As in channel trace surveys, this dam axis will be only a tentative one, the final axis has to be decided on after a strip survey on either side of the proposed axis.
- 7.120** The Survey procedure followed for a dam axis survey will be as for channel traces, except that beacons are constructed at each end of the dam axis and at point of change of direction of the axis. Other special requirements will be indicated in the specification for the survey.
- 7.121** It is very necessary to provide flood heights and to show the flood escapes, as this data is invaluable in the designing of the dam.
- 7.122** Plan work should be done according to the specifications using software provided by the Survey Department.

Paragraph 7.30

Annexure I



Paragraph 7.42Annexure II

SCHEME: -

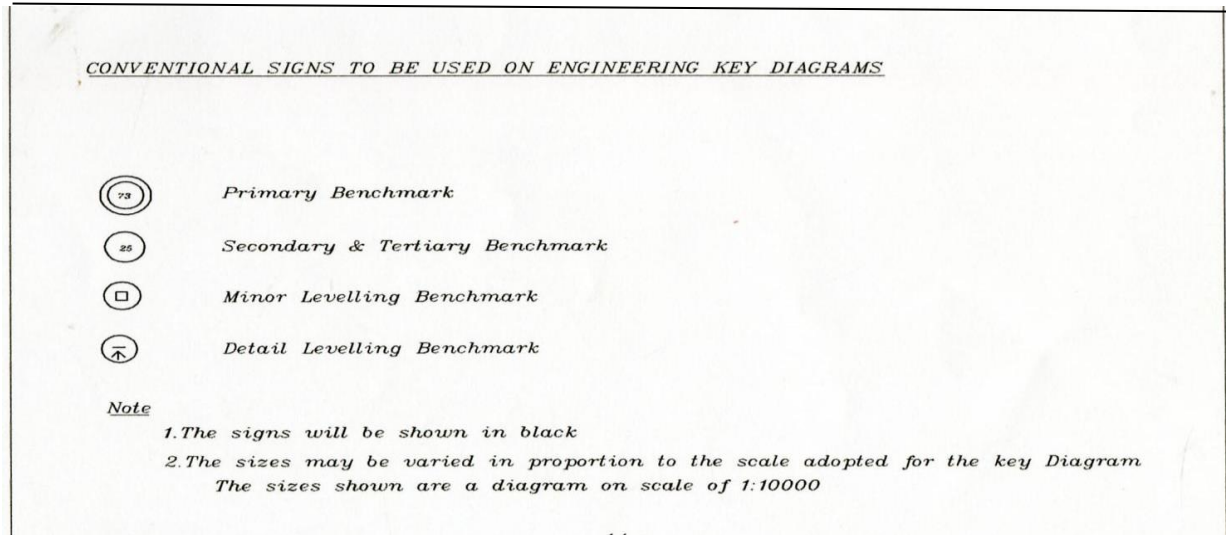
Eng. Sheet: -

LIST OF BENCHMARKS

N/S Location of B.M.	E/W Location of B.M.	M.S.L. Value	Level Number	Book Page	Checked		Remarks

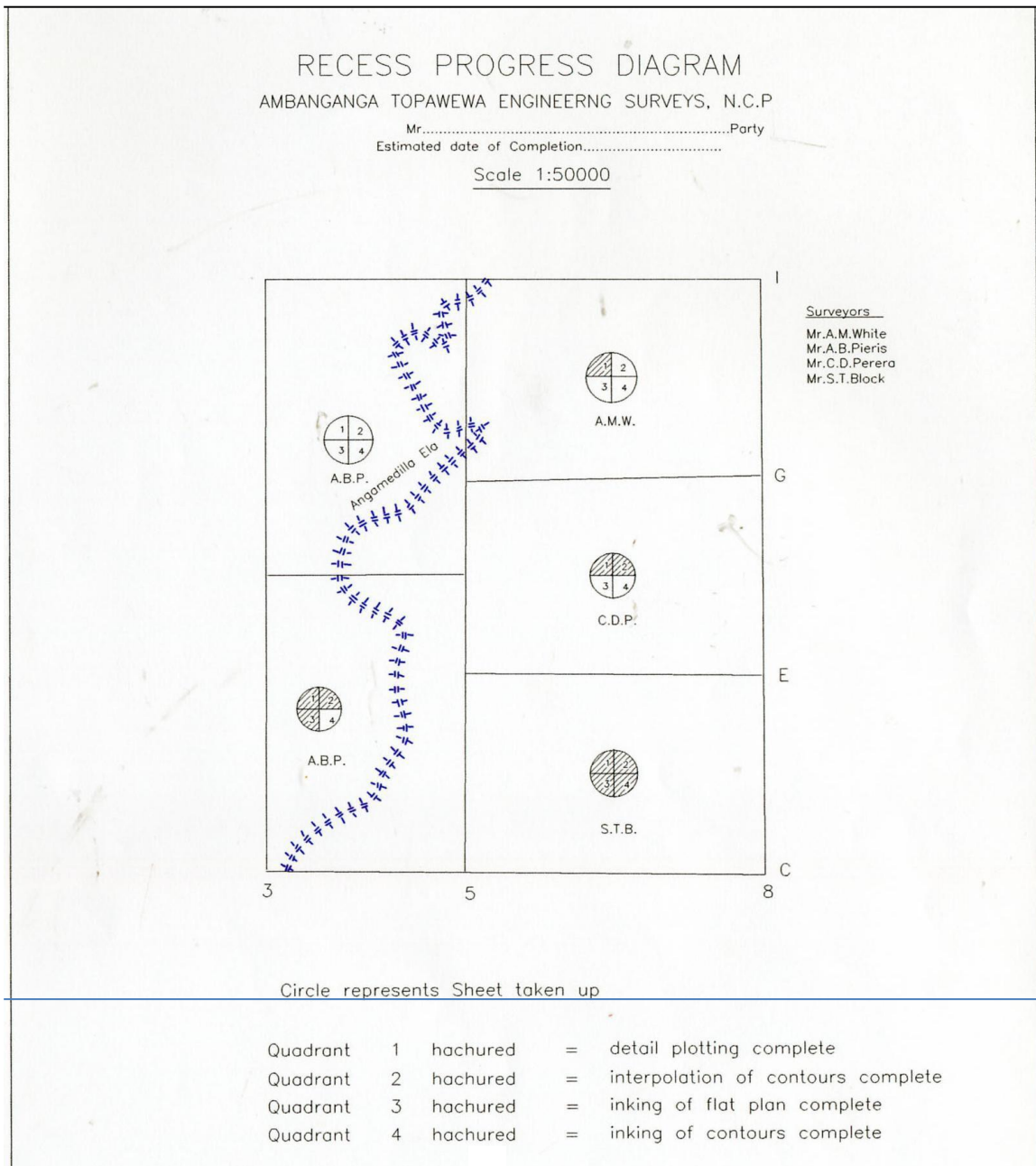
The above Bench Mark values have been checked against level book and against plan and are correct.

.....
Superintendent of Surveys

[Paragraph 7.74](#)[Annexure III](#)

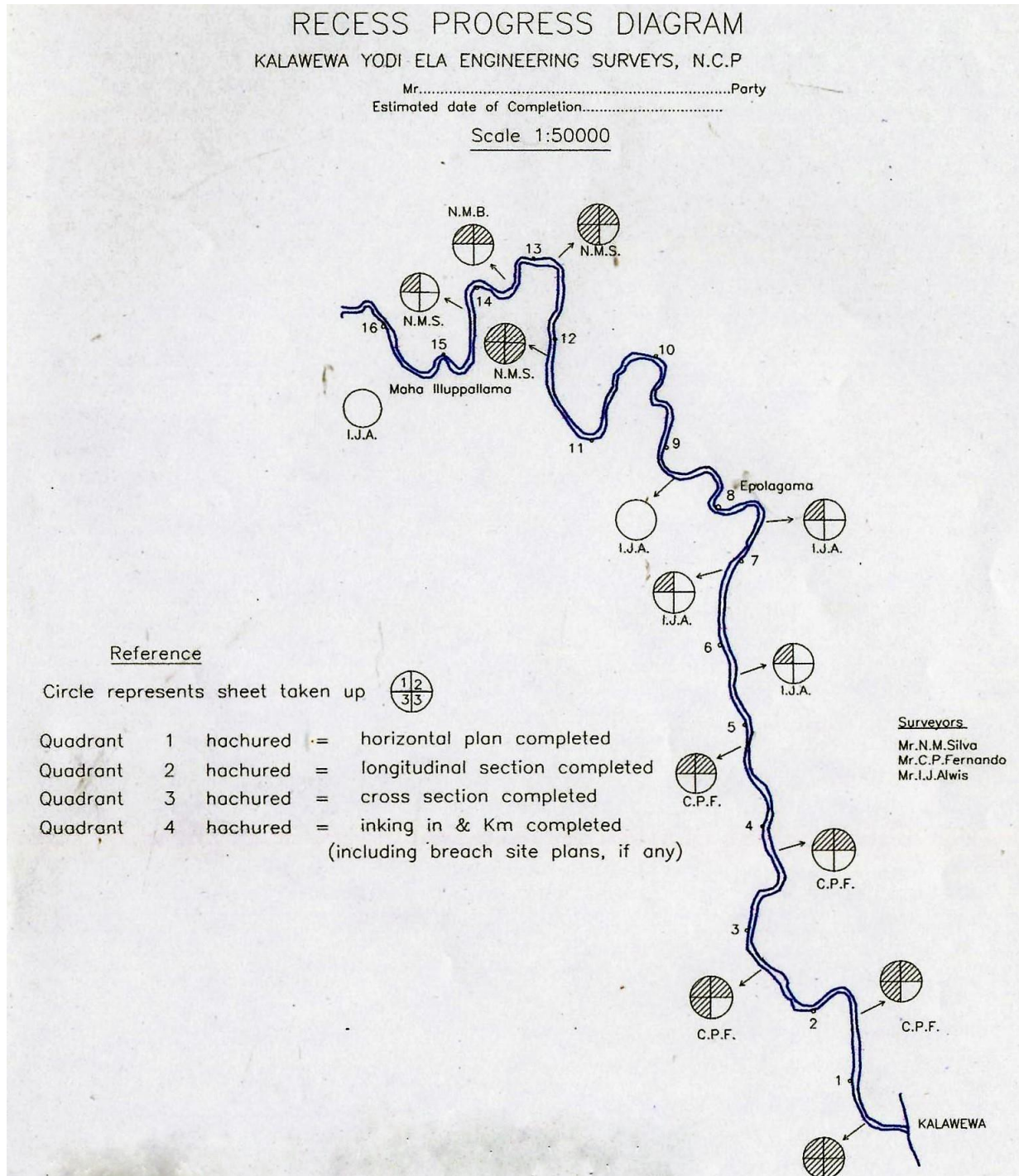
Paragraph 7.76

Annexure IV

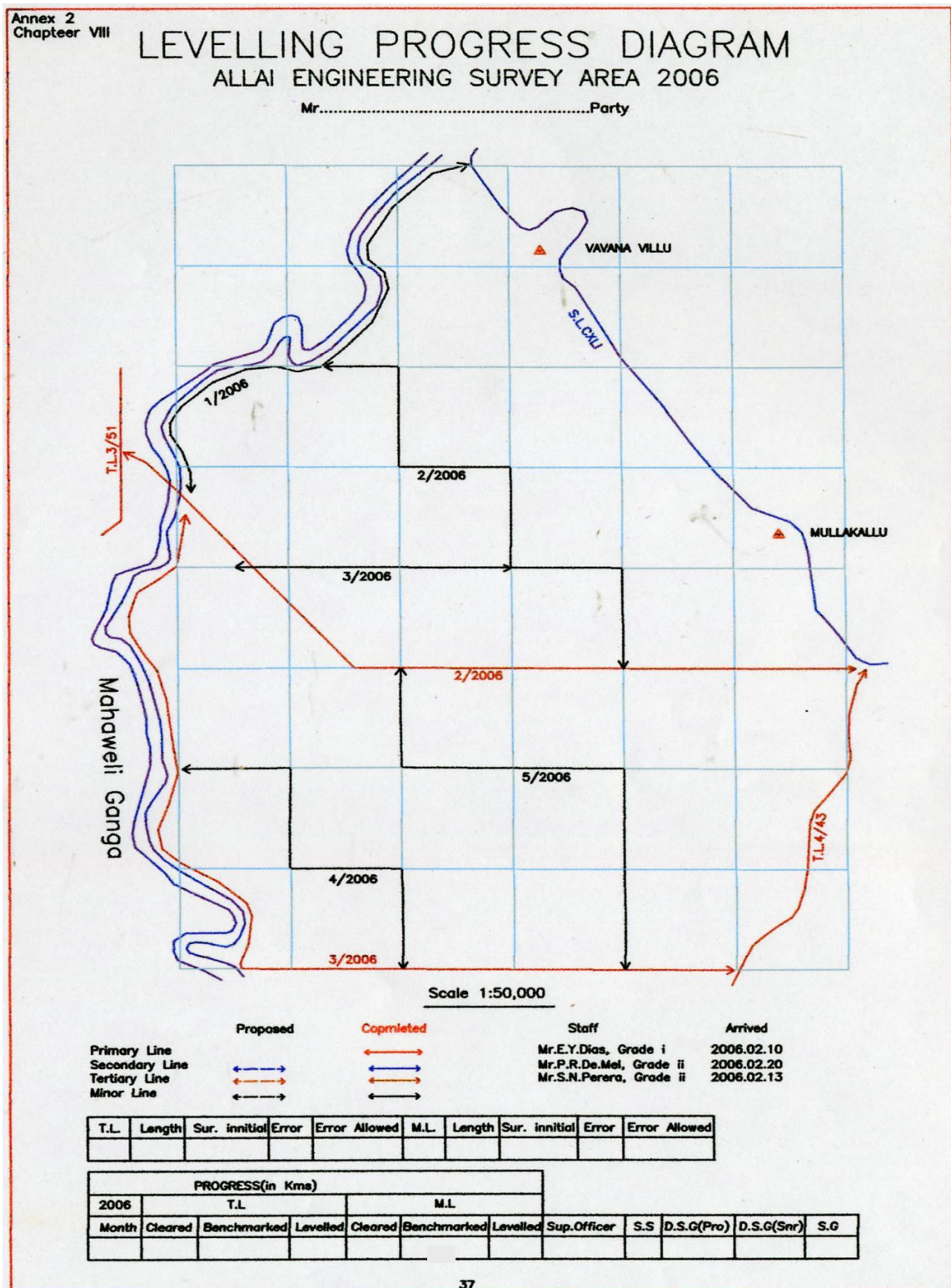


Month	Initials of				
	S.S	Snr.S.S.	D.S.G.(Provincial)	Snr.D.S.G.	S.G.
November					
December					
January					

Annexure IV



Month	Initials of				
	S.S	Snr.S.S.	D.S.G.(Provincial)	Snr.D.S.G.	S.G.
November					
December					
January					



Paragraph 7.109

Annexure VI

..... ENGINEERING SURVEYS, 20.....

ExtentHectare Estimated Date.....
Proposed revised date of completion

PARTY

.....Supdt of Surveys.

.....Surveyor (see over)

FIELD PROGRESS RETURN

Month	Km Cleared	Km Surveyed	Km Leveled	Km to Clear	Km to Survey	Km to Travel	Remarks	S.S	Snr.S.S.	P.S.G.	Add..S.G. (Field)	S.G.
January 20....												
February												
March												
April												
May												
June												
July												
August												
September												
October												
November												
December												

Annex 3(Contd)
Chapter VIII

Colour Scheme

January	February	March	April	May	June	July	August	September	October	November	December

Proposed Grid Lines
 Detail Survey Complete
 Spot Height Lines Complete
 Spot Heights Observed
 Pencil Plotting(Surveying & Levelling) Complete

Note:-

1. This diagram is not necessary in the return forwarded to Head Office
2. Indicate with the surveyor's initials the area or sheet allotted to him

Scale 1:50000

1
 2
 3
 4
 5
 6
 7
 8
 9
 10

Surveyors
 Grade
 Date of arrival

Paragraph 7.109

Annexure VII

..... CHANNEL TRACINGS, 20.....

.....Supdt of Surveys. PARTY ExtentHectare Estimated Date.....
Surveyor (see over) Proposed revised date of completion

FIELD PROGRESS RETURN

Month	Km Cleared	Km Surveyed	Km Leveled	Km to Clear	Km to Survey	Km to Travel	Remarks	S.S	Snr.S.S.	P.S.G.	Add..S.G. (Field)	S.G.
January 20....												
February												
March												
April												
May												
June												
July												
August												
September												
October												
November												
December												

Annex 4(Contd)
Chapter VIII

Reference

Circle represents Km taken up $\begin{matrix} 1 & 2 \\ 3 & 4 \end{matrix}$

Quadrant 1 Coloured = horizontal survey completed

Quadrant 2 Coloured = centre line surveyed & normal set out & cleared

Quadrant 3 Coloured = longitudinal section surveyed

Quadrant 4 Coloured = cross sections surveyed & Km completed

Note

1. Colour scheme as in Annex 3
2. Indicate with the surveyor's initials the Km allotted to him

Scale 1:50000

41

	Surveyors	Grade	Date of arrival
1
2
3
4
5
6
7
8
9
10

CORRECTION SLIPS

CHAPTER VIII
DEMARCATION SURVEYS
INDEX

D.S.R. Reference	Description	Page
	<u>Preliminary Investigation of Demarcation Surveys</u>	
8.1.	Memo for Demarcation Surveys	1
8.2.	Additional work	1
8.3.	Correspondence between Settlement Officer and field officers	1
8.4.	Discussion with Assistant settlement Officer	1
	<u>Field Work</u>	
8.5.	Correspondence with settlement Officer regarding difficulties in Demarcation Surveys	1
8.6.	Assigning two or more Surveyors on Demarcation Surveys	1
8.7.	Boundaries pointing out to allottees	1
8.8.	Use of original block survey pickets	2
8.9.	Re-laying of old chain lines	2
8.10.	Angular and linear misclosures on old pickets	2
8.11.	Re-laying of old boundaries	2
	<u>Error Limits of Extent for Land Settle</u>	
8.12.	Dealing with deficit and excess in the extent of the allotments	2
8.13.	Dealing with excess cultivation	2
	<u>Opportunities to change the original Extent</u>	
8.14.	Occasions to change original extent of Block survey lot	2
8.15.	Reporting amendments of 8.14 (a) to S.G.O.	2
	<u>Agreements related to Settlement Orders</u>	
8.16.	Agreement between Settlement Officer and claimants	2
8.17.	Agreement - Example (i)	3
8.18.	Agreement – Example (ii)	3
8.19.	Follow up the rules of Demarcation Surveys	3
8.20.	Treatment of allotments falling two block survey lots	3
8.21.	Reporting of discrepancies between the sketches and Settlement officer's requisitions	3
	<u>Encroachments</u>	
8.22.	Encroachment on lands settled under the Land Settlement Ordinance	4
	<u>Demarcating Reservations</u>	
8.23.	Reservation on lands settled under the L. S. O.	4
8.24.	Reservation on lands sold outside the L. S. O	4
8.25.	Reservation on lands encroached	4
	<u>Plan Work</u>	
8.26.	Taking up Field sheets for Demarcation Surveys	4

D.S.R. Reference	Description	Page
8.27.	Supplementary Tenement List	4
8.28.	Other surveys made during Demarcation Surveys	4
8.29.	Errors found in Block Surveys sheets during subsequent surveys	4
8.30.	Rectifying incorrect or incomplete lots	4
	<u>Plan Checking</u>	
8.31.	Preparing reports on each Surveys	5
8.32.	Cancellation and Returning of survey requisitions	5
8.33.	Examining of Demarcation Surveys	5
	<u>Document Amendments</u>	
8.34.	Amendments to block survey filed book, plan and TL	5
8.35.	Inserting landmarks on a common village boundary of new surveys	5
	<u>Preparing Bill of cost</u>	
8.36.	Preparing bill of cost	5
8.37.	Checking cost of work	5
	<u>Terms under Land Settlement Ordinance</u>	
8.38.	Special terms used in requisitions issued for Demarcation Surveys	6
	<u>Progress Report</u>	
8.39.	Progress Reports	6
8.40.	Sending certified copies of plans, TL and comprehensive reports	6
	<u>Annexures</u>	
<u>Annexure I</u>	Progress report form	7
<u>Annexure II</u>	Register of Demarcation Requisitions	8

CHAPTER VIII**DEMARCATION SURVEYS****Preliminary Investigation of Demarcation Surveys**

- 8.1. After the Settlement Officer receives prints of Block Survey plans he makes enquiries in the field and sends to the S.G. a memo of demarcations together with a sketch on a copy of a Village Plan. After the survey requisition is forwarded to the Senior D.S.G.(DM &PS) by Surveyor General, it will be forwarded to the relevant District Senior Superintendent of Surveys. Thereafter, the District Senior Superintendent of Surveys prepared a survey requisition and should be involved the surveyor.
- 8.2. Additional work should not, as a rule, be attended to at the direct request of the Settlement Officer without reference to Head Office. It is desirable that every assistance should be given the Settlement Officer by officers of this Department, but if any additional work asked for is, in the opinion of the District Senior Superintendent, not justified or is likely to be of a protracted nature, the matter should at once, be referred to Head Office for instructions.
- 8.3. District Senior Superintendents of Surveys must keep Head Office fully informed of any important communications between the Settlement Officer and field officers of this Department.
- 8.4. District Senior Superintendent of Surveys should discuss matters requiring elucidation with the Assistant Settlement Officer when he is in the Province. For such purposes District Senior Superintendent of Surveys may correspond direct with the Settlement Officer, inquiring when the Assistant Settlement Officer in charge of any particular village will be next on circuit, so that an appointment can be made.

Field Work

- 8.5. The Settlement Officer's requirements must be carefully scrutinized in the field to see that they are not contrary to departmental regulations, and that the required extents are available, Superintendents of Surveys may with the approval of the District Senior Superintendent of Surveys correspond direct with the Settlement Officer regarding difficulties arising out of encroachments, insufficient extents, access or claimants. Explanatory tracings with suggestions should be forwarded at the same time. Copies or such correspondence should be forwarded with the certified copied of plans, and reference made to them in the Surveyor's report to Head Office.
- 8.6. Demarcation Surveys should be so organized that extensive work in a village in suitably divided amongst two or more surveyors and dealt with in parts. Each part of the work should have a separate report.
- 8.7. The boundaries will be surveyed in accordance with the Settlement Officer's requirements, as illustrated by sketches, and the Grama Niladhari or an authorized substitute, should attend to supply any information required. A Grama Niladhari's certificate should be sent with the plans of each Demarcation Requisition. The boundaries of allotments should be pointed out to allottees in the presence of the Grama Niladhari or his substitute. Addresses of non-resident recipient of allotment can be obtained from the Demarcation Memos. If boundaries are not pointed out to any particular allottee, the reason should be given in the report.

- 8.8. The original Block Survey pickets must be used for subsequent resurveys of any of the original Block Survey boundaries.
- 8.9. Where it becomes necessary to re-lay lines, they should be copied from the old field book into the new, in pencil, and inked in black, as they are re-laid.
- 8.10. The angular and linear misclosures on an old picket, after relaying must be clearly shown in the new field book.
- 8.11. The definition of boundaries scaled off a plan must be done in accordance with [paragraph 9.81-9.85.](#)

[Error Limits of Extent for Land Settled](#)

- 8.12. When the [Settlement Officer](#) has asked for an Extent 'more or less' to be demarcated, any deficit in the extent must be within the limit of error allowed in the sliding scale for computations, and any excess must not be more than twice that limit. In areas where land is not of much value, the deficit can be increased to twice the permissible error of computations when the extent of the allotments is over 0.2023 hectare (2 roods) and the excess can be increased to four times the permissible error when the allotment is 0.4047 hectare (one acre) or less and under, and balance area is available. This should not be done without the sanction of the Superintendent of Surveys.
- 8.13. Where an allottee has cultivated land in excess of the extent settled on him, the extent can be increased up to a limit of four times the error allowed, or, where land is not of much value, up to 15 per cent of the extent of the Settlement Officer's allotment, whichever is greater to include the excess cultivation, provided balance area is available.
Any cultivation in excess of this limit should be landmarked, lotted separately and reported on, provided it falls within the balance area.

[Opportunities to change the original extent](#)

- 8.14. The original extents of Block Survey lots are to be retained as far as possible. They should only be altered under the following conditions: -
- (a) When careful and rigorous re computation in connection with new work proves the computation of the original area to be beyond the limit of error allowed.
 - (b) When a definite alteration in the boundary of a lot is made on the ground and on the plan, the areas of all the lots affected will be amended even it is within allowed error.
- 8.15. District Senior Superintendent of Surveys must use their discretion in such amendments and consider each case on its merits. The continual amendment of records should be avoided. In the case mentioned in paragraph 8.14 (a), the matter must be reported to Head Officer at once.

[Agreements with Settlement Orders](#)

- 8.16. Demarcations in connection with the issue of Settlement Orders under the Land Settlement Ordinance have to be carried out in terms of agreements between the Settlement Officer and

claimants. These agreements are signed by both parties, and are binding on both. Once both parties have signed, no alteration in the wording can be made without re-opening the inquiry and obtaining the signatures of both parties to that alteration. The Attorney-General's ruling is very strict on this point. Consequently the Settlement Officer will not accept demarcations, which involve any alteration in the wording of the agreements.

- 8.17.** Example 1- A claimant and the Settlement Officer sign an agreement by which the claimant is to receive 2.0234 Ha (5acres) of lots 21 and 22. The Settlement Officer calls on this department to carry out the demarcation, which he states is to be declared private by Settlement Order under the Land Settlement Ordinance. The claimant is fully aware of the situation of the 2.0234 Ha (5acres) and the sketch clearly shows that it lies in both lots. If the 2.0234 Ha (5acres) is surveyed in lot 21 only, at the request of the claimant at the time of survey, it will not agree with the wording of the agreement and, either he demarcation will have to be altered, or the agreement altered by striking out the Word "lot 22". The latter course would mean the re-opening of the inquiry, involving the summoning of the claimant, and a special visit by the Settlement Officer; the amended agreement would have to be signed by both parties, a fresh report written by the Settlement Officer and, in some instances, passed by the Attorney-General before final approval. The time, labour and expense involved in this course would probably be considerably greater than the cost of amending the survey.
- 8.18.** Example II - Several claimants and the Settlement Officer sign an agreement by which the claimants jointly are to receive 491.3736Ha (1,214 acres 34 perches) more or less, out of lot 4. The Settlement Officer calls on this Department to carry out the demarcation, which he states is to be declared private by Settlement Order under the Land Settlement Ordinance. The demarcation sketch shows that the area is in lot 4 only; but the surveyor, in making the demarcation, straightens the common boundary of lots 4 and 5; thereby including small portions of lot 5, which has been declared State under the Land Settlement Ordinance, in the area now to be declared private.

The Settlement Officer cannot accept this as he is precluded from issuing a private order for any subdivisions of lot 5, which has already been declared State and legally he is strictly bound by the wordings of the agreement that the demarcation is to be cut out of lot 4.

- 8.19.** The cases cited clearly show that demarcations under the Land Settlement Ordinance or the Waste Land Ordinance must be strictly and literally carried out. The demarcations must lie precisely in the lots stated. No subsequent alteration in the boundaries or the inclusion of portions of other lots whether amicably arranged between a surveyor and the grantees or not, can be considered, any more than they would be considered in case of a Title Plan and State Grant which had been signed, sealed and delivered. An adjustment, which may seem very simple in the field may be impossible or very difficult from a legal point of view.
- 8.20.** The integrity of each Block Survey lot should be maintained and an allotment falling within two Block Survey lots should be separately lotted in each. V.P. lots can not be combined and balanced.
- 8.21.** If there is any great difficulty in carrying out the requirements of the Settlement Officer, the matter must be reported, and the demarcation must await further instructions. If it appears that the survey indicated cannot physically or equitably be made to fulfill the wording of the agreement, the Settlement Officer will take the necessary steps for re-opening the inquiry and making necessary amendments. He cannot agree to alterations prompted by second thoughts of claimants or the suggestions of surveyors.
- Discrepancies between the sketches and Settlement Officer's requisitions for demarcations should be reported to the District Senior Superintendent of Surveys, for reference to Head Office, if necessary.

Encroachments

- 8.22. Encroachments on lands settled under the Land Settlement Ordinance and on lands to be sold outside that Ordinance should always be reported to the Settlement Officer with full particulars of their approximate extents, age of cultivation, names of encroachers, etc., and instructions sought for their survey.

Encroachments in all other areas will be surveyed as laid down in paragraph 9.90 – 9.99.

Demarcating Reservation

- 8.23. In lands settled under the Land Settlement Ordinance or declared not claimed by the State, reservations will be surveyed and defined according to the extent available, and in no case at the expense of the extent to be settled or declared not claimed by the State. The Settlement Officer's approval should, however, be obtained before reservations not shown in his sketch are surveyed.
- 8.24. In lands to be sold outside the Land Settlement Ordinance, standard reservations for adjacent streams should always be demarcated. Where a balance area is not available for this purpose, the extent to be sold can be reduced without reference to the Settlement Officer but if there is a balance area available, the Settlement Officer should be asked in what position the land to be sold should be surveyed.
- 8.25. Where encroachments are surveyed, standard reservations for adjacent streams should be demarcated.

Plan work

- 8.26. Earlier Demarcation Surveys were plotted direct on the Block Survey sheets in the field and the plan were drawn on the same lines as laid down for the original Block Survey plans. For method of lotting, see paragraphs 12.43-12.46. But now, the separate A3 field sheets are taken up for this survey as well.
- 8.27. The Grama Niladhari's name must be given on the supplementary A3 size tenement list as in the original Block Survey Tenement Lists. Tenement form 242, which is used earlier, is not in use now.
- 8.28. Requisitions for Survey made during Demarcation Surveys will be drawn on A3 field sheets (not on old chain scale Block Survey sheets). Supplementary tenement lists will be made for them on A3 size tenement list.
- 8.29. If a portion of the original Block Survey work is found, during subsequent surveys to be in error, or a portion of the Block Survey sheet has become congested or spoiled, a detailed report will, at once, be sent to Head Office for instructions.
- 8.30. When a lot is found to be incorrect or incomplete the District Senior Superintendent of Surveys will immediately report the matter in detail to Head Office. He should give his opinion on the best method of rectifying the error, and should forward an explanatory tracing. The Settlement Officer will then be consulted and instructions for rectifying the error will be issued.

Plan Checking

- 8.31. A report should be sent with each completed survey.
- 8.32. Requisition of Settlement officer and other requisitions should be signed and send to SGO with supplementary TL and Surveyor General's Village Plan Copy.
- 8.33. In examining Demarcation Surveys, District Senior Superintendents of Surveys and Superintendents of Surveys and surveyors should ascertain whether: -
- (i) Settlement Officer's requirements have been carried out.
 - (ii) Computations have been correctly adjusted.
 - (iii) Supplementary tenement list is correctly written.
 - (iv) Reference has been made to old and new work.
 - (v) Amendments to tenement lists have been made.
 - (vi) Requisitions have been cancelled in registers and diagrams

Document Amendments

- 8.34. Original Block Survey boundaries, letters, or figures must not be erased from a plan. If they have to be amended, they should be neatly crossed out or clitched.

Any error in the Block Survey plan or field book should be referred to District Senior Superintendent of Surveys for instructions.

Amendments to tenement Lists requested by the Settlement Officer will only be carried out after verification in the field and amendment of the Field Books where necessary. The field verification should be done within 2 weeks of receipt of notification in the District S.O. Only visual inspection and location of lots are necessary for this purpose. No re-opening of boundaries is involved.

- 8.35. Where landmarks are inserted on a common village boundary in connection with new work, the landmarks must be shown on the Block Survey sheet, and tracings should be forwarded for the amendments of necessary copies of the Village Plans or Final Village Plans of the adjoining villages.

Preparing Bill of cost

- 8.36. When it is needed to calculate the cost for any special survey, bill of cost should be prepared according to the instructions given by circulars issued by the Surveyor general from time to time.
- 8.37. Senior Superintendent of Surveys should carefully check each item and the cost included according to the work load, cost for the special survey included in the form should be checked whether the actual bill was prepared by the surveyor.

Terms under Land Settlement Ordinance

- 8.38. Some terms used in Demarcation Requisitions are defined below: -

(a) Settled under the L.S.O.

A settlement of claim by agreement with a private party or parties under the provisions of paragraph 5 (4 (c) of the Land Settlement Ordinance, whereby a person or persons is or are declared entitled to an extent of land either on the payment of a sum of money or without any payment.

(b) Sold outside the L.S.O.

A sale outside the provisions of the Land Settlement Ordinance, of the rights of the State to a land which is at the disposal of the State.

(c) Declared not claimed by the State.

A declaration under paragraph 5 (4) (a) of the Land Settlement Ordinance, which disclaims State rights to a land. This does not vest title in any particular party.

(d) Ceased to be the subject of proceedings under the L.S.O.

A declaration under section 5 (7) of the Land Settlement Ordinance which excludes from the provisions of the Land Settlement Ordinance a land specified in a Land Settlement Notice.

Progress Report

- 8.39. These returns should be prepared as in [Annexure I](#). No diagrams need be maintained. Surveyors should send their returns to the Superintendents of Surveys by the 1st of the following month. The Superintendent of Surveys should send to Senior Superintendent of Surveys his return, in respect of the party, by the 5th of the month.

Senior Superintendent of Surveys should send to the Provincial Survey General Office a similar return, in respect of his district by the 10th of the month with copy to Senior Deputy Surveyor General (LIS).

Superintendent of Surveys should also maintain a register as in [Annexure II](#).

- 8.40. Certified copies of Plans, Supplementary Tenement Lists should be send to the Settlement Officer with a comprehensive report by the Senior Superintendent of Surveys. Copies of Requisitions for Survey, important correspondence and reports will be sending to Document Management & Professional Standard branch together with the Surveyor-General's copy of completed plans and TL.

Paragraph 8.39Annexure I

DEMARCATIION SURVEYS
Progress Return of Mr. Silva for 2007

Month	V.P. No.	Province	Number of allotments under settlement exclusive of balance areas, access, reservations and encroachments.					Remarks
			Total in s.o's Memo or Reqn.	Surveyed during month	Extent (acres)	Plan work completed during month	Lots still unsurveyed	
Jan. 2001	2996	N.W.P.	249	40	25	-	59	
	3025	"	86	-	-	28	-	
	2996	"	249	40	28	-	18	
Feb.	3025	"	86	-	-	30	-	
	2991	"	76	-	-	-	-	<i>Inspected on ground and reported encroachments and objections to s.o.</i>
March	2996	"	249	19	30	60	-	
	2991	"	76	-	-	-	-	<i>5 days sick leave.</i>

Note : This form will be used by Surveyors and Superintendent of Surveys. The Surveyor will enter his name and the year in the heading, and the month in the first column.

The Superintendents of Surveys will enter the party and month in the heading, and the Surveyors' names in the first column. Requisitions received for amendment should be entered in red in the schedule

[Paragraph 8.39](#)[Annexure II](#)**REGISTER OF DEMARCATIION REQUISITION**

Settlement Officer's No. and Date	Extent in Acres	B.S.V.P. No.	Korale	Received from District S.O.	Issued		Plans passed and sent District S.O. & S.G.O.	Remarks
					Date	To whom		

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER IX**DETAIL SURVEYS****INDEX**

D.S.R. Reference	Description	Page
	<u>Clearing Operations</u>	
9.1.	Avoiding damages to cultivation in clearing operations	1
9.2.	Clearing operations in state lands	1
9.3.	Survey of sacred buildings and ruins	1
9.4.	Avoid using archaeological ruins or stone piles as pickets	1
9.5.	Preparing of clearing sketch	1
9.6.	Avoiding unnecessary clearing	1
	<u>Service of Grama Niladhari</u>	
9.7.	Services and duties of Grama Niladharies	1
9.8.	Information regarding list of Grama Niladharies in various villages	1
9.9.	Pointing out boundaries and landmarks for defining them	1
9.10.	The Use of Grama Niladhari's notice form Survey 70	1
9.11.	When there are more than one survey mentioned in form Survey 70	2
9.12.	Notice to others who points out boundaries	2
9.13.	Survey notice to Divisional Secretaries and others	2
9.14.	Dealing with differences of revenue boundaries	2
	<u>Information obtained from Grama Niladharis and others</u>	
9.15.	Information obtain for correct tenementary information	2
9.16.	Non acceptance of incorrect information	2
9.17.	Description entries in field books	2
9.18.	Action with regard to important information	2
9.19.	Action with regard to Demarcation Surveys	2
	<u>Objections to Survey</u>	
9.20.	Notice for survey	3
9.21.	Procedure to be adopted when objections to survey	3
9.22.	Procedure to be adopted for Acquisition Surveys	3
9.23.	Preventing from any wrong acts or misconducts	3
	<u>Landmarking</u>	
9.24.	Landmarking	3
9.25.	Landmarking of new boundaries	3
9.26.	Landmarking of old boundaries	3
9.27.	Survey of landmarks by traversing	3
9.28.	Setting out boundaries, which are not clearly marked on the ground	3
9.29.	Distance between two landmarks	4
9.30.	Landmarking of boundaries between forest and chena or patana	4
9.31.	Intervisibility of the landmarks	4
9.32.	Boundaries that need not be landmarked	4
9.33.	Landmarking of paddy field and estate boundaries	4

D.S.R. Reference	Description	Page
9.34.	Landmarking of village and other revenue boundaries	4
9.35.	Straightening of boundaries before landmarking	4
9.36.	Burying landmarks securely	4
9.37.	Boundary marking on land where boundaries cannot be established	4
9.38.	Boundary marking across building	4
	<u>Detail Surveys</u>	
9.39.	Detail survey by total station	4
9.40.	Accuracy of detail survey	4
9.41.	Survey shots to undefined features	5
9.42.	Accuracy of offset	5
9.43.	Measuring of offsets by theodolite	5
9.44.	Detail surveying of boundaries	5
9.45.	Offsetting boundaries of streams	5
9.46.	Survey of roads and paths	5
9.47.	Survey of roads and paths where no permanent boundaries exist	5
9.48.	Survey of ridges and bunds	5
9.49.	Survey of streams and rivers	5
9.50.	Survey of isolated streams	5
9.51.	Survey of railways	5
9.52.	Further instruction for offsetting	5
	<u>Buildings</u>	
9.53.	Survey of buildings in Surveying	5
	<u>Fixation of old boundaries</u>	
9.54.	Fixations of old boundaries	6
9.55.	Fixations of old plans	6
9.56.	Fixation when old field books and old-field sheets not available	6
9.57.	Preparation of tracings for fixations	6
9.58.	Method for fixation when extensive re-plotting is involved	6
9.59.	Accuracy of Title plan fixations	6
9.60.	Things to be considered when selecting data for fixation	6
9.61.	Preparation of fixation tracings	6
9.62.	Safety lot	7
9.63.	Authority for safety lots	7
9.64.	Drawing of safety line	7
9.65.	Lotting inside the safety lot	7
9.66.	Instructions when fixations are impossible	7
9.67.	Classification of fixations	7
9.68.	Accuracy of all fixations	7
9.69.	Demarcation of fixation boundaries	7
9.70.	Fixation position and permanent boundary of Title plan or Diagram boundaries	7
9.71.	Survey of cultivation exists within roads	7
9.72.	New survey of stream within or in the boundary of a Title plan or Diagram	7
9.73.	Dealing with old stream boundaries	7

D.S.R. Reference	Description	Page
9.74.	Deviation of old road and new road, which run along the boundary or through a title plan or Diagram	8
9.75.	Lotting of definite portion of roads covered by Title plan or diagram	8
9.76.	Boundaries of roads shown on “Road Contracts Plans”	8
9.77.	Reference to “Road Contract Plan”	8
9.78.	Connecting new survey to road contract survey pickets	8
9.79.	Action to be taken on errors detected in “Road Contract Plan”.	8
9.80.	Actions on boundaries of original railway Acquisition plans	8
	<u>Demarcation of old Boundaries on ground</u>	
9.81.	Setting out of old boundaries	8
9.82.	Surveying of landmarks buried	8
9.83.	Methods to be adopted in slope lines	8
9.84.	Difference in scaled boundary and visible boundary	8
9.85.	Resurvey of lines affected by replacing a picket by a landmark	8
9.86.	Replacing missing and broken landmarks	8
9.87.	Verifying old landmarks on the ground	8
	<u>Demarcation of New Boundaries on ground</u>	
9.88.	Demarcation of new boundaries	9
9.89.	Demarcation of boundaries clearly in new surveys	9
	<u>Encroachment</u>	
9.90.	Survey of encroachments	9
9.91.	Dealing with encroachments	9
9.92.	Dealing of small encroachments	9
9.93.	Dealing of small encroachments in valuable land	9
9.94.	Dealing of encroachments within old reservation along Roads and paths.	9
9.95.	Dealing of encroachments within stream reservation	9
9.96.	Dealing of encroachments close to any survey	9
9.97.	Action on encroachment boundaries	9
9.98.	Action on moved landmarked	9
9.99.	Action on cultivations in encroachments	9
9.100.	Instruction for encroachments in demarcation survey	9
	Annexures	
<u>Annexure I</u>	Format of a Letter to be sent to others to point out the boundaries	10
<u>Annexure II</u>	New survey of stream within or in the boundary of a Title plan or Diagram	11
<u>Annexure III</u>	Lotting definite portion of roads covered by Title plan or diagram	12

CHAPTER IX**DETAIL SURVEYS****Clearing Operations**

- 9.1. Surveyors must ensure that damage is not done to cultivation when survey lines are cleared by Survey Field Assistants, when prior permission has not been obtained from the owners. The nature of damage caused, together with an assessment of its value should be immediately reported to District Senior Superintendent of Surveys through Superintendent of Surveys.
- 9.2. When clearing operations inside State lands are likely to involve the felling of valuable timber, the Divisional Forest Officer and the Beat Forest Officer should be immediately informed.
- 9.3. Surveyors should exercise the greatest care in carrying out surveys of sacred buildings and ruins, and should see that no marks are shown on such buildings and landmarks buried within the precincts of the buildings and ruins. In every instance the consent of the authorities must be obtained prior to the survey.
- 9.4. Stones, bricks and stone piles which form part of archaeological ruins, should not be used as pickets.
- 9.5. On completion of each day's clearing the chief survey field assistant should submit a rough sketch showing situation of old marks found and area of clearing done. The surveyor will then be able to ascertain before survey, the position of the new survey in relation to the old surveys, and decide whether connections are sufficient, and whether land has been divided in accordance with the requirements.
- 9.6. In subdividing a land care must be taken to maintain the existing boundaries. Hence unnecessary clearing and the discrepancies between the cleared survey lines and boundaries could be avoided.

Service of Grama Niladhari

- 9.7. Service of the Grama Niladhari or an authorized representative must be obtained to point out boundaries, and to get the names of lands and claimants and any other information that may be required during clearing and surveying.
- 9.8. The Divisional Secretary should include name and other contact information of the relevant Grama Niladhari of village or authorized representative in the survey requisition.
- 9.9. Boundaries and the landmarks defining them must be pointed out to claimants and to the Grama Niladhari. If the landmarks are on a village boundary they should be pointed out to the Grama Niladhari of both the villages affected.

If it is found necessary, to remove any landmarks later thus pointed out, a remark to this effect must be made on the Grama Niladhari's Notice Form and it must be initialed by the Grama Niladhari.
- 9.10. The Grama Niladhari should be given notice on form Survey 70. After the survey, the certificate and the information at the foot of the form must be perfected before the signature of

the Grama Niladhari is obtained. The Grama Niladhari Division number should appear against his signature. The completed form should be attached to the report of survey.

- 9.11. If a Grama Niladhari's Notice Form refers to more than one survey (eg. in several F.V.P.), the photocopies of relevant Grama Niladhari's Notice Form should be used. The relevant requisition number must be entered in the form in red and attached to the requisition file. The original form will be attached to one survey requisition, and photocopies of some will be attached to the others, with reference to the original requisition number.
- 9.12. Any person, other than the Grama Niladhari of the village, who has been named to point out boundaries, would also be noticed to be present during clearing and the survey (See [Annexure I](#)). In the event of his absence it should be reported with reasons.
- 9.13. Form Survey 70 should not be used for notice to Divisional Secretaries and other persons.
- 9.14. The information obtained from the Grama Niladhari about the location of a revenue boundary may differ from what is shown in previous surveys. In such cases careful inquiry must be held in the site with the Divisional Secretaries and Grama Niladharies. Certificates with regard to the correctness of the boundary adopted, should be attached with the completed plans. It is essential that the Grama Niladharies of both divisions, and, in the case of a province boundary, both the District Secretaries, should be consulted. The final decision should be sent to Secretary to the Ministry of Home Affairs through Surveyor General.

Information obtained from Grama Niladharies and others

- 9.15. In deciding the correct tenementary information to be entered in the field book, surveyors should, if necessary, consult villagers as well as the Grama Niladhari. The details entered must be the surveyor's own final decisions resulting from these inquiries and inspections on the site. See also [paragraph 12.86-12.89](#).
- 9.16. In connection with subsequent inquiries from Court or from the Settlement Officer or from Divisional Secretaries regarding tenement information, the surveyor must be in a position to state that the details given by him constitute his own definite opinion based on inquiry and inspection in the site and are not merely the opinion of the Grama Niladhari or others which might be rejected in a Court of Law as "hearsay evidence". Surveyors must take care not to accept incorrect information, which may be given by interested parties.
- 9.17. The details of the information entered in the field book must truly represent the actual situation on the ground on the date the entry is made. Where necessary, descriptions should be qualified by the use of such terms as "clearing for", "abandoned", "cultivated with"". Ambiguous terms such as "said to be" or "appears to be" " should be avoided as descriptions.
- 9.18. If there is any serious doubt regarding important informations, the surveyor should report the matter to Superintendent of Surveys, before making an entry in his field book. Superintendent of Surveys will, if necessary, refer the matter to District Senior Superintendent of Surveys for reference to the Settlement Officer or the District Secretary.
- 9.19. Cases will occur in demarcation and other surveys, where the original description of a lot or boundary must be retained. Alteration in such cases should not be made without special instructions.

Objections to Survey

- 9.20. The written notice should be given as per section 16 of Land Survey Act 17 of 2002 at least 3 days before entering upon the land and this notice should be written in the form shown in **Annexure I**. If there is an objection for survey or is likely to be raised by owners of private lands, to a surveyor entering such lands for the purpose of carrying out a survey, or other official duty, action should be taken as per section 16 of Land Survey Act 17 of 2002 and matters should be explained to the relevant persons and effort should be taken to carry out particular survey. If further objection is prevailed, action should be taken as per paragraph 9.21
- 9.21. When a survey is obstructed, the surveyor shall report same to the District Senior Superintendent of Surveys through Superintendent of Surveys, together with a statement from the Grama Niladhari, officer deputed to point out boundaries and two of his Survey Field Assistant to the effect that the objectors did cause obstruction to the surveyor when attempting to carry out his official duties. On receipt of this, the District Senior Superintendent of Surveys will write to the District Secretary/ Divisional Secretary, forwarding a copy of the surveyor's report and inquire from him whether the obstruction is to be cleared by the process of law, and if so, whether he can provide the surveyor with Police protection when another attempt to survey is made. If the District Secretary/ Divisional Secretary do not object and is ready to provide police protection, the District Senior Superintendent of Surveys will apply to the Surveyor-General for a letter of authority for the surveyor to enter the land in terms of section 16 of Land Survey Act 17 of 2002. On receipt of this letter from Surveyor-General, the District Senior Superintendent of Surveys through the Superintendent of Surveys will instruct the surveyor to make a fresh attempt to survey the land with Police protection. If, however, the surveyor meets with further obstruction, the Police will be requested to investigate the case with a view to Criminal Prosecution.
- 9.22. The procedure is same as above for the Acquisition Surveys, except that at least 7 days written notice must be given, on the form shown in Annexure II of Chapter VI (Form 1 and 2).
- 9.23. The attention of surveyors is drawn to section 17 of Land Survey Act 17 of 2002 in order to prevent from committing any wrong act or misconduct.

Landmarking

- 9.24. It must be understood that the object of landmarking is to indicate clearly to all concerned the position of a boundary, which is not otherwise evident on the ground, and insufficient demarcation may result the expense of another survey.
- 9.25. Landmarking of new boundaries should, as a rule, be done before survey.
- 9.26. Re-establishment of Landmarks in old landmarked boundaries should be done in the presence of the surveyor.
- 9.27. Landmarks, which are over 10 m from a chain line, measured at right angle, should be traversed over. When Total station is used for surveying maximum distance from instrument to Landmark is 100 meters.
- 9.28. Boundaries, which are not clearly marked on the ground by permanent features must be set out and cleared from landmark to landmark.

- 9.29. Landmarks should not be more than 100 m apart and must be inter visible. Surveyor must use his discretion in establishing land marks. For example, it is obvious that valuable land in a town should be more closely landmarked than a block of chena in a village in the jungle. The limit of 100 m should not be exceeded without the sanction of the District Senior Superintendent of Surveys who will take into consideration whether the landmarks are intervisible, the land is undulating or flat and if the boundary is through uncultivated land.
- 9.30. The boundaries between forest or chena, or patana, should not be landmarked unless specially requested by the specification.
- 9.31. In order to follow the continuity of a boundary on the ground, consecutive landmarks should be inter visible.
- 9.32. Boundaries formed by permanent, natural, or artificial, features need not be landmarked.
- 9.33. Where the boundaries of paddy fields and estates are permanent, however few landmarks would be buried at intervals to prevent or detect future encroachments.
- 9.34. Village and other revenue boundaries passing through private land should be defined for administrative purposes at every 400 m and at the prominent bends.
- 9.35. Indefinite boundaries of claimed or cultivated lots adjoining State lands should be straightened before landmarking, but care must be taken not to exclude any portions of claims or cultivation. Boundary should be maintained as far as possible as straight line on the ground and any bend should be landmarked, if not balancing of extent will be difficult in the case of subdivision in the future surveys.
- 9.36. Landmarks must be permanently and securely buried. Where it is not possible to bury a landmark securely in the desired spot owing to the presence of an obstacle, it should be buried on the boundary as close as possible to the spot.
- 9.37. Where the nature of the ground is such that it is not possible to use landmarks or rock landmarks, stone piles or wooden stakes should be used. See paragraph 4 of the extract from the Crown landmarks ordinance, Chapter 456 of Legislative Enactments, 1956 Revision. Superintendent of Surveys should draw personal attention to, that the use of piles and stakes is reduced to a minimum. They will be surveyed and shown in the Field Books in ink but will be described on the plans as 'SP' for Stone Pile and 'St' for stake.
- 9.38. Where it is found impossible to bury landmarks in or near houses or buildings owing to the existence of masonry walls, concrete floors, etc. 15 cm flat or wedge-shaped [iron nails](#) should be drilled into the floor or wall. They should be surrounded with 11 cm square in indelible ink, with a broad arrow head pointing to the nail.

[Detail Surveys](#)

- 9.39. When the theodolite and the chain are used for surveys, offsets to all details should be measured with the tape. When total station is used for surveys, all details should be measured with the help of a pole with EDM reflector.
- 9.40. The degree of accuracy required in measurements depends upon the requirements of the survey, nature of the objects measured and the scale of the plan.

- 9.41. Taking offset or detail survey shots to undefined features must be carefully taken. Under normal condition in total station observation distance to the permanent boundary should not be more than 100m. Discretion should be used when taking measurement to undefined boundaries such as edges of streams. However, in detail survey using total station the boundaries of water features or natural boundaries shall be observed up to 200m.
- 9.42. Offsetting should be done at least second decimal place of a meter i.e. to centimeter.
- 9.43. Offset less than 10m may be taken in using theodolite and chain without total station when high accuracy is no need. However, it is advisable to maintain more accuracy for offset distances if the land value is high. Superintendent of Surveys should instruct the surveyor in this regard. A bearing and distance should be taken for offsets over 10 m from the chain line. In addition, a rectangular offset should be taken as a check on the bearing and the distance
- 9.44. (a) The boundaries to which offsets/shots are measured should be those that actually exist at the time of survey.
- (b) When more than one of the features, such as drain, trench, mound, bank and fence separate two claims, it is the duty of the surveyor to ascertain which one of the features from the actual boundary between the claims and adopt it. Such information should be obtained from the person nominated to point out boundaries and if he is in doubt, consent should be taken from the land owners themselves.
- 9.45. The boundary of a stream is the top of the bank. The water edge should not be surveyed. The bed width should be entered in the field book.
- 9.46. In offsetting or taking detail shots for a road or path, the boundary belong to the actual road should be taken and not the edge of the metalling or the grass, unless this should be necessary in connection with fixations of old boundaries, or is pointed out as the claimed boundary.
- 9.47. Where no boundary for a road or path exists, the full reservation in accordance with [paragraph 10.16](#). should be set out and surveyed. In addition, culverts and bridges should be surveyed, plotted to scale where possible and shown on plan using conventional signs.
- 9.48. The top of a ridge and the toe of a bund or embankment will be taken as the boundaries.
- 9.49. Both sides of rivers, streams and roads, must be surveyed. In small surveys if the stream is very broad (or very large) or is too deep for crossing the opposite bank may be offsetted or shots taken in here and there and shown in broken lines.
- 9.50. The surveys of isolated streams in large blocks of forest may, with the permission of the District Senior Superintendent of Surveys, be closed by traversing back along the old pickets.
- 9.51. The boundaries of railways, main and minor roads, should be surveyed with sufficient accuracy to allow the survey to be plotted on a scale of 1:2,000.
- 9.52. For further instructions for offsetting, see Chapter IV of Technical Instructions.

Buildings

- 9.53. All buildings should be surveyed and shown on the plan as normally done. The District Superintendent of Surveys can use their discretion in such cases and their decision being

dependent upon the purpose for which the survey is made. In cases of doubt, the officer who issues the requisition should be consulted. It is essential that all buildings should be surveyed in Acquisition Surveys.

Fixation of old boundaries

- 9.54. "Fixation" is the term used for laying down the boundaries of old plans, such as TPs, Diagram Plans, Diagrams, PPs and revenue boundaries, on the new plans.
- 9.55. In the survey of land adjoining these plans, where it is necessary to adhere to the boundaries shown on the old plans, the best possible fixation of the old plans must be made.
- 9.56. Old plan copies can be obtained by District Senior Superintendent of Surveys through Document Management System (DMS) and in special cases where if any plan or field sheet is not available in DMS, those documents can be obtained from Document Management & Professional Standard branch at Surveyor General Office.
- 9.57. The best method of fixation is to re-plot the work if old pickets are still available after making connections to the new work. If the new plan is on the same scale as the old plan the survey work must be compared with the old plan, using a tracing taken from the old plan. If the scales are different, either an enlargement or reduction tracing should be made from the old plan and compared with the new plan.

In the case of scanned images fixation tracing should be prepared according to paragraph 22.44 by considering scale of the original plan and the correction for geometrical distortions.

- 9.58. Where this method involves extensive re-plotting the Superintendent of Surveys should give instructions on one of the 2 following methods to be adopted.
- (a) In the case of a landmarked survey, a few landmarks should be surveyed on opposite sides of the survey, wherever possible, and plotted on the new plan. The old boundary will be fixed with an accurate tracing from the old plan using these landmarks.
- (b) If old pickets are not available and the survey is an unlandmarked one, features and boundaries on the old plan which are still available on ground should be surveyed, plotted on the new plan, and the best possible fixation using an accurate tracing prepared from the old plan should then be given. The detail surveyed for 'fixing' old work is known as 'fixation data.'
- 9.59. The degree of accuracy with which a TP etc., can be fixed is dependent upon the amount of fixation data on the old plan, which can be surveyed and shown on the new plan. It is therefore essential that as much data as possible should be picked up, and that the most suitable and reliable data are adopted for fixation.
- 9.60. Consideration is necessary in selecting of data to be adopted. It is more reliable when the data found are closer to the boundary to be fixed. For example, if in a large T.P. it is required to fix the boundary of a reservation for a stream; which is the nearest feature available, is more suitable than trees or other objects on the opposite boundary of the T.P., some distance away. Similarly a bank or wall which is permanent is more reliable than a wire fence that is movable.
- 9.61. Tracing from old sheets, necessary for fixation should be prepared shortly before the fixation.

- 9.62. If a fixation is very doubtful ("R" fixation) the "safety lot" principle may be adopted. The object of the "safety lot" is to ensure that the adopted boundary includes all lands that could be made to fall within the private lot, by any reasonable fixation.
- 9.63. "Safety lots" should only be used when it is authorized by the District Senior Superintendent of Surveys.
- 9.64. After the old boundary has been fixed as correctly as possible by the District Senior Superintendent of Surveys safety line beyond which in his opinion the private land cannot extend, will be drawn on the plan. After any necessary straightening, this line should be defined. The strip of land between this line and the fixed boundary will be lotted as a "safety lot," and described as "Unclaimed by the State."
- 9.65. Different claims of lands and cultivations fall inside a safety lot will not be lotted.
- 9.66. If the District Senior Superintendent of Surveys finds it impossible to give a fixation for an old boundary, he could refer the matter to Document Management and Professional Standards branch for instructions.
- 9.67. [Fixation will be classified](#) as follows: -
- | | |
|--------------------------------|--|
| Precise or "P" fixation | - a rigid fixation about which there can be no doubt; |
| Questionable or "Q" fixation | - a fixation which may cause some difficulty, yet it is satisfactorily settled on the discretion of the Superintendent of Surveys; |
| Rough or "R" doubtful fixation | -fixation, which is doubtful where enough data are not available for fixations. |
- 9.68. Superintendent of Surveys are responsible for the accuracy of all fixation, which must be checked and classified by him and the decision of the District Senior Superintendent of Surveys must be final and authoritative.
- 9.69. The fixed position of old boundaries, which have already been adopted in connection with landmarked surveys, should not be altered, unless there is reason to believe that the previous fixation was incorrect. Any fresh boundary demarcation should be done without any disadvantage to the private owner.
Such changes should be made with the written permission of the District Senior Superintended of Surveys.
- 9.70. Where there are very slight differences between the fixation position of the Title Plan or Diagrams boundary and a permanent claimed boundary, the permanent boundary should be adopted. This method avoids the formation of very small lots.
- 9.71. If cultivation exists within a reservation of road or path or bund, it should be surveyed and lotted separately.
- 9.72. If the new survey of a stream, within or on the boundary of the Title Plans or Diagrams, reveals that large natural differences have occurred since the original survey, the new survey of the stream should be adopted. See illustration [Annexure II](#).
- 9.73. If large artificial deviations of a stream are revealed and encroachments are suspected old course of the stream should be laid down, and lotted separately.

- 9.74. If a road runs along the boundary of or through the Title Plans or Diagrams, appreciable deviation from the old road must be shown and lotted separately from the new road.
- 9.75. Where definite portions of roads, paths, streams, etc., are covered by the Title Plans or Diagrams, such portions should be separately lotted and described in the tenement list "Part of T.P. or Diagram", see illustration [Annexure III](#).
- 9.76. The boundaries of roads shown on "Road Contracts Plans" cannot be regarded as authentic, and they should not be transferred on to new surveys.
- 9.77. When new work adjoins these roads, a reference should be made on the "Road Contract Plan" to the sheet showing the new survey. The new survey should not be transferred on to the "Road Contract Plan," the reference to the new sheet is all that is necessary.
- 9.78. New surveys should be connected to the road contract survey pickets wherever possible.
- 9.79. Any serious errors detected in "Road Contract Plans" should be investigated and reported to Document Management and Professional Standards branch at S.G.O.
- 9.80. Boundaries of original Railway Acquisition Plans should be laid down and defined. If the demarcation is found to be incorrect with the position of the iron rails set up by the Railway Department a representative of the Railway Department to be informed to present during the rectification of the boundaries, through the District Senior Superintendent of Surveys.

Demarcation of old Boundaries on ground

- 9.81. [Demarcation of a boundary](#) shown on a plan of recent survey has to be done using the scaled distances from the plan.
The scaled measurements should be entered in the field book in pencil.
Such setting out should be done, by burying the landmarks in the presence of the surveyor.
- 9.82. The landmarks will thus buried be offsetted and booked in red ink in the field book. The offsets conventional signs and boundaries will be shown in red to indicate that it is a demarcation after compilation. Survey lines, distances and bearings will be booked in black or blue if they are re-surveyed.
- 9.83. For method to be adopted on slope lines, see Technical Instructions Chapter IV.
- 9.84. If a landmark which has been set out from scaled measurements, does not fall on the obvious and visible boundary which is intended to define, due to inaccuracies in compiling very small distances from a plan exactly, it should be buried on the correct boundary and offsetted.
- 9.85. When a landmark is buried in place of a picket, it must be made a point of departure and the lines affected should be re-surveyed, shown on a fresh page and cross-referenced.
- 9.86. When Title Plans, Diagrams, settled Preliminary Plans, & etc., have been previously landmarked, the old landmarks adjoining, state lands should be resurveyed. Any old landmarks that are missing or broken should be replaced, and a note to this effect should be made in the old field book and on the old field sheet.
- 9.87. Where there are a large number of old landmarks, a few of them may be surveyed and the rest can be plotted from the old-field book. All landmarks must, however be verified whether they do appear on the ground.

Demarcation of New Boundaries on ground

- 9.88. When new boundaries or reservations, areas to be blocked out, etc., are defined, the same procedure as described in paragraphs 9.84 - 9.87 will be followed except that black or blue ink will be used for recording the offsets and the boundaries.
- 9.89. When a land is surveyed for State purposes, the boundaries must be clearly defined, considering the requirements of the state for the adjoining lands.

Encroachments

- 9.90. All encroachments should be fully landmarked and defined.
- 9.91. Due actions should be taken according to the decisions of the officers from Land Commissioner General's Department/Divisional Secretary in dealing with these encroachments. It must be impressed on encroachers that encroaching lands is a punishable offence.
- 9.92. When small encroachments are found outside the landmarked boundaries, the surveyor should request the encroachers to put back their boundaries. If they agree no further action is necessary, and the encroachments need not be shown on the plan. If the encroachers refuse to put back their boundaries, the encroachments should be fully landmarked, lotted and a report forwarded with the completed plans.
- 9.93. Encroachments in places where land is more valuable, i.e. in towns, bazaars, etc., must be separately lotted and if necessary, they should be drawn as separate insets on a larger scale.
- 9.94. All encroachments within old reservations along roads and paths will be treated as State and landmarks should be buried at the terminals.
- 9.95. Encroachments within landmarked stream reservations and those made on or after 12.07.1995 should be lotted for lease or ejection and landmarks buried as above. Encroachments made prior to 12.07.1995 within unlandmarked reservations should be defined fully for alternative action by the Divisional Secretary.
- 9.96. If numerous encroachments are found in the vicinity of a Requisition for Survey that is being surveyed, the matter should be reported to the Superintendent of Surveys. The survey of such encroachments should not be undertaken if it is obstructed during the survey. In this case the details should be reported with a tracing.
- 9.97. The boundaries of encroachments should be made as straight as possible.
- 9.98. If it is found that old landmarks have been deliberately moved from the correct boundary and placed on the boundary of an encroachment, they should be surveyed and shown on plan. The boundaries of the encroachments should be fully landmarked, and a report on the matter should be sent along with the completed plans.
- 9.99. Where there are cultivations of distinctly different ages in an encroachment, especially when the extent is large, the cultivations of different ages should be lotted separately.
- 9.100. For special instructions for the survey of encroachments during Demarcation Surveys, see paragraph 8.22.

Paragraph 9.12

Annexure I

My No:

Divisional Survey Office

.....

.....

On

Mr./Mrs./Miss.

Dear Sir/Madam,

Notification for pointing out boundaries/providing information of the land/s to be surveyed under Divisional Secretary(.....)'s Requisition for Survey No.of - (Surveyor General's reference No.....)

With reference to the requisition for survey number issued by the Divisional Secretary (.....) for surveying land(s) called and situated in the village of for(purpose of survey).....

Kindly inform you that you have been nominated by the Divisional Secretary (.....) to provide with required information pertaining to the land and point out boundaries of the above described land.

I, with my field crew, am scheduled to carry out the said survey on and thus, you are hereby informed to be present at the land atam/pm on

Please acknowledge the receipt of this notification by placing your signature and name in the duplicate copy.

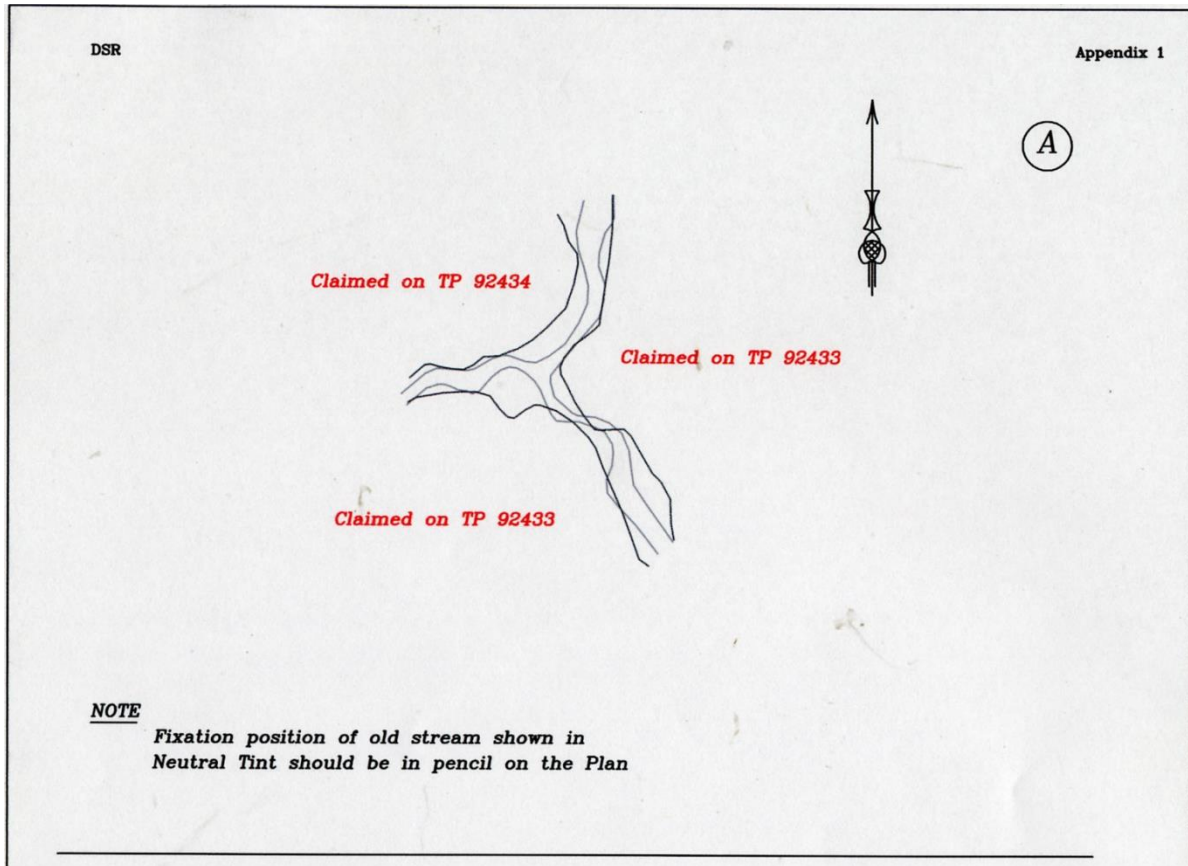
..... (Signature).....

..... (Name).....

Govt. Surveyor

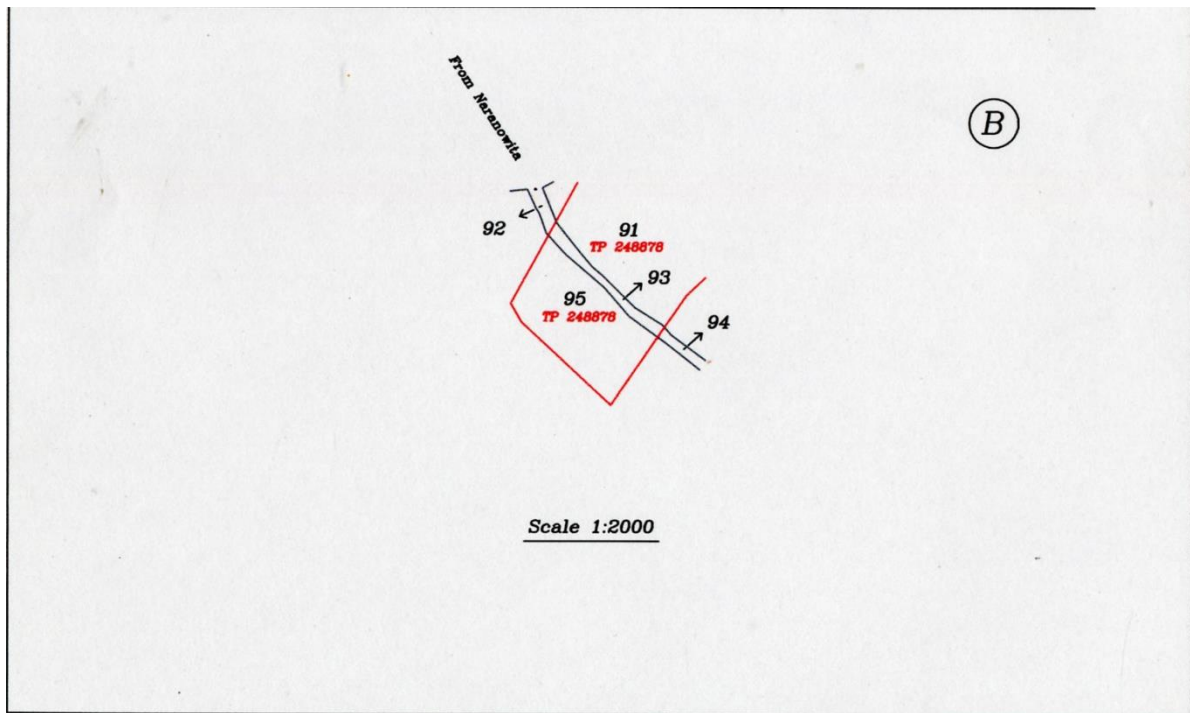
Paragraph 9.72

Annexure II



Paragraph 9.75

Annexure III



CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER X
RESERVATIONS
INDEX

D.S.R. Reference	Description	Page
	<u>Definition of Reservations</u>	
10.1.	Legal definition of reservations	1
	<u>Reservations of Streams and Channels</u>	
10.2.	Reservations of natural stream	1
10.3.	Reservations of Constructed canals and channels	2
10.4.	Reservations in major Irrigation Schemes	2
	<u>Reservation of Lands belong to various Department</u>	
10.5.	Department of Wildlife Conservation	2
10.6.	Forest Conservation Department	2
10.7.	Coast Conservation Department (CCD)	3
10.8.	Archaeological Department	3
10.9.	Ceylon Electricity Board (CEB)	3
10.10.	Sri Lanka Telecom, National Water Supply and Drainage Board	3
	<u>Reservations for Roads and Paths</u>	
10.11.	Reservation for graded roads	4
10.12.	Ordinance of Main Roads	4
10.13.	Avoid blind corners at the sharp junctions	4
10.14.	Dealing according to Regulation 32 of UDA Law	4
10.15.	Reservations for footpaths	4
10.16.	Reservations in Colonization Schemes	4
10.17.	Width of access in village expansion	4
10.18.	Treatment of final orders or state lots falling within roads.	4
10.19.	Survey of construction within reservation along roads	4
10.20.	Showing access to land and reservation on the plans	4
	<u>Reservations for Tanks</u>	
10.21.	Reservations for various tanks	5
10.22.	Landmarking of the boundary of bunds	5
10.23.	Determining high watermark	5
10.24.	Setting out of higher watermark	5
10.25.	Reservations along tank bunds	5
	<u>Reservations for Railway Lines</u>	
10.26.	Reservations for Railway Lines	5
10.27.	Survey of Railway reservations	5
	<u>Paddy Fields adjoining steep land</u>	
10.28.	Reservations to paddy fields adjoining steep lands	6
	<u>Ambalams, Wells, Springs</u>	
10.29.	Reservations for Ambalams, Wells, Springs	6

D.S.R. Reference	Description	Page
	<u>Reservation for Cemeteries, Communal or Sanitary purposes (Tis-Bamba)</u>	
10.30.	Reservation for cemeteries, communal or sanitary purposes	6
	<u>Reservations for Means of Access</u>	
10.31.	Survey of means of access	6
10.32.	Reserves access to isolated state lands	6
10.33.	Reserves access to adjoining private lands	6
	<u>Geodetic Control Stations</u>	
10.34.	Reservations for all kinds of Geodetic Control stations	7
	<u>Surveys carried out within Urban Development Authority areas</u>	
10.35.	Survey of lands belong to UDA	7
10.36.	The least extent of land in development areas vide the regulation No. 22(1) of the UDA Act No. 41 of 1978	7
10.37.	Surveys under regulation No 17(1) of UDA Act No. 41 of 1978	7
	<u>Surveys within Mahaweli areas</u>	
10.38.	Surveys within Mahaweli areas	7
	<u>Other important facts</u>	
10.39.	General procedure for reservations	7
10.40.	Reserved land over 1500 m altitude	7
10.41.	Marking positions of 1500 m climate contour	7
10.42.	Reservations to preserve lands	8
10.43.	Action to preserve lands for reservations	8
10.44.	Action regarding lands of springs	8
10.45.	Blocking out of land adjoining to main roads	8
10.46.	Procedure to Blocking out of land adjoining to main roads	8
10.47.	Reservations for streams in Western Province	8
	<u>Annexures</u>	
<u>Annexure I</u>	Rough sketch showing divided parts and widths for Reservations and Restricted areas	9

CHAPTER X

RESERVATIONS

Definition of Reservations

- 10.1.** Legal definitions of reservations are covered by Section 49,50,55,101, 102 and 103 of the State Lands Ordinance No 8 of 1947 and Orders No.11, 22 published with relevant to above sections under the gazette notification No. 9912 of 15th October 1948. This has been further described at sections 227 to 230 of Land Manual on State Land. In addition to that, Thoroughfare Ordinance No. 10 of 1861 on Roads and Pathways, Ordinance No. 16 of 1907 on Forest conservation, Fauna and Flora Protection Ordinance No. 02 of 1937 on animal and tree conservation, Ordinance No. 24 of 1940 on Archeology sites and monuments conservation, Act No. 12 of 1962 on Cemetery and Burial Ground, Sri Lanka Land Reclamation and Development Corporation Act No. 15 of 1968 as amended by Sri Lanka Land Reclamation and Development Corporation (Amendment) Act No. 52 of 1982 and Law No.27 of 1976, Law No. 41 of 1978 on Urban Development Authority, Act No. 02 of 1985 on Coast Conservation and Act No. 35 of 2006 on Sri Lanka Land Reclamation and Development Corporation (Amendment) also indicate reservations relevant to activities under above Laws.

Reservations should not be defined through private land or old cultivations or land surveyed for acquisition, unless there are special instructions to do so.

Reservations should be defined according to following regulations through state lands when surveying done for any kind of alienation of state land. All the other demarcation of reservations should be done in accordance with the regulations enforced by the Local Authorities.

Reservation for Streams and Channels

- 10.2.** (a) Natural Streams should have the following reservations:-

<u>Bed width</u>	...	<u>Reservation from the bank</u>
Less than 3 m	...	5 m on both sides
3m to 8 m	...	10 m on both sides
8m to 15 m	...	20 m on both sides
15m to 22 m	...	40 m on both sides

Dry streams that carry water only in rainy season should carry the minimum reservation specified above. More details are mentioned in section 228 of Land Manual relevant to the regulations for State Land Ordinance No. 8 of 1947.

- (b) Rectangular reservations should be reserved for Sources of streams.

- (c) Reserve 60 m on both sides of the main rivers of bed width is more than 15m, as reservation area.

10.3. Constructed Canals and Channels should have the following reservations.

<u>Bed width</u>		<u>From the outside edge of Cutting or Toe of bank</u>
3 m and over	...	Not less than 15m on each side
1.5 m – 3 m	...	Not less than 8m on each side
Under 1.5 m	...	Not less than 3m on each side

Wan Elas and Pita Elas in which water run in waste and do not irrigate any field no reservations are required.

10.4. In major Irrigation Schemes reservations shown on blocking out diagrams prepared by the Irrigation Department/ Mahaweli Authority will be surveyed.

Reservations for Lands belong to various Department

Department of Wildlife Conservation

10.5. The Department of Wildlife Conservation has declared the following areas as National Reserves under the Fauna & Flora Protection Ordinance No. 2 of 1937.

- i) Strict Natural Reserves
- ii) National Park
- iii) Natural Reserve
- iv) Jungle Corridor
- v) Marine National Park
- vi) Marine Reserve

Development activities are either prohibited or restricted within 1.6 km of the boundary of these reserves. All reserves are state land.

Sanctuaries declared belong to either state or private. If the survey work falls closer to them contact relevant institution and get the instructions.

Forest Conservation Department

10.6 Forest Department is administered two enactments as follows.

- a) Four areas are covered by the Forest Ordinance No. 16 of 1907.
 - i) Conservation Forests
 - ii) Forest reserves
 - iii) Village Forests
 - iv) Other State Forests

b) National Heritage Wilderness Areas Act, No. 03 of 1988

Coast Conservation Department (CCD)

10.7 The Coast Conservation Department has published buffer zones applicable to the coastal areas of the country.

Entire coastal area around the island has been divided into 105 parts with different lengths. Length (total reserved distance) of every part is published. Each part has again divided into two sub areas. The area adjoining to the Coast is known as “Reserved Area” whereas the area further to the coast is known as “Restricted Area”. A rough sketch showing divided parts and widths for Reservations and Restricted areas of each part is given in [Annexure I](#)

If the survey work falls within or nearby the reservation or restricted area, it is required to contact the CCD for its concern and any additional rulings set for development activities.

Archaeological Department

- 10.8.** The Archaeological Department has declared several sites as archaeological reserves and protected monuments.

According to the archaeological conservation act No: of 1940, section 24:

370m (about 400 yards) are to be kept from the archaeological monument as a buffer zone. All development activities such as constructions, mining, and quarrying within these buffer areas are completely restricted.

(All Archaeological reserves and protected monuments have been listed in the 24th section of the Act. Obtain more details from the Archaeological Department.)

Ceylon Electricity Board (C.E.B.)

- 10.9.** Reservation for high tension power lines:-

The Ceylon Electricity Board has imposed certain height restrictions for any structure coming within a specified strip of land underneath the main grid lines.

For 33,000KV to 11,000 KV	- 10m (30 Feet)
For 132,000KV and 220,000 KV	- 40m (120 Feet)

The width of the reservation will be determined by the Ceylon Electricity Board. Order Number 38 of Urban Development Law, No.41 of 1978 has prescribed that there should be minimum 2.5m vertical gap and 1.5m horizontal gap between any building and an overhead Low Voltage electricity line. These gaps should not be less than 4.5m vertically and 2.5m horizontally in case of Medium Voltage electricity line.

Sri Lanka Telecom, National Water Supply and Drainage Board

- 10.10.** The reservations should be in conformity with the acts & ordinances governing such bodies, i.e., Sri Lanka Telecom Ltd, National Water Supply & Drainage Board, Water Resources Board.

Reservations for Roads and Paths

- 10.11.** According to the Act No. 40 of 2008 on thoroughfares, reservation should be laid for the protection or benefits of roads. The reservation should be determined for roads (road classes of A, B, C, D) maintained by the Road Development Authority (RDA) or Provincial Road Development Department/Authority only after obtaining the assistance of the relevant Authority.

- 10.12. The basic law regarding roads, as per Ordinance No.10 of 1861 on thoroughfares;**
 “Neither the provisions of the prescription ordinance nor those of any other law relating to the acquisition of roads by virtue of possession or user shall apply to roads and no person shall be entitled to exclusive rights of ownership, possession or use over or in respect of a road or any portion thereof by reason of his having, either before or after the enforcement of this Ordinance.”
- 10.13.** In order to avoid blind corners at the junctions of all types of roads including paths, corners of reservations should be sloped off up to a depth of $\frac{1}{4}$ of the whole width or more. Small triangles thus formed will be included in the reservations.
- 10.14.** In towns, blind corners should be curved with a radius decided upon in consultation with the local bodies or the Urban Development Authority. For more details see Regulation 32 of Urban Development Authority (UDA) Law, No. 41 of 1978. As such, the corners of the road junctions in town areas should be curved for the protection of users.
- 10.15.** Reservations for footpaths should be set out in straight sections wherever possible. The paths will then be made to conform to the reservations but the existing tracks must still be surveyed and shown on the plan. Care must be taken in a hilly country to see that the route of the proposed path is practicable.
- 10.16. [In Colonization schemes](#),** the following road reservations should be reserved.
- (a) For main access roads, 10m for both sides from the centerline.
 - (b) For internal roads 5m for both sides from the centerline. (These represent arterial roads taking off from the main access and going through the schemes).
 - (c) For internal access roads 5m (These roads take off from the arterial roads or main access and lead to allotments).
 See paragraph 10.31 for the road reservations in UDA declared area.
- 10.17.** Width of access on land acquired for village expansion should be 5 m except in special cases.
- 10.18.** Reservations shown on any old plans should be set out when they adjoin private property and landmarked where necessary.
- 10.19.** All buildings, structures and walls falling within reservations along roads should be surveyed and fully described.
- 10.20.** If necessary road or path and reservation may be shown in plan but no need to separately lot and assign one lot number.

[Reservations for Tanks](#)

- 10.21.** (a) No separate reservation lot will be created for tanks but the boundary will be taken at least 5m and for important tanks 20m from high water mark boundary.
- (b) The High Flood Levels (H.F.L.) of abandoned tanks, after allowing a margin of safety, should be surveyed and defined except through Title Plans, Forest and old cultivation.
- (c) This H.F.L. will be shown and defined in claimed private Chena areas but in State Chena areas it will be shown without demarcation.
- (d) In surveys falling within areas covered by Engineering Surveys, the same procedure as set out above will be followed but where definition not required, the H.F.L. will be laid down

on the prints of survey plans from the Engineering Survey contours. The surveyor should indicate in his report what contour will cover with safety.

- 10.22. The boundary should be landmarked at bends. The maximum distance between two landmarks should be 100m and the landmarks to be used as survey instrument stations. This boundary will be closed at two points; about 10m beyond each end of the bund, or beyond the spill, if this is situated at the end of the bund. These two points will be roughly on the continuation of the centerline of the bund, See Technical Instructions in Chapter IV.
- 10.23. The evidence of the Grama Niladhari and the villagers, as well as that of the flood marks must be considered in order to determine high water marks. In addition, consult Agrarian Services Department for smaller tanks and Irrigation Department for major tanks to determine High Flood Levels.
- 10.24. In addition to evidence obtained from the Grama Niladhari and villagers, the high water mark should be set out from spill level, by approximately determining the contour by using a theodolite or a Total station.
- 10.25. Below Tank Bund, there should be a reservation of approximately 15 times the height measured at right angles from the center line of the top of the bank. This will be set out by landmarks not more than 100 m apart and at prominent bends. The height will be measured by stepping, and the corresponding width set out as shown in Technical Instructions Chapter IV. From the two end points thus set out, the boundary of the reservations will close on to the two points 10 meters beyond and on the continuation of its center line described in paragraph 10.22.

Reservations for Railway Lines

- 10.26. No land is to be sub divided within 40 m of a railway line, either for state or other purposes, until a tracing has been referred to and approved by the General Manager of Railway Department through District Senior Superintendent of Surveys.
- 10.27. If the reservation has been demarcated with iron rails, it should be surveyed. If not, instructions should be obtained from as per paragraph 10.26.

Paddy Fields adjoining steep land

- 10.28. Reservations from steep land will be demarcated only if asked for by the Divisional Secretary. In the opinion of the surveyor if a reservation is necessary and has not been asked for, the matter must be submitted to the Superintendent of Surveys, for reference to the Divisional Secretary.

Ambalams, Wells, Springs

- 10.29. In dealing with Requisitions for Survey of rectangular reservations, sufficient to protect the Ambalams, wells or springs will be set out after consultation with the Grama Niladhari, if no suitable boundaries exist on the ground.

Reservation for Cemeteries, Communal or Sanitary purposes (Tis-Bambas)

- 10.30.** Only existing cemeteries and communal or sanitary reserves should be surveyed unless special instructions are issued to the contrary.

For more details see Cemeteries and burial ground Ordinance, No. 12 of 1962.

Reservations for Means of Access

- 10.31.** All existing means of access should be surveyed. In UDA declared areas following reservations should be maintained according to the regulation 16(2)(a) as shown in the schedule III of UDA Law, No.41 of 1978.

No. of units for dwelling	Minimum Width (meters)	Maximum Length (meters)
less than 04 units	3.0	50
04 – less than 08 units	4.5	100
08 – less than 20 units	6.0	-
more than 20 units	9.0	-

According to the regulation 16(4) of Urban Development Authority Law, No.41 of 1978, a turning circle with the diameter not less than 9 m should be reserved at the end of every access road having width less than 9 m and length more than 30m.

- 10.32.** When State land is blocking out for alienation, care should be taken to survey a reservation for a cart track or footpath according to local requirements, so as to provide access to any isolated State land.
- 10.33.** Means of access to any adjoining private land may be laid through State land, if after careful investigation by the surveyor on the decision of the Superintendent of Surveys that such access is necessary.

Geodetic Control Stations

- 10.34.** Demarcation of reservation for all type of Geodetic Survey Control stations should be done where ever possible. Special effort should be taken to demarcate reservations for Primary, Secondary level control stations for their protections. The size of reservation should be decided considering ground situation, surrounding trees, environment etc. around the control stations.

Surveys carried out within Urban Development Authority areas

- 10.35.** If the surveys fall within the Urban Development areas, it must adhere to the prevailing U.D.A. regulations.
- 10.36.** 10% of the land should be reserved from suitable places, after allocating sufficient lands for streets, for common purposes while subdividing the lands larger than 1hectare in accordance

with the regulation No. 22(1) published in the government gazette No. 935/6 of 06.08.1996 as per regulations for the Urban Development Authority Act No. 41 of 1978. See 22(1) of the above gazette for more details.

- 10.37.** Attention to be paid to the form (b) of the schedule III of the regulation No. 17(1) for the Urban Development Authority (UDA) Act prescribing the minimum extent and the minimum width of a land while carrying out the surveys in UDA declared areas. See the following table.

Type of the Building	Minimum Land Area (in square meters)	Minimum Width of the Land (in meres)
All the buildings except the following	150	06
Public Gathering Buildings and common buildings	300	12

Surveys within Mahaweli areas

- 10.38.** Surveys fall within Mahaweli area should be carried out in accordance with the Act No.23, of 1978 of Mahaweli Authority of Sri Lanka.

Other important facts

- 10.39.** Reservations should be as straight as possible, and should not follow the minor bends of streams, roads & etc, but only the general direction. They will thus vary in width, but should not be less than the prescribed width.
- 10.40.** Lands over 1500m in altitude are to be reserved. Requisitions for Survey coming within this reservation will only be surveyed when specially authorized.
- 10.41.** Special landmarks as described in paragraph 3.1 (iii) will be used to mark the approximate position where the 1500m Climate Contour crosses roads and paths. The rest of the boundary forming the 1500m contours will be landmarked in the ordinary way. Special survey instructions should be issued by Senior Superintendents when this contour is to be set out.
- 10.42.** In order to preserve the water flows, to maintain underground water collections, and to prevent both the erosion of the soil and the silting of lower lying areas, no land should be alienated for purposes of cultivation or grazing that;
- (a) has a slope of over 30 degrees (= 1 in 2 or 50%) for a greater consecutive distance than 20m measured up and down the slope at right angles to the contours of the land; or
 - (b) Includes the tops or the whole of steep forest-clad hills and ridges; or
 - (c) Consists mainly of outcrops or rock and large boulders; or
 - (d) is necessary to protect and conserve the courses and sources of streams and springs.
- 10.43.** Requests for surveying land mentioned above 10.42 are not usually fulfilled. However, any portion of land which is being surveyed comes within the terms of the above order. It should be separately lotted and mentioned in the tenement list accordingly.
- 10.44.** If a spring falls in such a lot or within 40 m, it must be mentioned in the tenement list.

10.45. When land is blocked out adjoining a main, minor or Pradeshiya Sabha road, the road frontage should not exceed $\frac{2}{3}$ of the length. Access should be left to land at the back of such lots, in accordance with paragraph 10.31 at reasonable intervals.

10.46. When a large extent adjoining a road is to be sub divided, and there is difficulty in estimating the frontage, the required length of the sides can be arrived at by proportion by the following method:-

Taking a lot of 2400 square meters – 60 m in length by 40 m width – as the standard, the proportionate lengths of the frontage and length, for the area to be cut out, can be worked separately thus;

$$\text{Frontage} = 40 \left\{ \sqrt{\frac{\text{Area to be cut out in Square meters}}{2400}} \right\}$$

$$\text{Length} = 60 \left\{ \sqrt{\frac{\text{Area to be cut out in Square meters}}{2400}} \right\}$$

10.47. Attention to be paid to the Special Gazette No. 1662/17 of 14.07.2010 when marking reservations for the streams through state lands in the Western Province. Although, no reservations lay through private lands, restrictions are imposed to the developments within the limit.

Paragraph 10.7

Annexure I

ලකුණ : (I) වෙළඳ - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ දැනී විශේෂ ගැසට් පත්‍රය - 2018.05.25
 PART I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

119A

SETBACKS FOR DEVELOPMENT ACTIVITIES IN THE COASTAL ZONE

Table 6.1 Setback standards for development activities in the coastal zone by segment and vulnerability

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		Total Setback
						Reservation	Restricted	
1	Vellai, Palliyamulla, Baththalanguduwa and Other Islands (Islands Around Kaipitiya Peninsula)	Puttalam	8°32'26.82"N	79°46'56.70"E	High	60		60
			8°24'19.50"N	79°48'44.76"E				
2	Uchehamunai to Mohothuwaram (Mohothuwaram Split Northern Boundary)	Puttalam	8°23'01.20"N	79°47'14.90"E	High	25	35	60
			8°15'00.60"N	79°44'20.20"E				
3	Mohothuwaram (Mohothuwaram Split Northern Boundary) to Mohothuwaram / Kudawa Split Southern Boundary (Conservation / No Build Zone)	Puttalam	8°15'00.60"N	79°44'20.20"E	High	No Build Zone		No Build Zone
			8°13'41.50"N	79°43'52.10"E				
4	Mohothuwaram/Kudawa Split Southern Boundary (Kudawa Start Point) to Udappuwa South (Cemetery)	Puttalam	8°13'41.50"N	79°43'52.10"E	High	25	35	60
			7°44'17.50"N	79°47'29.70"E				
5	Udappuwa South (Cemetery) to Daduru Oya Mouth Northern Boundary	Puttalam	7°44'17.50"N	79°47'29.70"E	High	20	35	55
			7°37'06.70"N	79°47'56.50"E				
6	Daduru Oya Mouth Northern Boundary to Chilaw Cemetery End Point (Conservation Zone / No Build Zone)	Puttalam	7°37'06.70"N	79°47'56.50"E	High	No Build Zone		No Build Zone
			7°35'48.90"N	79°47'11.60"E				
7	Chilaw Cemetery End Point to Chilaw Beach Park Northern Boundary	Puttalam	7°35'48.90"N	79°47'11.60"E	Medium (-)	15	30	45
			7°34'53.50"N	79°47'14.30"E				
8	Chilaw Beach Park Northern Boundary to North Thoduwawa River Mouth	Puttalam	7°34'53.50"N	79°47'14.30"E	Medium (+)	20	30	50
			7°29'31.60"N	79°47'49.90"E				
9	North Thoduwawa River Mouth to Modarawella Marawella Gembarandiya Lagoon Mouth (Club Palm Bay Hotel)	Puttalam	7°29'31.60"N	79°47'49.90"E	High	20	35	55
			7°25'58.20"N	79°48'39.10"E				
10	Modarawella Marawella Gembarandiya Lagoon Mouth (Club Palm Bay Hotel) to Nainamadama Wellamankaraya Gin Oya River Mouth	Puttalam	7°25'58.20"N	79°48'39.10"E	Medium (+)	20	30	50
			7°18'12.05"N	79°50'14.16"E				

120A I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2018.05.25
PART I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		Total Setback
						Reservation	Restructured	
11	Nainamadama Wellankaraya, Gin Oya River Mouth to Négombo Luice Place Bolanji Road	Puttalam / Gampaha	7°18'12.05"N 7°13'18.70"N	79°50'14.16"E 79°50'19.50"E	Medium(-)	15	30	45
12	Négombo Luice Place Bolanji Road to Duwa Pitpanaweediya Mora Wala	Gampaha	7°13'18.70"N 7°12'13.00"N	79°50'19.50"E 79°49'02.50"E	Low (+)	15	25	40
13	Duwa Pitpanaweediya Mora Wala to Dikovita Harbour North Boundary	Gampaha/ Colombo	7°12'13.00"N 7°00'34.80"N	79°49'02.50"E 79°51'55.50"E	Medium(-)	15	30	45
14	Dikovita Harbour North Boundary to Galleface Hotel Kollupitiya	Colombo	7°00'34.80"N 6°55'14.40"N	79°51'55.50"E 79°50'43.60"E	Medium (+)	20	30	50
15	Galleface Hotel Kollupitiya to Wellawatta Railway Bridge	Colombo	6°55'14.40"N 6°52'44.40"N	79°50'43.60"E 79°51'24.10"E	Low (-)	10	25	35
16	Wellawatta Railway Bridge to Mount Lavinia Hotel	Colombo	6°52'44.40"N 6°50'06.00"N	79°51'24.10"E 79°51'46.10"E	Medium(-)	15	30	45
17	Mount Lavinia Hotel to Panadura River Mouth (Moratuwa Fishery Harbour)	Colombo	6°50'06.00"N 6°43'05.70"N	79°51'46.10"E 79°54'05.60"E	Low (+)	15	25	40
18	Panadura River Mouth (Moratuwa Fishery Harbour) to Pinwatta Thalpititiya Outlet	Kalutara	6°43'05.70"N 6°40'56.76"N	79°54'05.60"E 79°55'02.46"E	Medium(-)	15	30	45
19	Pinwatta Thalpititiya Outlet to Kalutara Kalido Beach Strip Northern Boundary	Kalutara	6°40'56.76"N 6°35'15.60"N	79°55'02.46"E 79°57'17.30"E	Low (+)	15	25	40
20	Kalutara Kalido Beach Strip Northern Boundary to Avani Hotel Katukurunda (Southward Boundary of Kalutara Estuary) (Proposed to Kalido Strip as a Conservation Zone)	Kalutara	6°35'15.60"N 6°34'14.60"N	79°57'17.30"E 79°57'33.90"E	No Build Zone	No Build Zone	No Build Zone	No Build Zone
21	Avani Hotel Katukurunda (Southward Boundary of Kalutara Estuary) to Payagala South Railway Crossing	Kalutara	6°34'14.60"N 6°31'14.80"N	79°57'33.90"E 79°58'42.80"E	Medium (+)	20	30	50
22	Payagala South Railway Crossing to Beruwala Kechehimale Mosque	Kalutara	6°31'14.80"N 6°28'13.40"N	79°58'42.80"E 79°58'24.47"E	Low (+)	15	25	40

I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2018.05.25 121A
 PART I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		
						Reservation	Restricted	Total Setback
23	Beruwala Kechchimale Mosque to Induruwa Headland (Saman Villa Hotel)	Kalutara/Galle	6°28'13.40"N	79°58'24.47"E	Medium (+)	20	30	50
	6°23'41.70"N		80°00'13.34"E					
24	Induruwa Headland (Saman Villa Hotel) to Madu Ganga River Mouth	Galle	6°23'41.70"N	80°00'13.34"E	Medium (-)	15	30	45
	6°16'26.40"N		80°02'06.60"E					
25	Madu Ganga River Mouth to Hikkaduwa Fishery Harbour	Galle	6°16'26.40"N	80°02'06.60"E	Low (+)	15	25	40
	6°08'27.29"N		80°05'56.44"E					
26	Hikkaduwa Fishery Harbour to Gintota River Mouth	Galle	6°08'27.29"N	80°05'56.44"E	Low (-)	10	25	35
	6°03'49.10"N		80°10'26.00"E					
27	Gintota River Mouth to Dadalla Light House Hotel	Galle	6°03'49.10"N	80°10'26.00"E	Low (+)	15	25	40
	6°02'28.71"N		80°11'40.82"E					
28	Dadalla Light House Hotel to Galle Cement Factory Bridge	Galle	6°02'28.71"N	80°11'40.82"E	Low (+)	10	25	35
	6°01'39.20"N		80°14'37.40"E					
29	Galle Cement Factory Bridge to Unawatuna Welledewalaya	Galle	6°01'39.20"N	80°14'37.40"E	Low (+)	15	25	40
	6°00'23.30"N		80°14'37.70"E					
30	Unawatuna Welledewalaya to Unawatuna Dalawella Mitton Hotel	Galle	6°00'23.30"N	80°14'37.70"E	Low (-)	10	25	35
	6°00'18.40"N		80°15'20.10"E					
31	Unawatuna Dalawella Mitton Hotel to Goviyapana Bridge	Galle	6°00'18.40"N	80°15'20.10"E	Medium (-)	15	30	45
	5°57'56.40"N		80°22'53.20"E					
32	Goviyapana Bridge to Maditha East	Matara	5°57'56.40"N	80°22'53.20"E	Low (-)	10	25	35
	5°56'12.1"N		80°30'46.7"E					

122A I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2018.05.25
 PART I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		
						Reservation	Restricted	Total Setback
33	Madaha East to	Matara	5°56'12.1"N	80°30'46.7" E	Low (-)	10	25	35
	Matara Rest House		5°56'35.8"N	80°32'51.2" E				
34	Matara Rest House to	Matara	5°56'35.8"N	80°32'51.2" E	Low (+)	15	25	40
	Devinuwara Light House		5°55'12.8"N	80°35'35.0" E				
35	Devinuwara Light House to	Matara	5°55'12.8"N	80°35'35.0" E	Low (-)	10	25	35
	Goyambokka Peace Heaven Hotel Headland (Jugahawella Fishing Landing Site)	Hambantota	6°00'44.92"N	80°47'13.50"E				
36	Goyambokka Peace Heaven Hotel Headland (Jugahawella Fishing Landing Site) to	Hambantota	6°00'44.92"N	80°47'13.50"E	Low (+)	15	25	40
	Rakawa West		6°02'34.19"N	80°51'38.27"E				
37	Rakawa West to	Hambantota	6°02'34.19"N	80°51'38.27"E	Medium (+)	20	30	50
	Kalamatiya Henagahapugala		6°04'34.40"N	80°56'07.90"E				
38	Kalamatiya Henagahapugala to	Hambantota	6°04'34.40"N	80°56'07.90"E		25	35	60
	Ussangoda Wild Life National Park Southern Boundary (Lunama Side) (Kalamatiya Wild Life Sanctuary Area)		6°05'13.20"N	80°58'36.40"E				
39	Ussangoda Wild Life National Park Southern Boundary (Lunama Side) to	Hambantota	6°05'13.20"N	80°58'36.40"E		300		300
	Ussangoda Wild Life National Park Northern Boundary (Close to Ussangoda Fishery Harbor) Ussangoda Wild Life National Park		6° 05'43.00"N	80°59'23.90"E				
40	Ussangoda Wild Life National Park Northern Boundary (Close to Ussangoda Fishery Harbor) to	Hambantota	6° 05'43.00"N	80°59'23.90"E	Low (+)	15	25	40
	Godawaya Walawe River Mouth (Close to CC&CRMD Office)		6°06'28.00"N	81°03'02.50"E				

මාලිකා : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2018.05.25 123A
 PART I : SEC. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		Total Setback
						Reservation	Restricted	
41	Godawaya Walawe River Mouth (Close to CC & CRMD Office) to Hambantota Sea Port Southern Boundary (Mirijjawila)	Hambantota	6°06'28.00"N	81°03'02.50"E	Medium (+)	20	30	50
			6°06'53.16"N	81°05'43.98"E				
42	Hambantota Sea Port Northern Boundary (Target Road Hambantota) to Bundala National Park Southern Boundary Hambantota	Hambantota	6°07'23.10"N	81°07'36.40"E		25	35	60
			6°08'01.51"N	81°07'59.32"E				
43	Sub Zone - Hambantota Fishery Harbour to Hambantota Bombu Canal Outlet	Hambantota	6°07'27.00"N	81°07'34.80"E	Low (-)	15	25	40
			6°07'50.60"N	81°07'43.20"E				
44	Bundala National Park Southern Boundary Hambantota to Kirindi Oya River Mouth (Bundala National Park)	Hambantota	6°08'01.51"N	81°07'59.32"E		30	300	300
			6°11'46.70"N	81°17'44.90"E				
45	Kirindi Oya River Mouth to Kirinda Andagala Healand Start Point (Close to Andagala Modara)	Hambantota	6°11'46.70"N	81°17'44.90"E		45	80	125
			6°12'09.30"N	81°19'27.50"E				
46	Kirinda Andagala Healand Start Point (Close to Andagala Modara) to Kirinda Temple Rock	Hambantota	6°12'09.30"N	81°19'27.50"E	Low (+)	25	40	65
			6°11'55.91"N	81°19'27.12"E				
47	Kirinda Temple Rock to Yala Palatupana SLTDA Tourism Zone End Point (Gode(Kalapuwa)Lagoon Boundary)	Hambantota	6°11'55.91"N	81°19'27.12"E		45	80	125
			6°16'26.67"N	81°25'11.56"E				
48	Yala Palatupana SLTDA Tourism Zone End Point (Gode(Kalapuwa) Lagoon Boundary) to Yala National Park Northern Boundary (Okanda)	Hambantota Ampara	6°16'26.67"N	81°25'11.56"E		300		300
			6°21'46.50"N	81°31'44.00"E				
49	Yala National Park Northern Boundary (Okanda) to Panama Lagoon Mouth Beacon Lamp Rock	Ampara	6°21'46.50"N	81°31'44.00"E		45	80	125
			6°46'02.61"N	81°49'32.37"E				
50	Panama Lagoon Mouth Beacon Lamp Rock to Kudakalli Crocodile Rock (Hada Oya River Mouth)	Ampara	6°46'02.61"N	81°49'32.37"E	Medium (+)	35	60	95
			6°48'32.71"N	81°49'27.14"E				
51	Kudakalli Crocodile Rock (Hada Oya River Mouth) to Arugambay Ulla Surfing Point	Ampara	6°48'32.71"N	81°49'27.14"E		45	80	125
			6°50'21.70"N	81°50'08.90"E				

124A I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ දිනි විශේෂ ගැසට් පත්‍රය - 2018.05.25
PART I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		
						Reservation	Restricted	Total Setback
52	Arugambay Ulla Surfing Point to Arugambay Bridge	Ampara	6° 50' 21.70"N 6° 51' 03.20"N	81° 50' 08.90"E 81° 49' 55.10"E	Low (-)	20	30	50
	Arugambay Bridge to Viski Point Sand Dune Start Point (Kannahar Gramam (326 Km Post))	Ampara	6° 51' 03.20"N 6° 55' 05.60"N	81° 49' 55.10"E 81° 50' 52.10"E	Medium (+)	45	80	125
54	Viski Point Sand Dune Start Point (Kannahar Gramam (326 Km Post) to Sangamankanda Point	Ampara	6° 55' 05.60"N 7° 01' 21.39"N	81° 50' 52.10"E 81° 52' 42.46"E	Medium (+)	35	60	95
	Sangamankanda Point to Thambattai (Closed to Thambattai Kovil and Gayatri Thapovanam 354.5 Km Post)	Ampara	7° 01' 21.39"N 7° 08' 24.70"N	81° 52' 42.46"E 81° 51' 29.30"E	Medium (-)	30	50	80
56	Thambattai (Closed to Thambattai Kovil and Gayatri Thapovanam 354.5 Km post) to Alayadiwembu (Narrow Strip)	Ampara	7° 08' 24.70"N 7° 12' 26.40"N	81° 51' 29.30"E 81° 51' 43.75"E	Medium (-)	45	80	125
	Alayadiwembu to Oluvil Harbour Southern Boundary	Ampara	7° 12' 26.40"N 7° 16' 32.70"N	81° 51' 43.75"E 81° 51' 49.90"E	Low (+)	25	40	65
58	Oluvil Harbour Northern Boundary (Close To Light House) to Nindavur Wowal Lagoon Mouth (Theater Road)	Ampara	7° 16' 55.20"N 7° 20' 02.70"N	81° 51' 59.30"E 81° 51' 47.30"E	Medium (-)	30	50	80
	Nindavur Wowal Lagoon Mouth (Theater Road) to Baticaloo - Ampara District Boundary	Ampara	7° 20' 02.70"N 7° 27' 15.40"N	81° 51' 47.30"E 81° 49' 09.72"E	Low (+)	25	40	65
60	Baticaloo - Ampara District Boundary to Kathankudy Dean Road Al Tharika Mosque	Baticaloo/Ampara	7° 27' 15.40"N 7° 41' 40.38"N	81° 49' 09.72"E 81° 44' 05.40"E	Medium (-)	30	50	80
	Kathankudy Dean Road Al Tharika Mosque to Kallady Beach Park (Sarawanaady Road)	Baticaloo	7° 41' 40.38"N 7° 43' 05.10"N	81° 44' 05.40"E 81° 43' 08.80"E	Medium (+)	35	60	95
62	Kallady Beach Park (Sarawanaady Road) to Baticaloo Light House (Paalmeenmadu)	Baticaloo	7° 43' 05.10"N 7° 45' 18.50"N	81° 43' 08.80"E 81° 41' 07.50"E	Medium (+)	45	80	125

I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2018.05.25
 PART I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

125A

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		
						Reservation	Restricted	Total Setback
63	Bataloa Light House (Paalmeenmadu) to Punniyakudah Point	Bataloa	7°45'18.50"N 7°49'41.80"N	81°41'07.50"E 81°37'07.80"E	Medium(-)	30	50	80
	Punniyakudah Point to Pasikudah Fishery Landing Site	Bataloa	7°49'41.80"N 7°55'59.50"N	81°37'07.80"E 81°33'36.30"E	High(+)	45	80	125
65	Pasikudah Fishery Landing Site to Nasivanthive Lagoon Mouth	Bataloa	7°55'59.50"N 7°56'46.50"N	81°33'36.30"E 81°32'42.80"E	High(-)	40	70	110
	Nasivanthive Lagoon Mouth to Nasivanthive Lagoon Mouth to Challitivu Island	Bataloa	7°56'46.50"N 8°06'36.20"N	81°32'42.80"E 81°27'34.70"E	Low(+)	25	40	65
67	Challitivu Mumai Point (Close to Challitivu Island) to Lankapatuna	Bataloa	8°06'36.20"N 8°21'24.60"N	81°27'34.70"E 81°23'19.00"E	Medium(-)	30	50	80
	Lankapatuna to Foul Point (Thirukonamalai Light House)	Trincomalee	8°21'24.60"N 8°31'31.57"N	81°23'19.00"E 81°19'07.40"E	Medium(+)	35	60	95
69	Foul Point (Thirukonamalai Light House) to Muthur East River Mouth (Close to Police Station)	Trincomalee	8°31'31.57"N 8°27'42.60"N	81°19'07.40"E 81°15'33.40"E	Low(-)	20	30	50
	Muthur East River Mouth (Close to Police Station) to Gangei Bridge	Trincomalee	8°27'42.60"N 8°27'37.50"N	81°15'33.40"E 81°13'44.10"E	Medium(-)	30	50	80
71	Gangei Bridge to Irrakkandy bridge (River Mouth)	Trincomalee	8°27'37.50"N 8°43'55.40"N	81°13'44.10"E 81°10'24.60"E	Low(-)	20	30	50

126A I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ දැනී විශේෂ ගැසට් පත්‍රය - 2018.05.25
 PART I : SEC. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		
						Reservation	Restricted	Total Setback
72	Irrakkandy bridge (River Mouth) to Salpayaru Bridge	Trincomalee	8°43'55.40"N 8°47'27.80"N	81°10'24.60"E 81°07'13.10"E	Medium(-)	30	50	80
73	Salpayaru Bridge to Kuechaveli Puduwakattu	Trincomalee	8°47'27.80"N 8°51'33.40"N	81°07'13.10"E 81°05'06.10"E	Low (-)	20	30	50
74	Kuechaveli Puduwakattu to Kallarawa (Close to Thiriyaya Junction)	Trincomalee	8°51'33.40"N 8°53'04.52"N	8°05'06.10"E 81°02'09.08"E	Low (+)	25	40	65
75	Kallarawa (Close to Thiriyaya Junction) to Pulmude Arisimale Point	Trincomalee	8°53'04.52"N 8°56'17.05"N	81°02'09.08"E 81°00'26.64"E	Medium(-)	30	50	80
76	Pulmude Arisimale Point to Kokilai Lagoon Southern Boundary	Trincomalee	8°56'17.05"N 8°59'02.80"N	81°00'26.64"E 80°58'00.20"E		45	80	125
77	Kokilai Lagoon Southern Boundary to Mulative Town	Mulative	8°59'02.80"N 9°16'03.40"N	80°58'00.20"E 80°49'16.10"E	High(+)	40	70	110
78	Mulative Town to Mulative Mohothuwaram/ Vattuwan Lagoon	Mulative	9°16'03.40"N 9°16'23.80"N	80°49'16.10"E 80°48'47.60"E	Medium(-)	30	50	80
79	Mulative Mohothuwaram/ Vattuwan Lagoon to Naliatmitoduvay (Chundikulam National Park Southern Boundary)	Mulative Kilinochehi	9°16'23.80"N 9°27'34.20"N	80°48'47.60"E 80°37'26.30"E	High(+)	40	70	110
80	Naliatmitoduvay (Chundikulam National Park Southern Boundary) to Chundikulam National Park Northern Boundary (Kadd-alkadut)	Kilinochehi	9°27'34.20"N 9°33'43.70"N	80°37'26.30"E 80°29'24.30"E		300		300

I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2018.05.25 127A
 PART I : SEC. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		
						Reservation	Restricted	Total Setback
81	Chundikulam Northern Boundary (Kaddaikadut) to Mamunai Village	Jaffna	9°33'43.70"N 9°39'45.50"N	80°29'24.30"E 80°21'49.80"E	Medium(-)	30	50	80
82	Mamunai Village to Thumpalai (Point Pedro)	Jaffna	9°39'45.50"N 9°49'05.00"N	80°21'49.80"E 80°15'16.60"E		45	80	125
83	Thumpalai (Point Pedro) to Ariyalai	Jaffna	9°49'05.00"N 9°38'11.50"N	80°15'16.60"E 80°04'25.40"E	Low (-)	20	30	50
84	Karaitivu Island	Jaffna	9°45'43.80"N 9°42'24.80"N	79°53'06.70"E 79°51'55.30"E	Medium(-)	30	50	80
85	Mandaitivu Island	Jaffna	9°35'58.20"N 9°38'16.20"N	79°58'43.20"E 79°59'19.56"E	Low (+)	25	40	65
86	Allapiddy to Velanai Iyanar Kovil	Jaffna	9°36'53.10"N 9°37'52.40"N	79°57'42.00"E 79°54'52.80"E	Medium(-)	30	50	80
87	Kytes Island	Jaffna	9°38'48.60"N 9°42'10.90"N	79°52'02.60"E 79°51'45.20"E	Low (-)	20	30	50

128A I කොටස : (I) රෙදිය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2018.05.25
 PART I : SEC. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		Total Setback
						Reservation	Restricted	
88	Punkudutivu Island	Jaffna	9°35'22.40"N 9°35'17.50"N	79°48'26.60"E 79°48'07.50"E	Low (+)	25	40	65
89	Nainathivu Island	Jaffna	9°37'08.30"N 9°35'05.30"N	79°46'30.70"E 79°46'23.80"E	Low (+)	25	40	65
90	Delft Island (Deif National Park)	Jaffna				45	80	125
91	Analiativu, Eluvaitivu, Iranative and other Islands	Other Island Jaffna/ Kilinochchi			Medium(-)	30	50	80
92	Pooneryn Kalmunai Point to Pallikuda	Kilinochchi	9°35'56.70"N 9°29'11.10"N	80°03'08.30"E 80°11'08.60"E	Low (-)	20	30	50
93	Pallikuda to Devil Point	Kilinochchi	9°29'11.10"N 9°23'19.50"N	80°11'08.60"E 80°03'11.10"E	Low (+)	25	40	65
94	Devil Point to Nachechikuda (Nawanthurai Point)	Kilinochchi	9°23'19.50"N 9°16'06.10"N	80°03'11.10"E 80°06'46.80"E	Medium(-)	30	50	80
95	Nachechikuda (Nawanthurai Point) to Palliaru North Ward Point	Mannar	9°16'06.10"N 9°09'34.50"N	80°06'46.80"E 80°05'54.10"E	Medium (+)	35	60	95
96	Palliaru North Ward Point to Wankalai Point	Mannar	9°09'34.50"N 8°56'15.30"N	80°05'54.10"E 79°54'11.30"E		45	80	125
97	Mannar South Bar to Erukkalampiddi Causeway Point	Mannar Island	8°57'53.40"N 9°01'54.80"N	79°53'08.60"E 79°52'16.50"E	Low (-)	20	30	50

I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ දැනී විලස ගැසට් පත්‍රය - 2018.05.25
 PART I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

129A

Segment No.	Segments	Source Map	Latitude	Longitude	Level of Vulnerability	Proposed Setback (M)		
						Reservation	Restricted	Total Setback
98	Erukkalampiddi Causeway Point Via Ushimukkammunai Point to Pesalai Vankalaipadu	Mannar Island	9°01'54.80"N 9°04'48.50"N	79°52'16.50"E 79°50'48.60"E	Medium (-)	30	50	80
99	Pesalai Vankalaipadu to Thalaimannar Light House/Pier	Mannar Island	9°04'48.50"N 9°06'26.90"N	79°50'48.60"E 79°43'51.40"E	Low (-)	20	30	50
100	Thalaimannar Light House/Pier to Mannar Island South Bar	Mannar Island	9°06'26.90"N 8°57'53.40"N	79°43'51.40"E 79°53'08.60"E	Medium (-)	30	50	80
101	Mannar Island South Bar to Vankalai Point (Proposed Conservation /No. Build Zone.)	Mannar Island	8°57'53.40"N 8°56'15.30"N	79°53'08.60"E 79°54'11.30"E	No. Build Zone	No. Build Zone	No. Build Zone	No. Build Zone
102	Vankalai Point to Vankalai Sanctuary Southern Boundary	Mannar	8°56'15.30"N 8°53'26.30"N	79°54'11.30"E 79°55'44.70"E	No. Build Zone	45	80	125
103	Vankalai Sanctuary Southern Boundary to Arippu East	Mannar	8°53'26.30"N 8°47'43.10"N	79°55'44.70"E 79°55'28.60"E	Medium (-)	30	50	80
104	Arippu East to Pukkulam Modaragam Aru	Mannar	8°47'43.10"N 8°33'48.70"N	79°55'28.60"E 79°55'12.80"E	Low (+)	25	40	65
105	Pukkulam Modaragam Aru to Kala Oya River Mouth (Wilpattu National Park)	Puttalam	8°33'48.70"N 8°17'53.60"N	79°55'12.80"E 79°49'55.00"E	No. Build Zone	300	300	300

130A

I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2018.05.25
 PART I : SEC. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 25.05.2018

Table 6.2 : Classification of Coastal Segments by Level of Vulnerability and Setback Distances (in meters)

Level of Vulnerability	Coastal Segments Nos. 1- 44			Coastal Segment Nos. 45-105		
	Reservation Area	Restricted Area	Total Setback	Reservation Area	Restricted Area	Total Setback
Low (-)	10	25	35	20	30	50
Low (+)	15	25	40	25	40	65
Medium (-)	15	30	45	30	50	80
Medium (+)	20	30	50	35	60	95
High (-)	20	35	55	40	70	110
High (+)	25	35	60	45	80	125
	Protected Areas			Protected Areas		
	Conservation Zones			Conservation Zones		

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER XI**FIELD DATA COLLECTION AND RECORDS****INDEX**

D.S.R. Reference	Description	Page
	<u>Usage of field books</u>	
11.1.	Numbering field book pages and preparing pages	1
11.2.	Usage of numbered field books for survey records	1
11.3.	Description on the cover of field books for using miscellaneous plan types and usage of old field books	1
11.4.	Description on the cover of field books for Cadastral surveys and usage of field books	1
	<u>Important facts on Feld Book keeping</u>	
11.5.	Preparation of prospection diagrams of the area to be surveyed	1
11.6.	Data collection of footpath, narrow streams and drains	1
11.7.	Entering the names of encroachers and claimants in field book	1
11.8.	Footnotes to permanent feature boundaries	1
11.9.	Recording survey data in field book	1
11.10.	Entering cross references in field books	1
11.11.	Not to change notes in field books	1
11.12.	Booking of re-setting or re-opening of old boundaries	2
	<u>Important notes after completion of survey work</u>	
11.13.	Entries made at the end of each day work	2
11.14.	Description of Landmarks used	2
11.15.	Landmarks used should be given in a schedule of the field book	2
11.16.	Landmark certificate	2
11.17.	Colors used for field entries	2
11.18.	Certificate for each correction	2
11.19.	No alternation in old field notes	3
	<u>Notes on index page</u>	
11.20.	Entering the details of each survey in the index page	3
11.21.	Entering the details of Demarcation surveys in the index page	3
	<u>Other notes recorded in field book</u>	
11.22.	Writing tenementary information and recording plan numbers	3
11.23.	Writing tenementary information in Demarcation surveys	4
	<u>Re chaining and Re angling</u>	
11.24.	Booking of re-chaining or re-angling	4
	<u>Level books</u>	
11.25.	Writing in level books should be in ink	4
11.26.	Level book cover page should be named	4

D.S.R. Reference	Description	Page
11.27.	Values of preliminary and secondary level lines should be written to five decimal places	4
11.28.	Values of Tertiary level lines should be written to three decimal places	4
11.29.	Level line no. should be written in each page	4
11.30.	Checking of values of benchmarks	4
11.31.	Leveling of each day should be closed on a Bench mark	5
11.32.	Leveller should be responsible for each entry	5
11.33.	Closure of the level line should be indicated	5
11.34.	Notes at the end of each day	5
11.35.	Index page of level books	5
<u>Control traverse and other important matters</u>		
11.36.	Establishing control traverses for detail surveys	5
11.37.	Survey of traverses vide SLD 99 National Coordinating System	5
11.38.	Field entries pertaining to control points	5
11.39.	Types of detail surveys	5
11.40.	Numbering of traverse stations, observation points and setting out points	5
11.41.	Data obtained during traversing	6
11.42.	Specimen of a traverse survey	6
11.43.	Data recording in the traversing	6
11.44.	Pasting the adjusted coordinates in the field books	6
<u>Detail Survey</u>		
11.45.	Methods of detail surveys	6
<u>Detail Survey using Theodolite and Chain</u>		
11.46.	Data Collection using Theodolite	6
11.47.	Adjustment of data correctly	6
11.48.	Pasting the printed adjusted coordinates in the field book	6
<u>Detail Survey with Total Station</u>		
11.49.	Data storage in electronic media and field data recording	6
11.50.	Data to be stored in the database	6
11.51.	Symbols for data	6
11.52.	Heights of observed points	7
11.53.	Data collecting using Total Station	7
11.54.	Pasting and certification of the printed coordinate sheets in the field books	7
11.55.	Recording and observed boundary points in the field books while the traversing	7
11.56.	Attending field work without data recording in electronic media	7
11.57.	Data entering of field works without data recording in electronic media	7

D.S.R. Reference	Description	Page
	<u>Data collection by Real Time Kinematic (RTK) surveys</u>	
11.58.	Methods of RTK Surveys	7
11.59.	Data collection using RTK in SLCORS network	7
11.60.	Collection of data with the data connection between the base station and a rover	7
11.61.	Collection of data with the radio connection between the base station and a rover	8
11.62.	RTK field data recording	8
11.63.	Used of geodetic control points	8
	<u>Field data collection using Sri Lanka Continuous Operating Reference System (SLCORS) Network</u>	
11.64.	Methodology of survey using SLCORS network real-time service	8
	<u>System configuration and output data formats</u>	
11.65.	Detail instructions using SLCORS network real-time service	8
	<u>File format to be used for real time data collection</u>	
11.66.	The generated data formats for different models used by the department	8
11.67.	Data formats for preparation of survey plans	9
	<u>Checking and Filtering Data</u>	
11.68.	Methods of collecting field data	9
11.69.	Collection of data with 'FIXED' position	9
11.70.	Pasting of field data in the field book	9
	<u>Alternative methods for measuring unfixed points</u>	
11.71.	Observations when the satellite coverage is not available	9
	Annexures	
<u>Annexure I</u>	Specimen of field book page for traversing	10
<u>Annexure II</u>	Specimen for adjusted coordinate sheet of a traverse	11
<u>Annexure III</u>	Feature codes for survey point features	13
<u>Annexure IV</u>	Specimen of field book page on Detail Survey	14
<u>Annexure V</u>	Specimen of field book keeping when data are recorded digitally	15
<u>Annexure VI</u>	Specimen of field book page on traversing with Detail Survey	17
<u>Annexure VII</u>	Specimen of field book keeping when data are recorded digitally (Traversing with Detail Survey)	18
<u>Annexure VIII</u>	Specimen of field book keeping when data are recorded manually (Detail survey only)	20
<u>Annexure IX</u>	Specimen for field book keeping when data are recorded manually (Traversing with detail survey)	22

D.S.R. Reference	Description	Page
<u>Annexure X</u>	Data Layers for Digital Survey Plan	24
<u>Annexure XI</u>	Specimen of a field book for check Point	33
<u>Annexure XII</u>	Specimen of a field book for detail survey using RTK/ SLCORnet	34
<u>Annexure XIII</u>	Final data compiled from various subscription types and data processing software	35

CHAPTER XI

FIELD DATA COLLECTION AND RECORDS

Usage of field books

- 11.1. Pages of all field books should be counted and ensure that they consist of 28 pages. One centimeter margin should be drawn in all the pages. Refrain from recording field data beyond the margin line. Number the page from 1 to 28 before using them.
- 11.2. Numbered field books must be used for recording measurements and temporary books or loose sheets of paper must never be used. All survey data should be recorded in the field books at the time of survey.
- 11.3. When using field books for Village Plans / Final Village Plans or Topographical Plans / Final Topographical Plans, the details should be written on the cover page of the field book. If there are blank pages in the field books of the same village, they should be used for the new survey work.
- 11.4. In the Cadastral Survey Area, the Cadastral Map number along with the block number should be written on the cover page of the field book. Separate field books should be used for each block. The blank pages of the field books used for a block should be used for subsequent surveys in that block.

Important facts on Feld Book keeping

- 11.5. A clear prospection diagram should be prepared for all surveys showing all the proposed control stations, natural features and parcel boundaries with their descriptions and any other important information by the surveyor during his field investigation. Using the satellite images/ topographical digital data can make it easier to prepare this prospection diagram.
- 11.6. Both sides of the boundaries of footpath, narrow streams, drains etc. should be surveyed. In future, the center line should not be surveyed.
- 11.7. The names of encroachers of lands should not be included and claimants' names should be included carefully. The addresses of those who do not live in the village should be recorded.
- 11.8. If any boundary, which is not a permanent feature, is not landmarked, the reason should be given as a footnote at the bottom of the page of the field book.
- 11.9. The boundaries and boundary descriptions should be used according to Annexure X. For the entries of survey data in field books should be referred to Chapter IV of Technical Guidelines for further instructions.
- 11.10. All cross reference to each page in the field books should be done in the field. Each field book page should have detail of names of the adjoining lands and owners of each land. The field records should be clear and legible.
- 11.11. No Surveyor shall enter any field note relating to the measurements made by any other Surveyor or made by himself. Field books can only be cross referenced to another field book.

- 11.12.** When it is required to re-set or re-open old boundaries, the chain lines that must be re-opened from the old field books should be recorded separately, the actual value set, and the references to the old measurements should be written carefully.

Important notes after completion of survey work

- 11.13.** At the end of each day's work following information should be entered in the field book and certified with the surveyor's full signature, name and date.

In Theodolite surveys	In Total Station surveys
No of instrument stations	No of instrument stations
-	No of observations
Number of Lines surveyed	Number of Lines surveyed
Number of Landmarks surveyed	Number of Landmarks surveyed
Length surveyed in meters	Length surveyed in meters
Distance travelled in km	Distance travelled in km
Weather	Weather
	Instrument Number
Name of Grama Niladhari or agent	Name of Grama Niladhari or agent

- 11.14.** The number of landmarks and the landmark sub-depot number should be recorded on the top left side corner of each field book page on the survey day. Separate records on landmarks taken from other sub depots should be given. These notes should be certified by the Superintendent of Surveys with his initials at his inspections.
- 11.15.** The landmarks appear in each page of the field book should be entered in a schedule in the back page of the index page of the field book. The correctness of this schedule should be confirmed by the Superintendent of Surveys with his initials.
- 11.16.** On completion of any requisition for survey, the surveyor should make the following certificate on the last page on which the survey appears: -
- “The landmarks shown on pages Nos. have been personally checked and measurements are taken to on the ground by me. Boundaries pointed out by and the landmarks buried by me to”
- 11.17.** The original field records should be in black ink and the notes recorded in the office should be in red ink. Before the survey, the landmarks of field books and plans should not be marked with ink.
- 11.18.** When the corrections are done in the field books certificate should be given with initials and date in the field Book as follows.

T.W.
2018.09.07

A certificate must be given, at the same time, at the foot of the page giving the number (in words and figures) of corrections made in each case, thus: -

One (1) correction by me initialed and dated thus

T.W.
2018.09.07

(Signature)

T. Weerasinghe
Govt. Surveyor
2018.09.07

or “Three (3) more corrections by me initialed and dated thus.”

T.W.
2018.09.07

(Signature)

T. Weerasinghe
Govt. Surveyor
2018.09.07

- 11.19.** Original field book entries must not be erased, added to or altered. If found to be wrong, they must be corrected by neatly crossing out with one line the incorrect entries, re-writing them so that both the incorrect and the correct entries can be clearly shown, and initialing, dating and certifying the correction, as required in paragraph 11.18. This rule applies to all classes of field book entries. The initials and dates and the necessary certificates to corrections in field book entries must be inserted immediately after each correction has been made. Rough notes or calculations should not be made on field book pages.

Notes on index page

- 11.20.** The page numbers used and the details for each survey must be recorded in the field book index page. The requisition number, plan number, sheet number, supplementary / inset number and the co-ordinate system should be given, just below the details. In Cadastral Surveys the cadastral map number (along with the block number) / sheet number should be written in red.
- 11.21.** In the Demarcation Surveys, a statement should be made on the index page as "Settlement Officer's Memo's Lot Nos to the corresponding Block Survey Lot Nos in Field Book are marked in blue within the parcels".

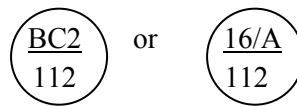
Other notes recorded in Field Books

- 11.22.** Overcrowding of details in field book pages and unnecessary repetition of tenementary information should be avoided.

Where a lot appears in several pages of a field book, the full tenementary information should be given on one page and the other pages should contain the name and description of the lot, with a reference to the page containing the full information (Such as: See ‘A’ in Page).

The relevant plan number, sheet number, sup/insect number, or cadastral number, block number, and parcel number should be written on top of each page in red color. Each land lots should be mentioned as “ lot ...” in red.

- 11.23. As the details of the settlement are copied from the Settlement Officer's memo of demarcations, it is not necessary to enter the details in the field books. A reference to the Settlement Officer's lot numbers and affected block survey lot numbers will be given in blue in all the field book pages, within the respective lots, thus:



The information given above the line is the Settlement Officer's lot number, and the figure below the line is the block survey lot number. This entry may be made in pencil in the field and inked in blue immediately after the survey.

Names of lands and descriptions of cultivations should be given in the field book where the main portion of the Settlement Officer's lot appears. Details of settlement will however, be given in full in the tenement lists.

Re-chaining and Re-angling

- 11.24. In case of re-chaining or re-angling, it is necessary to obtain the prior approval from Superintendent of Surveyors.

When re-chaining or re-angling is necessary, the new survey should be booked on a separate page of the field book and cross-referenced to the old work.

The incorrect bearings or chainages in the old work should be crossed out and correct bearings or chainages should be entered in red. The following certificate should be signed and dated on each page of the old work "Bearings or chainages in red adopted after re-angling or re-chaining, See F. B. pagefor re-angling or re-chaining".

Level Books

- 11.25. All entries in level books must be inked. Alternations of figures by writing one number over another, or erasures of any sort, are forbidden. If a figure is wrongly entered it must be corrected by crossing out the incorrect figure and entering the correct figure above it. The correction must be initialed and dated as paragraph 11.18.
- 11.26. The numbered level books to be used. The description of the work should be written on the outer cover of the level book in ink.
E.g. Rajangana Engineering surveys 1964.
- 11.27. Primary and secondary leveling should be booked to 5 decimals of a meter. After closing on a benchmark (old or new) two more booking spaces must be left (for use of Geodetic Survey Branch) before the booking of the next section is started.
- 11.28. Tertiary leveling or any other leveling will be booked to three places of a meter.
- 11.29. When taking spot heights for contours, the leveler should enter the number of the line on the top of each page of the level book and the number of each spot for which the height is taken in the remarks column. For intermediate spot heights between spots the distance from the nearest numbered spot should be measured and shown.
- 11.30. The position and value of the terminal benchmarks in a line should be verified by a test leveling to the adjoining benchmarks on either side. If any discrepancy is disclosed the check should be

extended till two consecutive benchmarks are in sympathy. The accuracy to which observations are taken for the test should be of the same order as for the leveling of the proposed level lines.

- 11.31. At the end of each day's work leveling must be closed on benchmark or a temporary benchmark. Small numbered pegs are not to be used as temporary benchmarks.
- 11.32. Reduced levels should be done in pencil and should be inked when the level line is correctly reduced. The leveler is responsible for the correctness of every entry, which appears above his signature.
- 11.33. The close of each line of leveling should be clearly shown. Errors of closure should be eliminated in the leveling for the establishment of benchmarks. If the closure exceeds the allowed error, the leveling of the line must be cancelled and fresh observations should be taken. [See paragraph 2.47](#) for Errors of closure
- 11.34. Each day the fieldwork must be certified by signature, name and date by entering the following information in the last level book page used.
 - Number of instrument stations
 - The number of kilometers levelled
 - Travel distance
 - Weather
 - Instrument number
- 11.35. Each book should be marked as a department field book on the index page and a description of the work included on each page. The index page should be completed daily without any omissions. In the event of spot height leveling, it should be indicated by a diagram in the index.

Control traverse and other important matters

- 11.36. For detail surveys, control traverses should be established and, closure should be checked and make adjustment according to the Departmental Survey Regulations. Traversing and Detail Survey can be done together or separately. However, traverse should be limited to twenty (20) lines.
- 11.37. All traverses should be surveyed in accordance with the Accuracy and procedure as per Chapter II. These traverses should be established with respect to the SLD 99 National Coordinating System.
- 11.38. Refer [paragraph 2.13](#) for recording field notes with regard to establishment of controlling points.
- 11.39. Traversing and detail surveys can be done together or separately. However, if the traversing and detail surveys are done together, the complete data set should be adjusted before producing the plan.
- 11.40. Traverse Stations and Survey Points should be numbered as follows and should be recorded in the field book.
 - ❖ Detail Survey Points should be numbered from 1 to 6999
 - ❖ Survey Points to be set out should be numbered from 7000 to 8999
 - ❖ Traverse Stations should be numbered starting from 9000

These numbers should be unique for each survey plan.

- 11.41. For each Traverse, Station No, Horizontal Distance, Bearing, Vertical Angle and Point Description and Coordinates of traverse points have to be recorded digitally and booked in the field book at the time of survey. This is easy by using the prospection diagram for the area to survey.
- 11.42. Specimen of a field book for control traverse is shown in [Annexure I](#).
- 11.43. The Observed coordinates of the forward instrument stations should be recorded in order to verify and check the co-ordinates when the forward station is occupied. If it is not possible to record vertical angle by the Total Station, then the slope distance and vertical height may be recorded.
- 11.44. Print out of adjusted bearings, adjusted distances and adjusted coordinates has to be pasted in the last page used for the said traverse. Specimen of adjusted coordinate sheet given in [Annexure II](#) should be used for every traverse.

Detail Survey

- 11.45. The detail survey can be done in the following ways.
- i. Theodolite and Chain
 - ii. Total Station
 - iii. By real time Kinematic (RTK) measurement
 - iv. Surveys using real time service on the Sri Lanka Continuous Operating Reference Systems (SLCORS) network

Detail Survey using Theodolite and Chain

- 11.46. As it is the responsibility of the Survey Department for collecting and recording of most accurate field data use of the Total Station is recommended. Then minimize the use of theodolite and chain. However, data collection can be done by means of Theodolite and tape and the survey data must be converted into digital data using the software issued by the Department.
- 11.47. All the changes should be indicated in the details, and they must be correctly matched. This should be carried out with observations and carried out immediately.
- 11.48. After affixing printed copies of coordinates in the field book and the certificate given the surveyor has to be checked and initial by the Superintendent of Surveys.

Detail Surveys with Total Station

- 11.49. Data collection with Total Station and recording has to be done in Electronic Media. In addition, EDM field books should be used for field recordings.
- 11.50. Point numbers (P), North Coordinates (N), East Coordinates (E) & Height (Z)) and Point descriptions (C) of each point surveyed have to be recorded using internal or external data recorders.
- 11.51. Relevant codes for describing the identified survey points and relevant information which are to be used during a survey are given in the [Annexure III](#) and [Annexure X](#) . If an additional

symbol is needed, it should be obtained from the Land Information Systems section of the Head Office.

- 11.52. When the actual height is not known, the Global Navigation Satellite System (GNSS) must be used to determine the height and if it is not available an assumed height could be used.
- 11.53. Field notes have to be maintained with the details such as point numbers, point descriptions, boundary descriptions and traverse points with reference to the subsequent and previous traverse points, tenementary information etc; as shown in [Annexure IV](#). Location of the Traverse Points should be shown in the field notes relative to the observed boundary points.
- 11.54. Printed co-ordinate sheets of the observed boundary points authenticated by the surveyor should be pasted in front of the field book pages as shown in [Annexure V](#) and the Superintendent of Surveys should be checked and initial the pages.
- 11.55. If boundary points are observed while traversing, field books should be maintained as shown in [Annexure VI](#). Data should be downloaded to the computer and adjusted using software designated for it. A print-out of adjusted coordinates of traverse and observation points in the sequence of Point No., Northing, Easting, Height (if available) and point description (P,N,E,Z,C) authenticated by the surveyor should be pasted on a relevant page of the field book as shown in [Annexure II](#) and [Annexure VII](#).
- 11.56. If data recorders are not available, all above information may be recorded manually in the field book while taking observations as shown in [Annexure VIII](#) for detail surveys. However, prior written approval should be obtained from the Superintendent of Surveys for manual recording.
- 11.57. If data are manually recorded while traversing, total data set should be adjusted using the software provided and adjusted coordinates should be pasted as shown in [Annexure IX](#). Field notes have to be maintained with the details such as point numbers, point descriptions, boundary descriptions and traverse points with reference to the subsequent and previous traverse points, tenementary information etc; as shown in [Annexure IV](#) and [Annexure VI](#).

Data collection by Real Time Kinematic (RTK) Surveys

- 11.58. Data can be collected in three ways. Such as:
 - Sri Lanka Continuous Operating Reference System (SLCORS) network service of the system.
 - Base data between the base station and the rover and the data connection.
 - A radio connection between the base station and the rover.

The accuracy should be ensured when collecting the data in the above methods.

- 11.59. When data is collected using service from Sri Lanka Continuous Operating Reference System (SLCORS) network, the accuracy of the data must be verified by observing two controls of known coordinates and compare with original coordinates.
- 11.60. When collecting data on the connection between the Base station and the Rover, the base receiver must be set on a station of known coordinates and the coordinates obtained for the Rover stations must be compared with the original coordinates for their accuracies as shown in the figure 1.0 below. The distance between proposed area of the survey and the Base station should not exceed 2 km.

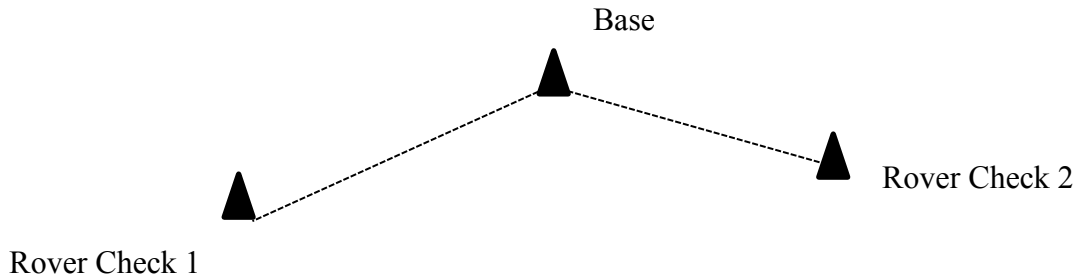


Fig: 1.0: RTK surveying using Base & Rover stations.

- 11.61. Collecting data between the Base Station and the Rover is the same way mentioned in paragraph 11.60.
- 11.62. The example of a field book page is given in [Annexure XII](#) for such data collection.
- 11.63. The control points in the data list of the Geodetic Control Points, published in the Survey Department web site, should be used. If adequate control points are not available in the field, before starting the field work, the control points must be set up through the Geodetic Survey Unit.

[Field Data collection using Sri Lanka Continuous Operating Reference System \(SLCORS\) Network](#)

- 11.64. Recording of field data in the three occasions mentioned in paragraph 11.58 above could be done in the same manner. A prospection diagram should be drawn in the same manner as done in the detail surveys using the Total station. The accepted code numbers as specified in the paragraph 11.40 should be used for the points shown in the prospection diagram. When observing these points their numbers, description and descriptive codes must be recorded in the data collector / controller. In addition, other required field information should be recorded in the field book. (See specimen in **Annexure XII**)

In this case, the surveyor should ensure that the status of the survey data of all the points as “FIXED” prior to the recording in the data collector/controller.

[System configuration and output data formats](#)

- 11.65. Detailed instructions for using the SLCORS network are appeared in [paragraph 2.53](#). In real time data collection, the GNSS should be compiled with the base station and the rover as mentioned in 11.60 and 11.61

[File format to be used for real time data collection](#)

- 11.66. There could be changes when the real time data is collected based on the equipment model. The generated data formats for the different models used by the department are shown as follows.

Table 1.0 : Output data formats of GNSS receivers

GNSS Receiver	Output Data Format
Topcon GR-5	.tps
CHC i80	.HCN
Hi-Target v60	.GNS
Trimble R6	.T02
Leica Viva	.m00

- 11.67.** To prepare the Survey Plans, the controller should obtain data in the **txt** or **excel** file format. The final data derived from various types of formats and data processing software are provided in [Annexure XIII](#).

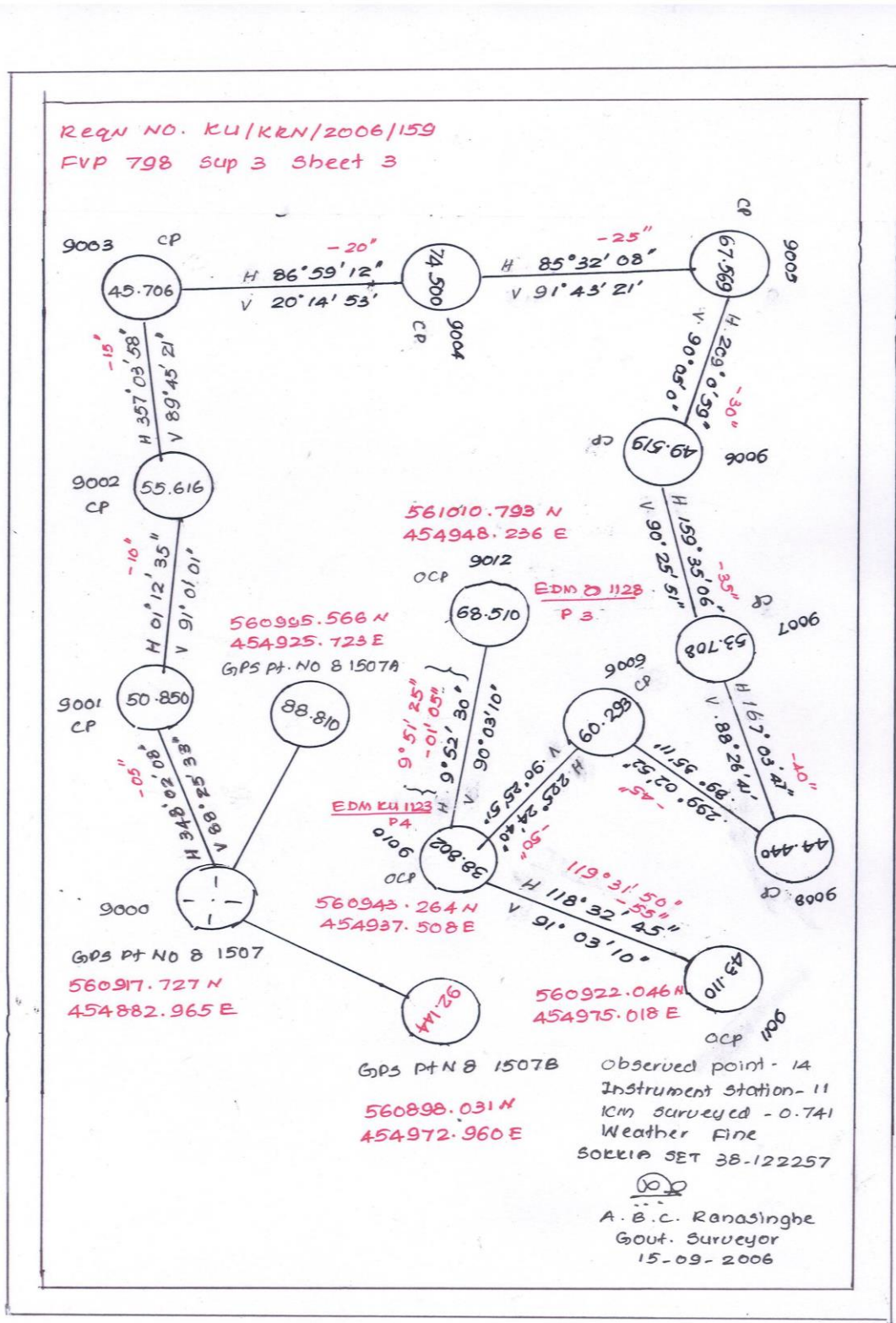
Checking and Filtering Data

- 11.68.** [Field data](#) can be collected under 'FIXED', 'FLOAT' or 'AUTO' conditions. But the collection of data could only be done under 'FIXED' condition. The surveyor must checked and filter the observed data prior to the completion of the survey.
- 11.69.** The surveyor and Superintendent of Surveys should ensure that the data have been collected on the “FIXED” condition by checking the horizontal error/ horizontal RMS values whether they are less than 0.05 m for each point.
For example; Table 3, 5 and 5 of the status of points indicated in Annexure XIII, respectively, are "fixed" not 379, 12, 13, 14, 15, 16, 17 and 6, 9 and Table 3 above for a horizontal error of 0.05m 364, 365 points should not be used for plan work.
- 11.70.** Survey field records must be pasted in the field book pages according to 2, 3, 4 & 5 of the Annexure XIII and give a certificate according to paragraph 11.46.

Alternative methods for measuring unfixed points

- 11.71.** When the survey observation are not possible using RTK method, due to lack of satellite coverage and various ground conditions, a suitable alternative method has to be used, vide [paragraph 2.59](#).

Specimen for Field book page on Traversing



Paragraph 11.44

Annexure II

Specimen for Adjusted coordinate sheet of a Traverse

(This page should be maintained for every traverse)

E.D.M. Traverse No		R/L	Horizontal<			Vertical<			Slope/ Horizontal Distance	Coordinate			Note
Stn. No.	Target No.		0	'	"	0	'	"		N/S	E/W	Height	

The adjusted traverse coordinate sheet should be pasted as follows.

Adjusted coordinate sheet

Stn No	Des.	Bearing ° ' "	Correction for bearing ° ' "	Corrected bearing ° ' "	Adjusted bearing ° ' "	Horizontal length (m)	Adjusted coordinate		Remarks
							North (m)	East(m)	
9000	A6						560917.727	454882.965	GPS Point No.1507
9001	CP	348 02 08	-05	348 02 03	348 02 03	50.850	560967.88	454872.44	
9002	CP	01 12 35	-10	01 12 25	01 12 24	55.616	561023.107	454873.63	
9003	CP	357 03 58	-15	357 03 43	357 03 42	45.706	561068.753	454871.287	
9004	CP	86 51 12	-20	86 50 52	86 50 52	74.500	561072.865	454945.692	
9005	CP	85 32 08	-25	85 31 43	85 31 42	67.569	561078.148	455013.073	
9006	CP	209 00 59	-30	209 00 29	209 00 29	49.519	561034.857	454989.078	
9007	CP	159 35 06	-35	159 34 31	159 34 30	53.708	560984.541	455007.839	
9008	CP	167 03 47	-40	167 03 07	167 03 07	44.440	560941.246	455017.814	

9009	CP	299 02 52	- 45	299 02 07	299 02 06	60.293	560970.525	454965.117	
9010	CP	225 24 40	- 50	225 23 50	225 23 51	38.802	560943.294	454937.508	
				Total		541.003	560943.294	454937.508	OCP
Error allowed :									
Error obtained :									
Surveyor's signature & Date:									
Supdt. of Surveys's signature & Date									

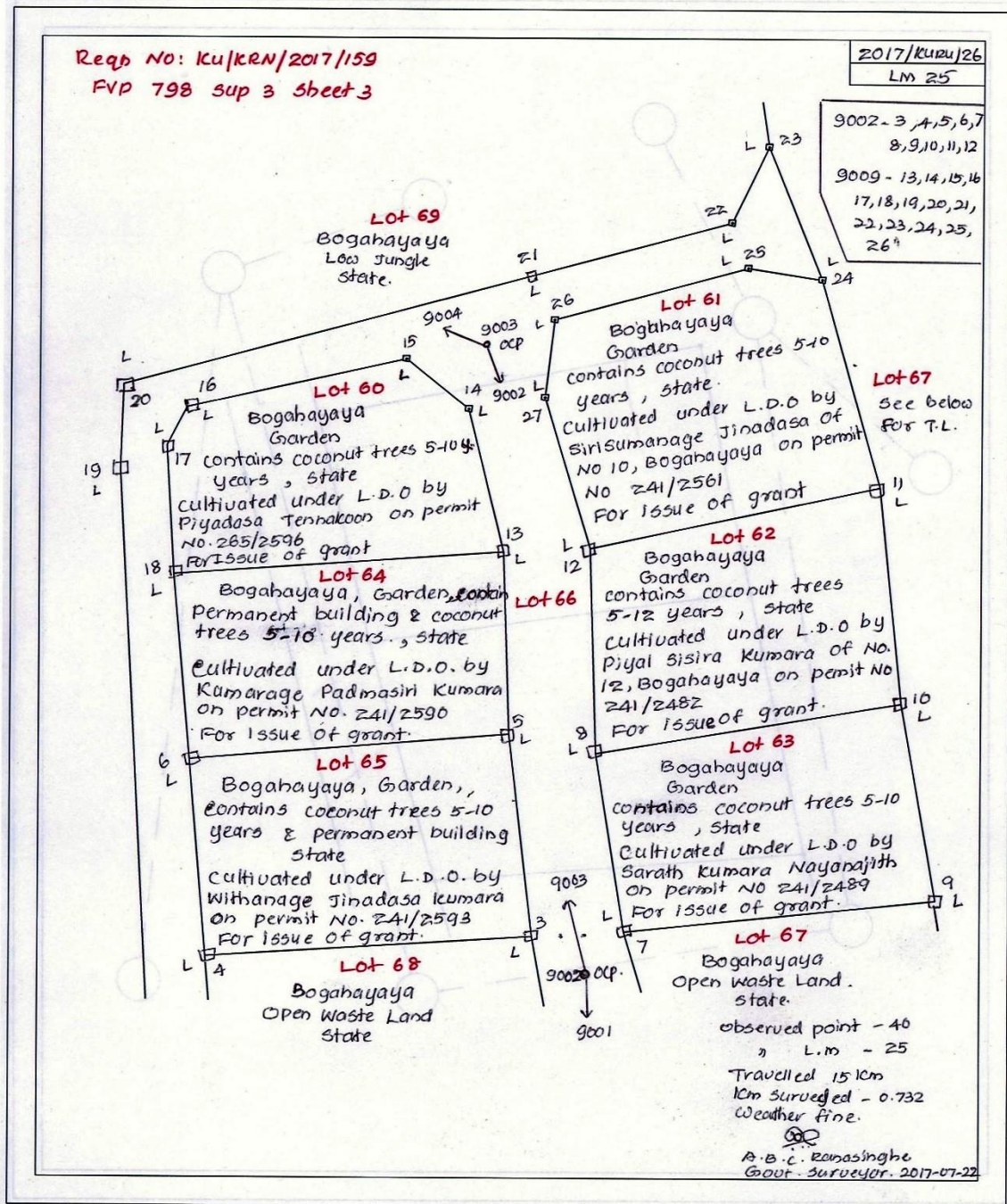
[Paragraph 11.51](#)[Annexure III](#)**Feature codes for Point features**

1. The location of instrument

1	Cement Picket	CP
2	Rock Picket (below surface)	RPB
3	Rock Picket	RP
4	Sunk Stone	SS
5	GPS observation point	GPS
6	Landmark Picket	LP
7	Traverse Cement Picket	TCP
Note: Feature line break (bkCP, bkRPB, etc;)		bk...

Specimen for Field book page on Detail Survey

(The details surveys were made separately. See Annexure 01 for Traverse)



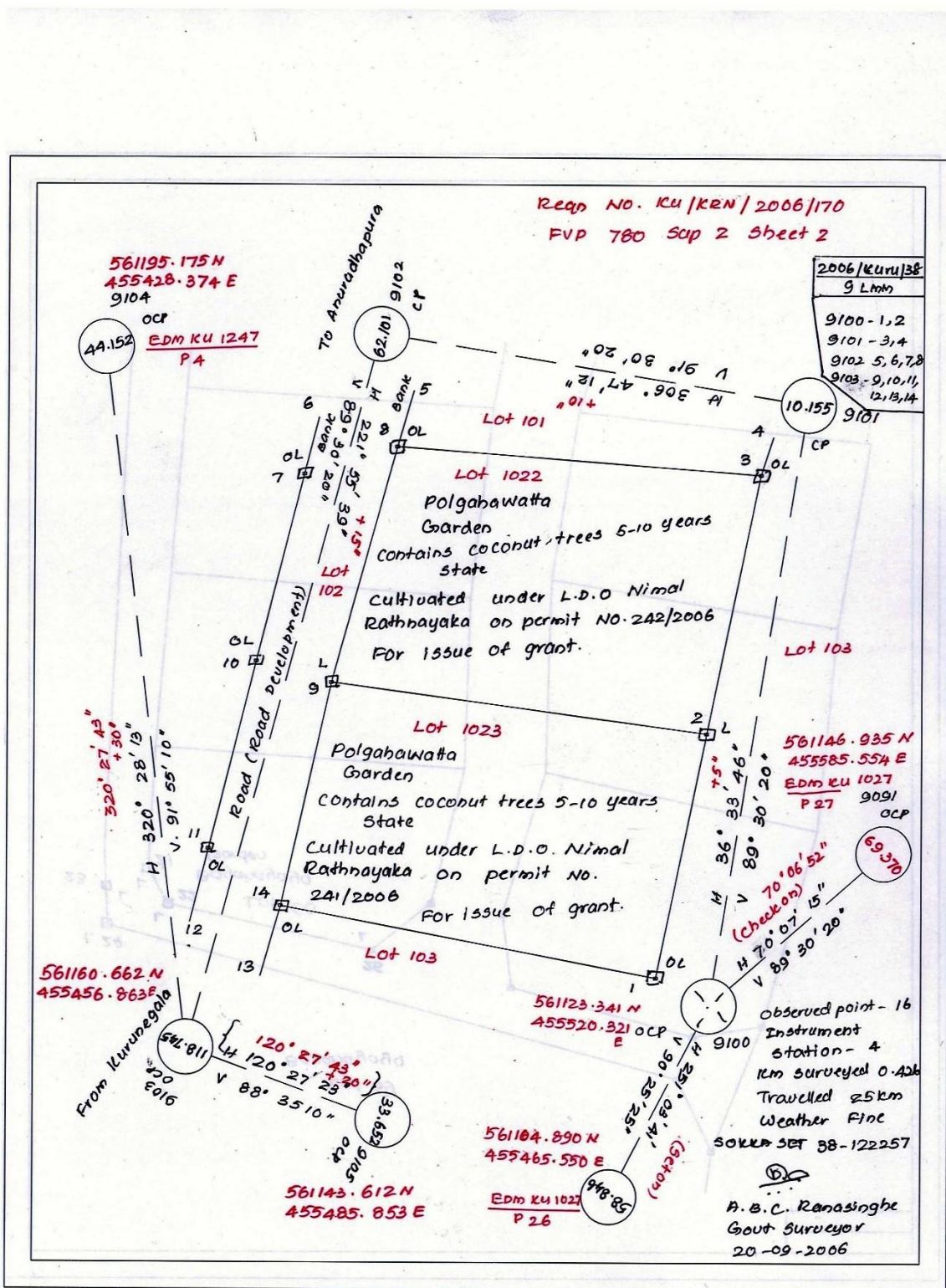
Paragraph 11.54Annexure V

Specimen for field book keeping when data are recorded digitally
(Adjusted detail traverse should only be used)

E.D.M. Traverse		Des.	Horizontal <			Vertical <			Horizontal Distance	Coordinate			Remarks
Stn. No	Target No.		0	'	"	0	'	"		North(m)	East(m)	Height	
9002		OCP							561023.107	454873.630		Page 3	
	9001	OCP	181	12	25			55.616	560967.488	454872.440		Set on	
	9003	OCP	357	03	43			45.706	561068.722	454871.251		Checked on	
	9001	OCP	181	12	24			55.616	560967.465	454872.440		Checked on after observation	
9003		OCP							561068.753	454871.287		Page 3	
	9002	OCP	177	03	43			45.706	561023.107	454873.630		Set on	
	9004	OCP	86	50	52			74.500	561072.818	454945.638		Checked on	
	9002	OCP	177	03	43			45.706	561023.107	454873.631		Checked on after observation	
<i>The coordinates of observed points should be pasted as follows.</i>													
			Observed coordinate										
		Stn No.	N (m)		E (m)	Height (m)	Code						
		1	561110.671		454534.539		U						
		2	561112.837		454532.627		U						

		3	561120.135	454528.086		L		
		4	561100.484	454464.801		L		
		5	561093.674	454466.586		U		
		6	561091.480	454460.516		LF		
		7	561151.215	454514.362		U		
		8	561125.739	454455.991		U		
		9	561126.719	454546.993		U		
		10	561157.612	454591.692		U		
		11	561184.676	454577.363		U		
		1	561157.993	454532.766		U		
		13	561211.184	454561.959		U		
		14	561190.235	454518.080		U		
		15	561200.089	454549.686		U		
		16	561232.139	454536.819		U		
		17	561224.620	454516.145		U		
		18	561213.673	454509.572		U		
		19	561183.331	454500.131		U		
Surveyor's Signature:								
Surveyor's Name:								
date:								
Supdt. of Surveys's Signature, Name & Date								

Specimen for Field book page on Traversing with Detail Survey



**Specimen for field book keeping when data are recorded digitally
(Traversing with Detail Survey)**

EDM Traverse		Des	Horizontal <			Vertical <			Hor. Dist	Coordinate			Remarks
Stn. No	Target No.		0	'	"	0	Stn. No	Target No.		North (m)	East (m)	Height	0
The coordinate sheet of Traverse & observed points should be pasted as follows.													

Stn No.	Observed Coordinate			Code
	North (m)	East (m)	Height (m)	
9100	561123.341	455520.321		OCP
1	561141.905	455514.652		OL
2	561166.645	455533.177		L
9101	561211.818	455585.941		<input type="checkbox"/> CP
3	561192.970	455551.23		OL
4	561203.360	455558.781		U
9102	561249.006	455536.206		CP
5	561220.46	455529.446		B
6	561240.52	455514.748		B
7	561231.994	455506.693		OL
8	561217.914	455520.285		OL
9103	561160.663	455456.863		CP
9	561191.769	455496.977		L
10	561205.748	455483.084		OL

				11	561180.505	455460.331		OL		
				12	561168.034	455448.754		WF		
				13	561157.823	455466.571		WF		
				14	561165.768	455474.323		OL		
Surveyor's Signature:										
Surveyor's Name:										
date:										
Supdt.of Surveys's Signature, Name & Date										

Paragraph 11.56Annexure VIII**Specimen for field book keeping when data are recorded manually**

(Detail survey only)

EDM Traverse		Des	Horizontal<			Vertical<			Hor. Distance	Coordinate			Remarks
Stn. No	Target No.		0	'	"	0	St n. No	Target No.		N(m)	E(m)	Height	
9002		OCP							561023.107	454873.630		Page 3	
	9001	A6	181	12	25			55.616	560967.488	454872.440		GPS B1507 Set on	
	9003	OCP	357	03	43			45.706	561068.722	454871.251		Checked on	
	1	U							561104.671	454534.539			
	2	U							561112.837	454552.627			
	3	L							561120.135	454528.086			
	4	L							561100.484	454464.801			
	5	U							561093.674	454466.586			
	6	LF							561091.248	454460.516			
	7	L							561151.215	454514.362			
	8	L							561125.739	454455.991			
	9	L							561126.719	454546.993			
	10	L							561157.612	454591.692			
	11	L							561184.676	454577.363			
	12	L							561157.993	454532.766			
9003		OCP							561068.753	454871.287		Page 3	
	9002	OCP	177	03	43			45.706	561023.107	454873.630		Set on	
	9004	OCP	86	50	52			74.500	561072.818	454945.638		Checked on	
	13	U							561211.184	454561.959			
	14	U							561190.235	454518.708			
	15	U							561230.089	454549.686			
	16	U							561232.139	454536.819			

	17	U								561224.620	454516.145		
	18	U								561213.673	454509.572		
	19	U								561183.331	454500.131		
	20	U								561158.273	454443.947		
	21	U								561188.607	454433.030		
	22	U								561202.022	454442.774		
	23	U								561197.193	454422.988		
	24	U								561206.323	454420.564		
	25	U								561227.123	454492.838		

Surveyor's Signature:

Surveyor's Name:

date:

Supdt.of Surveys's Signature, Name & Date

[Paragraph 11.57](#)[Annexure IX](#)**Specimen for field book keeping when data are recorded manually**

(Traversing with detail survey)

EDM Traverse		Des	Horizontal<			Vertical<			Hor. Dist	Coordinate			Remarks
Stn. No	Target No.		0	'	"	0	Stn. No	Target No.		N(m)	E(m)	Height	
9100		OCP							561123.341	455520.321			
	9099	OCP	251	03	41			56.848	561104.890	455466.550			
	9091	OCP	70	7	15			69.370	561146.935	455585.550			
	9103	CP	120	27	43			73.632	561160.663	455456.863			
	1	OL							561141.904	455514.657			
	2	L							561166.644	455533.182			
	9101	CP	36	33	46			110.155	561211.817	455585.946			
9101		CP							561211.817	455585.946			
	9100	OCP	216	33	46			110.155	561123.340	455520.325			
	3	OL							561192.296	455551.240			
	4	U							561203.359	455558.791			
	9102	CP	306	47	12			62.101	561249.005	455536.216			
9102		CP							561249.005	455536.216			
	9101	CP	126	47	12			62.101	561211.817	455585.951			
	9103	CP	221	55	39			118.743	561160.662	455456.877			
9103		CP							561160.662	455456.877			
	9102	CP	41	55	39			118.743	561249.005	455536.220			
	9100	OCP	120	27	23			73.632	561123.340	455520.335			
									561123.341	455520.321			
The coordinate sheet of Traverse & observed points should be pasted as follows.													

Stn. No.	Observed coordinate			Code
	North (m)	East (m)	Height (m)	
9100	561123.341	455520.321		OCP
1	561141.905	455514.652		OL
2	561166.645	455533.177		L
9101	561211.818	455585.941		CP
3	561192.297	455551.230		OL
4	561203.360	455558.781		U
9102	561249.006	455536.206		CP
9103	561160.663	455456.863		CP

Surveyor's Signature:

Surveyor's Name:










date:





Supdt. of Surveyor's Signature, Name & Date

Data Layers for Digital Survey Plan

දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
BOUND-ADMIN-VIR	+---+---+---+	පළාත් මායිම/Province boundary
	••••••••••	දිස්ත්‍රික් මායිම /District Boundary
	—•••—•••—•••—	ප්‍රාදේශීය ලේකම් කොට්ඨාශ මායිම/ Divisional Secretaries Division Boundary
	—••—••—••—	ග්‍රාම නිලධාරී කොට්ඨාශ මායිම Grama Niladhari Boundary
	—•••—•••—•••—	ගම් මායිම /Village Boundary
	HHHHHH	මහ නගර සභා, නගර සභා හෝ ප්‍රාදේශීය සභා මායිම /Municipal, Urban Council or Pradeshiya Sabha
	┌─┐┌─┐┌─┐┌─┐	මහ නගර සභා, නගර සභා හෝ ප්‍රාදේශීය සභා සීමා(විශාල කිරීමේදී)/Municipal, Urban Council or Pradeshiya Sabha limits (of extensions)
— — — — —	ජන්ද කොට්ඨාශය නැතහොත් කොට්ඨාශ මායිම /Ward or Division	
BOUND-B-GEN	ඉ/B	ඉවුර/Bank
BOUND-BUND-GEN	කණ්ඩිය /Bund	කණ්ඩිය /Bund (කණ්ඩිය දිගේ ලියනු ලබයි)
BOUND-BW-GEN	මාතා/ BW	මායිම් තාප්පය /Boundary Wall
BOUND-C-GEN	ගැබැ/ Cu	ගැටි බැම්ම /Curb
BOUND-DF-GEN	කෝවැ /DF	කෝටු වැට /Dry Fence
BOUND-DT-GEN	අ/Dh	අගල /Ditch
BOUND-EDN-GEN	කා/Dn	කපන ලද කාණුව /Earth drain
BOUND-HG-GEN	බවැ/ Hg	බඩ වැටිය /Hedge
BOUND-HYDRO-GEN	ජ/C	ජල මාර්ගය /Channel/Canal
BOUND-HYDRO-GEN	ඇළ /S	ඇළ /Stream (කෙටි යෙදුම English පමණි)
BOUND-HYDRO-GEN	-	ජල ප්‍රවාහය/ඔය/ගඟ /Stream/Oya/River

දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
BOUND-HYDRO-GEN	-	ජලාශ/වැව/කළපු /Reservoir/Wewa/Lagoon
BOUND-HYDRO-GEN	-	වෙනත් ජල මායිම් /Other type of Water Boundary (සුදුසු ස්ථානයක නම යෙදිය යුතුය)
BOUND-HYDRO-GEN	ඇල (වි) /S(Dry)	ඇල (වියළි) /Stream(Dry)
BOUND-IF-GEN	යවැ/IF	යකඩ වැට /Iron Fence
BOUND-LF-GEN	පැවැ/ LF	පැළඉනි වැට /Live Fence
BOUND-LM-GEN		මායිම්ගල් භාවිතයෙන් මායිම් පිහිටුවා ඇතිවිට /Boundaries defined with Landmarks or Rock Landmarks
BOUND-MYDN-GEN	සිකා/ MDn	සිමෙන්ති කාණුව/ Masonry Drain
BOUND-MW-GEN	සිබැ/MW	සිමෙන්ති බැම්ම/Masonry Wall
BOUND-OTHER-GEN	-	වෙනත් මායිම් /Other type of Boundary
BOUND-OUTER-GEN	-	වෙරළ මායිම /Shore Line
BOUND-RG-GEN	නි/R	නියර /Ridge
BOUND-RL-GEN	-	දුම්රිය මාර්ගය/ Railway line (කෙටි යෙදුම භාවිතා කිරීම අවශ්‍ය නැත) (No need to use abbreviations)
BOUND-RW-GEN	ආතා/RW	ආධාරක තාප්පය /Retaining Wall
BOUND-SF-GEN	ගවැ/SF	ගල්වැට /Stone Fence
BOUND-TB-VIR	-	Transferred Boundaries
BOUND-TE-GEN	තාගැ/ TE	තාර ගැට්ට /Tar Edge
BOUND-U-GEN	අවි/U	අවිනිශ්චිත /Undefined
BOUND-W-GEN	මාබි/ W	මායිම් බිත්තිය /Wall
BOUND-WF-GEN	කවැ/ WF	කම්බි වැට /Wire Fence
BOUND-WLF-GEN	කපැවැ/ WLF	කම්බි පැළඉනි වැට/ Wire Live Fence

දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
BOUND-WNF-GEN	කඳුවැ/WNF	කම්බි දැල් වැට /Wire Net Fence
OBJ-MAN-MADE	 	ස්ථිර ගොඩනැගිල්ල /Permanent building (මෙම ස්ථරයෙහි ගොඩනැගිලි සලකුණ, ස් සහ යා ලකුණ යන සියල්ල ඇඳිය යුතුය.) (Square, P and clitch – all should be in this layer)
OBJ-MAN-MADE	 	තාවකාලික ගොඩනැගිල්ල /Temporary building (මෙම ස්ථරයෙහි ගොඩනැගිල්ල, තා සහ යා ලකුණ යන සියල්ල ඇඳිය යුතුය.) (Square, Ty and clitch – all should be in this layer)
OBJ-MAN-MADE	 	අත්තිවාරම /Masonry Foundation (අත්තිවාරම අ /F සහ යා ලකුණ මෙම ස්ථරයෙන් ඇඳිය යුතුය.) (break line square, F and clitch – all should be in this layer)
OBJ-MAN-MADE	වැ/To	වැසිකිලිය /Toilet
OBJ-MAN-MADE	වැව/TtP	වැසිකිලි වල /Toilet Pit
OBJ-MAN-MADE	  බෝ / Cul පාලම/Bridge	පාලම/බෝකිකුව /Bridge/Culvert (කෙටි යෙදුම් TEXT-BD දත්ත ස්ථරයේ ලිවිය යුතුය.) (TEXT-BD data layer should be used for abbreviations.)
OBJ-MAN-MADE	මැනුම් දත්ත භාවිතා කර ඇඳිය යුතුය/ should be drawn using survey data	සිමෙන්තියෙන් බදින ලද ලීඳ/ලීඳ/නල ලීඳ Masonry Well/Earth well/Tube well (කෙටි යෙදුම භාවිතා කිරීම අවශ්‍ය නැත) (No need to use abbreviations)
OBJ-MAN-MADE	වටු / WT	වතුර වැංකිය/ Water Tank (මෙම ස්ථරයේ ඇඳිය යුතුය/Object draw in this layer) (කෙටි යෙදුම් TEXT-BD දත්ත ස්ථරයේ ලිවිය යුතුය) (TEXT-BD data layer should be used for abbreviations.)
OBJ-MAN-MADE	 ගේ /G	ගේවටුව /Gate (කෙටි යෙදුම් TEXT-BD දත්ත ස්ථරයේ ලිවිය යුතුය) (TEXT-BD data layer should be used for abbreviations.)

දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
OBJ-MAN-MADE	මපාල /SM 	මතුපිට පාලන ලක්‍ෂ්‍යය සඳහා සංකේතය /Surface Monument Symbol (කෙටි යෙදුම් TEXT-BDP හිදී නිත් සලකුණ POINT_FS දත්ත ස්ථරයේ දී විය යුතුය.) (should be used abbreviation on TEXT- BDP & Dot mark in POINT-FS data layer.)
OBJ-MAN-MADE	 භූපාල /GCP	භූමිතික පාලන ලක්‍ෂ්‍යය සඳහා සංකේතය /Geodetic Control Point Symbol (කෙටි යෙදුම් TEXT-BDP හිදී කතිර සලකුණ POINT_FS දත්ත ස්ථරයේ දී විය යුතුය.) (should be used abbreviation on TEXT- BDP & cross mark in POINT-FS data layer.)
OBJ-MAN-MADE	 115.76 පිල / BM	පිල් ලකුණ /Bench Mark
OBJ-MAN-MADE	 115.76 මූලික පිල් /FBM (with value)	මූලික පිල් ලකුණ / Fundamental Bench Mark
POINT-FS	ග/L	මායිම්ගල /Landmark
POINT-FS	පිග /RL	පිහිටි මායිම්ගල /Rock Landmark
POINT-FS	ක/BP	මායිම් කණුව (කොන්ක්‍රීට් කණුව /ලී වැට කණුව /වෙනත් ස්ථිර මායිම් කණුව) / Boundary Post (Concrete Post/ Wooden Post/ Other Permanent Boundary Post)
POINT-FS	ල/M	මායිම් සලකුණ / Boundary Mark (සිමෙන්තිය මත සලකුණ /Mark on cement floor, මායිම් තාප්පය මත සලකුණ /Mark on boundary wall, තාප්පය මත සලකුණ /Mark on Wall)
POINT-FS	ලී / St	ලී කුඤ්ඤය /Stake / Wooden Stakes
POINT-FS	පුග /AL	පුරා විද්‍යා දෙපාර්තමේන්තුව මගින් වළලන ලද ගල /Boundary Stone- Archaeological Dept.
POINT-FS	කැග/ FL	වන සංරක්ෂණ දෙපාර්තමේන්තුව මගින් වළලන ලද ගල /Boundary Stone- Forest Dept.
POINT-FS	මාග/RDL	මාර්ග සංවර්ධන අධිකාරිය මගින් වළලන ලද ගල / Boundary Stone- RDA
POINT-FS	වික/ EP	විදුලි කණුව /Electric Post

දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
POINT-FS	දුක/TP	දුරකථන කණුව /Telephone Post
POINT-FS	ට්‍රාක /TFP	ට්‍රාන්ස්ෆෝමර් කණුව /Transformer Post
POINT-FS	තැපෙ/PB	තැපැල් පෙට්ටිය /Post Box
POINT-FS	දුකු/ TCB	දුරකථන කුටිය/ Telephone Call Box
POINT-FS	ඇ/N	ඇණය/ Nail (පින්තල ඇණය /Brass Nail , යකඩ ඇණය /Iron Nail)
POINT-FS	යක/IR	යකඩ කණුව /Iron Rail
POINT-FS	මබ්/Mh	මනුබිල /Manhole
POINT-FS	කුබ/RR	කුණු බක්කිය/ Refuse Receptacle
POINT-FS	වප/SP	වතුර පයිපය/Stand Pipe
POINT-FS	වැ/V	වැල්වය නොහොත් වාතාශ්‍ර නලය/Valve or Vent-pipe
POINT-FS	මපාල /SM	මතුපිට පාලන ලක්‍ෂ්‍යය /Surface Monument (නිත් සලකුණ / Node)
POINT-FS	භූපාල/GCP	භූමිතික පාලන ලක්‍ෂ්‍යය /Geodetic Control Point (නිත් සලකුණ / Node)
POINT-FS	ගස /Tr	ගස /Tree
POINT-FS	කික/ KmP	කිලෝමීටර කණුව /Kilometer Post
POINT-SN		මැනුම් ස්ථානය /Survey Nodes
POINT-TN		පරික්‍රමණ ස්ථානය/ Traverse Nodes
POINT-TP		පැරණි පිඹුරක් මගින් පිහිටුවන ලද ලක්‍ෂ්‍යය /Transferred Points (Transferred survey nodes)
TEXT-BD		මායිම හැඳින්වීමේ විස්තරය/Boundary Line Description
TEXT-BD	පාලම/බෝ, Bridge/Cul	පාලම/බෝකුටුව /Bridge/Culvert
TEXT-BD	ගේ /Gate	ගේට්ටුව /Gate (සලකුණ සමඟ ලිවිය යුතුය./should be written with symbol)
TEXT-BD	ළිඳ/Well	ළිඳ/Well (නියැකන ලද අංගය සමඟ ලිවිය යුතුය./should be written with the plotted feature)

දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
TEXT-BDP		මායිම් ලක්ෂ්‍යයේ විස්තරය/Boundary Point Description (Point Layer වල තිබෙන සියළුම ලක්ෂණ වල කෙටි යෙදුම් මෙම ස්ථරයේ ලිවිය යුතුය) (All abbreviations of the features in Point Layer should be written in this layer)
TEXT-EXT		ඉඩම් කැබැල්ලේ ගණනය කරන ලද වර්ගඵලය /Computed Extent of Land Parcels
TEXT-HG		ස්ථානීය උස /Height Value
TEXT-HYDRO		ඇළ /ඔය/ගඟේ නම /Name of the Ela/ Oya/ River
TEXT-INFO-PLAN		පිඬුර මත සටහන් කරන තොරතුරු /Text in body of Plan
TEXT-LOT		කැබලි අංකය /Lot Number
TEXT-PN		තොරතුරු මැනුම් හඳුනාගැනීමේ අංකය /Point Number
TEXT-RD	මාර්ග (අධි)/ Road(E)	මාර්ගය (අධිවේගී)/Road (Expressways)
TEXT-RD	මාර්ග (ම)/ Road(H)	මාර්ගය (මහාමාර්ග)/Road (Highways)
TEXT-RD	මාර්ග (වා)/ Road(ID)	මාර්ගය (වාරි මාර්ග)/Road(Irrigation Dept)
TEXT-RD	මාර්ග (ඉ)/ Road(LD)	මාර්ගය (ඉඩම් සංවර්ධන)/Road(Land Development)
TEXT-RD	මාර්ග (මාසංආ)/ Road (RDA)	මාර්ගය (මාර්ග සංවර්ධන අධිකාරිය)/ Road(Road Development Authority)
TEXT-RD	මාර්ග (ප්‍රාස)/ Road(PS)	මාර්ගය (ප්‍රාදේශීය සභා)/Road (Pradeshiya Saba)
TEXT-RD	මාර්ග (නස)/ Road(UC)	මාර්ගය (නගර සභා)/Road (Urban)
TEXT-RD	මාර්ග (මනස) / Road (MC)	මාර්ගය (මහනගර සභා)/Road (Municipal)
TEXT-RD	මාර්ග (පස)/ Road(PC)	මාර්ගය (පළාත් සභා)/ Road (Provincial Council)
TEXT-RD	මාර්ග (මආ)/ Road (MA)	මාර්ගය (මහවැලි අධිකාරිය)/ Road(Mahaweli Authority)
TEXT-RD	මාර්ග (පමාසංආ)/ Road(PRDA)	මාර්ගය (පළාත් මාර්ග සංවර්ධන අධිකාරිය)/ Road (Provincial RDA)
TEXT-RD	මාර්ග (මාසංදෙ)/ Road (RDD)	මාර්ගය (මාර්ග සංවර්ධන දෙපාර්තමේන්තුව)/ Road(Road Development Department)

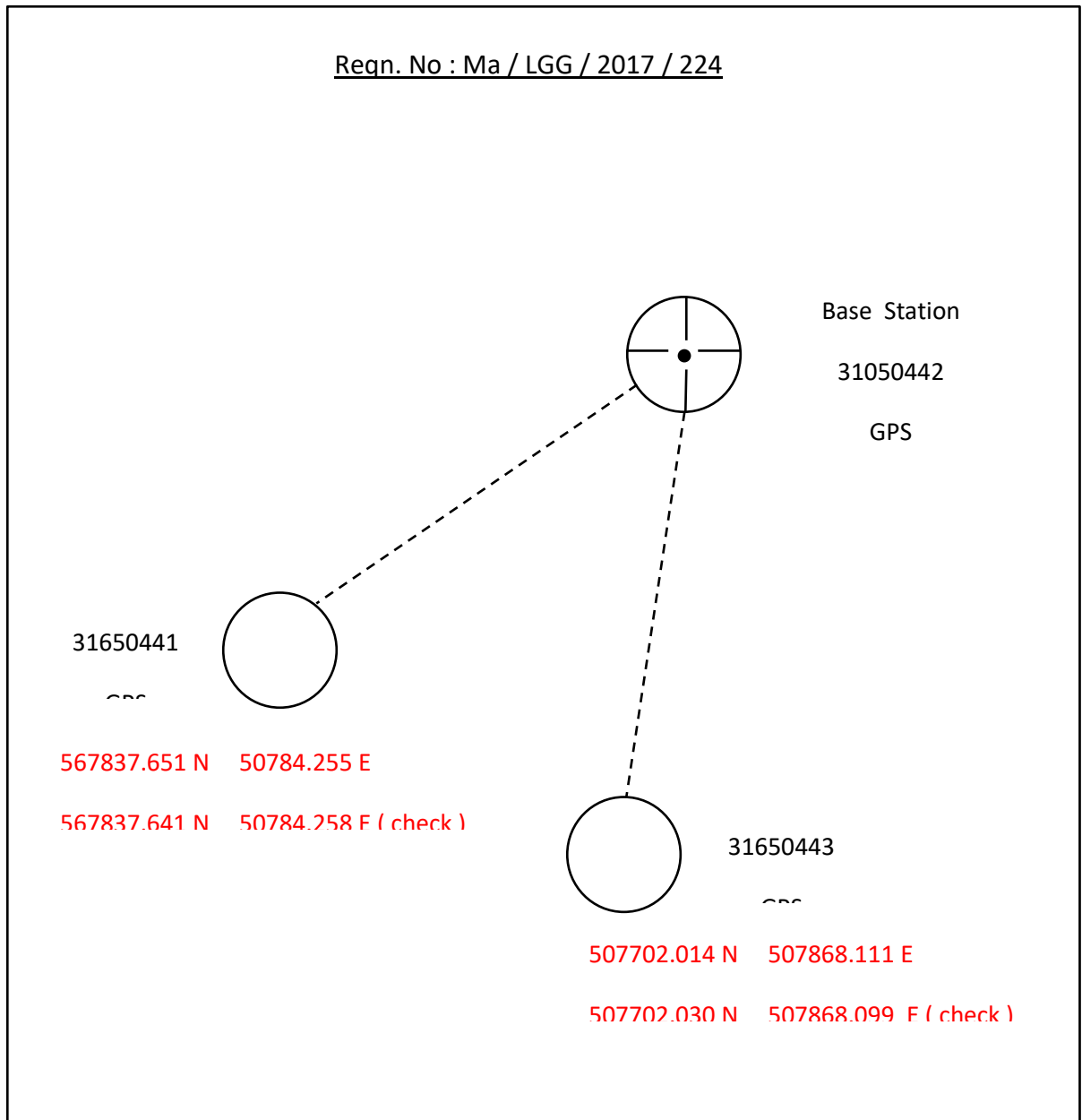
දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
TEXT-RD	අපා /FP	අඩි පාර /Foot Path
TEXT-RD		ප්‍රවේශ මාර්ගය /Means of Access
TEXT-RD		පාර/ වතු පාර / Road / Estate Road
TEXT-RD		මාර්ග දිශාවන්/Road Directions
TEXT-SC		ලක්‍ෂ්‍ය සංකේත/ Feature Code
TEXT-TP		පැරණි පිඹුරක් මගින් පිහිටුවන ලද ලක්‍ෂ්‍යයේ හඳුනා ගැනීමේ අංකය /Transferred Point Number
TEXT-VAL-GRID		ග්‍රිඩ් අගයන්/ Grid Values
VIR-ARROW		ඊතලය/ Arrow
VIR-BAR		කොටස් දාර /Section Bar
VIR-CLITCH		යා ලකුණ / භාග යා ලකුණ/ Clitch / Half Clitch
VIR-CS		හරස් කැපුම/ CS Profile
VIR-DANGLE		Dangling Node
VIR-GRID		ග්‍රිඩ් රේඛා/ Grid
VIR-INDEX		මූලික සමෝච්ඡ රේඛා /Index Contours
VIR-INTER		අන්තර් සමෝච්ඡ රේඛා / Intermediate Contours
VIR-CLOSEDOT		කැබලි පියවීමේ තිත / Lot Closing Dot
VIR-CLOSELINE		කැබලි පියවීමේ රේඛා /Lot Closing Line (ඇළකින් හෝ මාර්ගයකින් අඩක් වර්ගඵලය ලෙස ගන්නා අවස්ථාවලදී එම මායිම) (Boundary as half way of Road or water feature when computing the extent)
VIR-LS		දිග් කැපුම/ LS Profile
VIR-MARKS		කොටස් ලකුණු / Section marks , සෙ.මී. 1 ක් දිග ග්‍රිඩ් රේඛා ජේදනයන් /Grid Cutting line-1cm
VIR-POLY		Virtual Polyline

දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
VIR-TRVLINE		පරික්‍රමණ රේඛා/Traverse Line
TEXT- LUSE	ක / Cam	කපුරු /Camphor
	කර / Car	කරදමුංගු / Cardamom
	පොව/ CE	පොල් වත්ත (හෙක්.20ට වැඩි) / Coconut estate (over 20 hectares)
	සො /Cem	සොහොන්බිම / Cemetery
	පොඉ /CG	පොල් ඉඩම (හෙක්.20ට අඩු) / Coconut Garden (under 20 hectares)
	චේ /Ch	චේන / Chena
	කු /Cin	කුරුඳු/Cinnamon (කු - කුඹුර සඳහාද වේ)
	පැ / Cit	පැහිරි / Citronella
	කො / Coa	කොකෝ / Cocoa
	කෝ / Cof	කෝපි / Coffee
	කපු / Cot	කපු / Cotton
	දේ/D	දෙනියා / Deniya
	කැ / F	කැලය / Forest
	ව / G = Garden	ගෙවත්ත (ස්ථිර හෝ තාවකාලික වගාව) / G = Garden (permanent or temporary cultivation)
	මු / HJ	මුකලාන / High jungle
	ලකැ / LJ	ලඳු කැලය / Low jungle
	බපි / LP = Lease Plan	බදුකර පිඹුර / LP = Lease Plan
	අහෙ / NC	අළුත් හෙළිකිරීම / New clearing
	ඕ / O	ඕවිට /Owita
	කු /P	කුඹුර / Paddy field (කු - කුරුඳු සඳහාද වේ.)
	තව / PG	තල් වත්ත /Palmyrah Garden

දත්ත ස්ථර Layers – Version 2019	කෙටි යෙදුම් සිංහල/ඉංග්‍රීසි Abbreviations Sinhala/English	විස්තරය Description
TEXT- LUSE	වැ / PL	වැවිල්ල / Plantation (gums, teaks & c)
	මිප / PM	මිනිරන් පතල / Plumbago Mine
	තැකා / PO	තැපැල් කාර්යාලය / Post Office
	තැවිකා / PTO	තැපැල් හා විදුලි පණිවුඩ කාර්යාලය / Post and Telegraph Office
	ප / Pt	පතන / Patana
	ආවැබ / PW	ආණ්ඩුවේ වැඩ දෙපාර්තමේන්තු බංගලාව / Public Work Department bungalow
	ගව / Q	ගල්වල / Quarry
	ර / Rb	රබර් / Rubber
	තා / RH	තානායම / Rest House
	දුනැ / RS	දුම්රිය නැවතුම්පල / Railway Station
	තේ / T	තේ / Tea
	කම / TF	කමත / Threshing Floor
	දු / Tob	දුම්කොළ / Tobacco
	හිපි / TP	හිමිකම් පිඹුර / Title Plan
	හිපි (ර) / TP (Cr)	රජයේ හිමිකම් පිඹුර / Crown Title Plan
	එ / V	එළවළු වගාව / Vegetable cultivation
	වව / WH	වතුර වල /Water Hole
	මුබ් / WL	විවෘත මුඩුබිම / Open Waste Land
	පා/ab eg: පොඉ(පා) / CG (ab)	පාළු (අනෙකුත් සාපේක්ෂ නාම සමඟ එකට භාවිතා කරනු ලැබේ.) / Abandoned (used conjunction with other initials)
	ගල / RK	ගල /Rock

Annexure XI

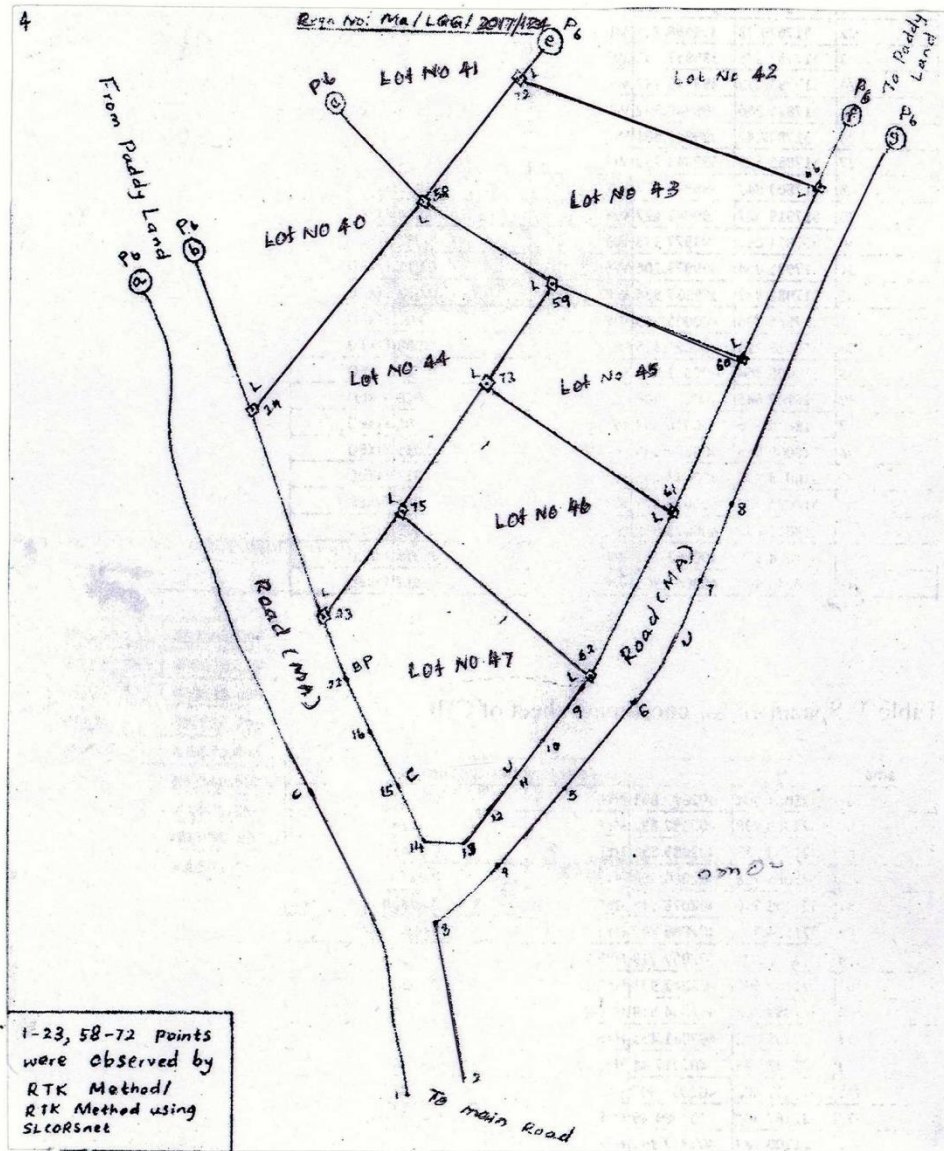
Specimen of a field book for check Point



Paragraph 11.62

Annexure XII

Specimen of a field book for detail survey using RTK/SLCORnet



[Paragraph 11.67](#)[Annexure XIII](#)

Table 2: Specimen for coordinate sheet of Topcon GR-5

All the measurements N, E and Horizontal error are in meters (m).

Name	N	E	Code	HRMS	Solution
21	517674.404	399964.035	MDn	0.003	FIXED
22	517679.33	399966.754	MDn	0.005	FIXED
23	517761.376	399957.751	WF	0.005	FIXED
24	517793.775	399949.732	WF	0.007	FIXED
25	517825.266	399940.992	WF	0.014	FIXED
26	517842.42	399946.631	WF	0.025	FIXED
27	517855.529	399943.253	WF	0.01	FIXED
28	517863.747	399947.657	WF	0.027	FIXED
29	517919.527	399947.627	WF	0.014	FIXED
30	517951.062	399977.335	WF	0.032	FIXED
31	517981.054	399973.206	WF	0.011	FIXED
32	517982.977	399987.936	WF	0.012	FIXED
33	517985.326	400005.648	WF	0.01	FIXED
34	517988.213	400025.335	WF	0.008	FIXED
35	518005.868	400021.043	WF	0.017	FIXED
36	518007.645	400020.604	WF	0.028	FIXED
37	518006.626	400016.438	WF	0.01	FIXED
38	518009.055	400022.639	WF	0.035	FIXED
39	518013.953	400043.213	WF	0.012	FIXED
40	518021.228	400076.677	WF	0.016	FIXED
41	518016.622	400073.852	GP	0.009	FIXED
42	518014.879	400061.067	WF	0.015	FIXED
43	518010.903	400043.905	WF	0.012	FIXED

Table 3: Specimen for coordinate sheet of Topcon CHC i80

Name	N	E	Code	Horizontal Error	Solution
360	521051.904	402097.859	HYE	0.0125	Fix
361	521068.498	402087.892	HYE	0.0126	Fix
362	521073.753	402085.551	HYE	0.0243	Fix
363	521084.728	402080.557	HYE	0.0243	Fix
364	521100.986	402073.645	HYE	0.0982	Fix
365	521114.921	402066.895	HYE	0.0982	Fix
366	521110.91	402059.119	HYE	0.0284	Fix
367	521103.598	402042.973	HYE	0.0284	Fix
368	521099.905	402034.519	HYE	0.0284	Fix
369	521098.72	402031.495	HYE	0.0284	Fix
370	521093.243	402017.41	HYE	0.0284	Fix
371	521111.602	402009.907	HYE	0.0285	Fix
372	521167.507	401989.49	HYE	0.0285	Fix
373	521200.187	401977.949	HYE	0.0285	Fix
374	521213.915	401973.318	HYE	0.0285	Fix
375	521229.227	401967.941	HYE	0.0285	Fix
376	521240.804	401963.917	HYE	0.0286	Fix
377	521263.424	401956.867	HYE	0.0286	Fix
378	521275.044	401953.251	HYE	0.0286	Fix
379	521279.456	401951.608	HYE	0.796	Float
380	521354.234	401922.952	HYE	0.0284	Fix

Table 4: Specimen for coordinate sheet of Hi-Target V60

Name	N	E	Desc	HRMS	Status
pt1	487675.510	399963.891	cp	0.0078	RTK Fix
pt2	487675.494	399963.901	cp	0.0085	RTK Fix
pt3	487308.614	400051.167	cp	0.0078	RTK Fix
pt4	487506.916	399790.864	cp	0.008	RTK Fix
pt5	487640.960	399590.990	cp	0.0064	RTK Fix
pt6	487357.985	399280.423	cp	0.0081	RTK Fix
pt7	487322.615	399027.304	cp	0.0041	RTK Fix
pt8	486742.417	398851.177	cp	0.0051	RTK Fix
pt9	487155.773	398727.718	cp	0.0035	RTK Fix
pt10	486888.222	399154.306	cp	0.0037	RTK Fix
pt11	486805.921	399490.826	cp	0.0087	RTK Fix
pt12	486824.989	399524.894	cp	5.2174	DGPS
pt13	487044.150	399877.042	cp	0.0537	RTK Float
pt14	488125.109	400717.712	cp	0.4765	RTK Float
pt15	488125.067	400717.654	cp	0.5501	DGPS
pt16	488125.065	400717.653	cp	0.5457	DGPS
pt17	488124.925	400718.203	cp	0.5332	RTK Float
A311	488089.935	400782.363	cp	0.0036	RTK Fix

Table 5: Specimen for coordinate sheet of method using RTK

Name	N	E	CODE	Horizontal Error	Status
1	488156.011	400608.007	cp	0.0041	RTKFix
2	488124.746	400616.128	cp	0.0019	RTKFix
3	488003.625	400635.459	cp	0.0035	RTKFix
4	487986.717	400520.795	cp	0.0033	RTKFix
5	488006.060	400570.626	cp	0.0031	RTKFix
6	488002.542	400548.950	cp	1.3550	RTKFloat
7	488017.003	400526.286	cp	0.0158	RTKFix
8	488135.033	400494.209	cp	0.0161	RTKFix
9	488114.805	400506.860	cp	2.1980	RTKFloat
10	488061.353	400519.820	cp	0.0078	RTKFix

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER XII**PLAN WORK****INDEX**

D.S.R. Reference	Description	Page
	<u>Common instruction for Plan work</u>	
12.1.	Plan preparation using Software	1
12.2.	Field sheets for plans	1
12.3.	Positioning the plan in the plotting sheet	1
	<u>Points to be considered when using more than one section</u>	
12.4.	Use of minimum number of sheets	1
12.5.	Selection of sheets for many plan sections	1
12.6.	Turning sheet through 90 °	1
12.7.	Giving reference for adjoining sections	1
	<u>Preparation of different types of plans</u>	
12.8.	Surveys outside F.V.P. / Topo P.P. areas	1
12.9.	Surveys within V.P. or F.V.P. areas	2
12.10.	Surveys for Sub division/ Amalgamation within the cadastral areas	2
12.11.	Scattered Surveys within F.V.P/ F.T.P. area	2
12.12.	Forest surveys within P.P Areas	2
12.13.	Surveys within F.T.P or Topo P.P. Areas	2
	<u>Scale of Plans</u>	
12.14.	Scale for different types of plans	2
	<u>Marginal information, Drawing special features and printing</u>	
12.15.	Marginal information for TL Data Base	2
12.16.	Information to be given for surveys within municipal areas	3
12.17.	Drawing the North Line	3
12.18.	When a wall and a fence coincide each other	3
12.19.	Showing cultivations in the plan	3
	<u>Preparation of digital plans, burying landmarks and comparison on adjoining boundaries</u>	
12.20.	Preparing digital plans, burying landmarks and Checking of comparing Adjoining boundaries	3
	<u>Colours and symbols used in Plans</u>	
12.21.	Use of Blue colour in a plan	3
12.22.	Direction of water flow	3
12.23.	Description of landmarks	3
12.24.	Printing of coordinates	3
12.25.	Clitches	4

D.S.R. Reference	Description	Page
12.26.	Colours for Stream and Transferred boundaries	4
12.27.	Colours and text to be applied for Title Plan, Diagrams, Preliminary Plans or Diagram Plan	4
12.28.	Colours and dimensions of Trigonometrical stations, Local control points & Pickets	4
	<u>Abbreviations shown in Plans</u>	
12.29.	Usage of Abbreviations in plan.	4
12.30.	Cares to be taken when using abbreviations in plan	4
12.31.	Abbreviations used for describing the boundaries in plan	4
12.32.	Abbreviations used in plan	5
12.33.	Lettering on plan	5
12.34.	Use of abbreviation “U” for undefined	5
12.35.	Numbering of lots when the road and path run along the edge of the watercourses	5
12.36.	Showing footpaths and water-courses on plan	5
	<u>Revenue Boundaries</u>	
12.37.	Conventional signs for revenue boundaries	5
12.38.	Printing of abutting village names on both sides of the revenue boundaries in plan	5
12.39.	Showing conventional signs for revenue boundaries on plan	5
12.40.	Revenue boundaries run through the center of the ground features	5
	<u>Abutting descriptions</u>	
12.41.	Printing abutting details of different survey areas	5
12.42.	Printing TP boundaries on plan	6
	<u>Lotting of land parcel</u>	
12.43.	Lotting of large survey areas	6
12.44.	When some land parcel are not lotted	6
12.45.	Recording of all lot numbers used in a (full or half) field sheet	6
12.46.	Assigning lot umbers for insets of block survey sheets	6
12.47.	References of field sheets when old boundaries are the same	6
12.48.	Lot numbers shown in red in preliminary plan	6
12.49.	Lotting of large irregular shaped lots	7
12.50.	Using clitches across the lots	7
12.51.	Lotting of land parcels which are declared as state by final order	7
12.52.	Village boundary must not be clitched	7
12.53.	Lotting when no village boundariexist	7
	<u>Sub division of lots</u>	
12.54.	The integral system of lotting	7
12.55.	Lotting according to the old system of numbering by indices	7
12.56.	F.S.P.P. lot nos. on the plan	7

D.S.R. Reference	Description	Page
12.57.	Sheet Numbering of F.V.P. sheets	7
12.58.	Reference to be made on F.V.P./F.T.P.P.	7
	<u>Tenement Lists</u>	
12.59.	Tenement list Database	8
12.60.	A3 size sheet for tenement lists	8
12.61.	TL specimen for Compilation	8
12.62.	Cancellation of lots in V.P. or F.V.P.	8
12.63.	Preparation of new Tenement pages for V.P. or F.V.P.	8
12.64.	Adjustment of total extent of the sub lots	8
12.65.	Balance area of sub divided lots	8
12.66.	Names of lands	8
12.67.	Descriptions of land according to the cultivations	8
12.68.	Description of land use as old estate or temporary cultivation	8
12.69.	Description of buildings	8
12.70.	Determination of Permanent or temporary buildings	8
12.71.	Detailed description of buildings	8
12.72.	Description of well or spring	8
12.73.	Description of roads	9
12.74.	Encroachments of state lands	9
12.75.	When there are several claimants	9
12.76.	Addresses of claimants	9
12.77.	Spelling of village names	9
12.78.	Describing of village names and assessment nos. falling within the limits of, pradeshiya sabha, urban councils & municipalities	9
12.79.	Area computations	9
12.80.	Name of the villages when work falls in more than one village	9
12.81.	Signing of Tenement List	9
12.82.	Entering survey requisition numbers in Tenement List	9
12.83.	Acquisitions survey Tenement List	9
12.84.	Amendments of extents in Tenement List	9
	<u>Survey Report</u>	
12.85.	Report forms relevant to the types surveys	10
12.86.	Proper completion of the report	10
12.87.	Points to be included in the survey report	10
12.88.	Facts that should not be included in the report	10
12.89.	Changes in requisition to be given in the survey report	10
	<u>Preparation of Supplementary Tenement List</u>	
12.90.	Preparation of supplementary Tenement List	10
12.91.	Maintaining requisition details in District Survey Office	11
12.92.	Writing Supplementary Tenement List under L.D.O & Land Grants (Special Provisions) Act	11

D.S.R. Reference	Description	Page
12.93.	Checking and Certifying Information	11
12.94.	Compilation of Supplementary Tenement List after verification in field	11
12.95.	Obtaining page nos. for new Tenement List	11
12.96.	Amendments of old Tenement List	11
12.97.	Issuing of Supplementary Tenement List copies	11
12.98.	Updating of Cadastral Tenement List	11
	<u>Plan examination</u>	
12.99.	Completion of survey requisition by Surveyor	11
12.100.	Checking plans by Superintendent of Surveys	11
12.101.	Approving plan by Snr.S.S. and responsibility for digital data	12
12.102.	Check list for plan examination by Snr.S.S.	12
12.103.	Handing over uncompleted plan work from one officer to another	12
	<u>Signing of Plans</u>	
12.104.	Signing of plans by Surveyor, Superintendent of Surveys & Senior Superintendent of Surveys	12
12.105.	Cancellation of old work by new one	12
	Annexures	
<u>Annexure I</u>	Specimen Tenement List for various types of survey work	13
<u>Annexure II</u>	Instruction for Plan checking	23

CHAPTER XII

PLAN WORK

Common instruction for Plan work

- 12.1. The software provided by the Survey Department should be used to prepare plans of all surveys. The land details are compiled from the data entered in the TLDB and the selected land information are used to prepare the TL from this software. This TLDB has been structured to analyze the information through a web service using the data in the database. Updated software should be always used.
- 12.2. Blank A3 sheets should be used for preparation of plans/cadastral maps. Marginal information, grids, and survey data should be printed using the information in TLDB.
- 12.3. Before commencing the plotting of a survey, the position of the plan relation to the space available for drawing must be carefully considered. The correct placing of the work in its initial stage will result in economy of paper and will assist the process of reproduction of the finished plans/Cadastral plans.

Points to be considered when using more than one sheet

- 12.4. When area is larger and number of A3 sheets have to be taken up, the sheet arrangement has to be done carefully, Hence it could be covered with minimum number of sheets. When more than one A3 sheets are used, sheet arrangement should not be done to the North and East side of the first sheet. This sheet arrangement should be checked by Superintendent of Surveys before commencing the plotting.
- 12.5. Printing on all plans should be in conformity with the headings printed on the sheet even when the meridian is turned through 90°, where necessary. If the plan runs into more than one section the direction of the printing in these sections should agree with the first, so that composite plan could conveniently be prepared from all sections.
- 12.6. When it is necessary to turn the sheet through 90° it has to be done anti-clock wise, thereby the binding margin of sheet falls another left hand side.
- 12.7. When more than one sheet is used, all sections should be cross referenced to each other by printing reference on the margin of sections, about 1mm. away from the outer blue grid in capitals of 1mm., as “ SECTION 4 ”, the measurements being on the scale of 1:4,000.

The portion of the blue grid falling within the survey, and about 5 mm of it falling outer side the boundary should also be inked in black, and the portions of this line falling within the separate lots and outside, should be clitched in black.

Preparation of different types of plans

- 12.8. For the work outside F.V.P. / Topo P.P areas Preliminary Plan to be prepared. P. Plan number should be obtained by the surveyor from the District S.O. and the Sinhala prefix for the district followed by this number should be printed on plan. [See paragraph 4.13](#) for District prefix.

- 12.9. For the work within the V.P. or F.V.P. areas, Supplementary plan to be prepared. The last supplementary number, the last sheet number, the last lot number, and the last page number used in tenement list (see [paragraph 4.47](#)) should be obtained from the District S.O. in writing.
- 12.10. For the work within the cadastral areas, new sheet to be prepared. The last sheet number, the last lot number, and the last page number used for the tenement list of that block should be obtained from the District Survey Office in writing.
- 12.11. When work in F.V.P. / F.T.P. consists of number of scattered lots, it is not necessary to take up fresh A3 sheets for each group of lots. Two or more groups of lots may be shown as Insets on the same A3 field sheet.
- 12.12. Work falling within the areas covered by Forest Survey Preliminary Plan will be done as in the case of F.V.P.
- 12.13. The last lot number, the last F.V.P. Sheet number, the last page number of the tenement list, and a new Inset number or a Supplement number should be obtained in writing, from the District S.O. for work within F.T.P. or Topo P.P. area.

Scale of Plans

- 12.14. The scale of 1:2000 will be used in all cases with following exceptions.
- (a) See [paragraph 6.39](#) for scale of Acquisition surveys plans.
 - (b) Small encroachments, that are valuable, or lots that are too small to be drawn on 1:2,000 scale.
 - (c) Houses, foundations and road boundaries in towns and villages.
 - (d) In special cases where all work is on chain scale or 1:4,000, where land is not valuable and it would be more economical it could be drawn on the 1:5,000 scale, after getting approval from District Senior Superintendent of Surveys.
 - (e) Where the purpose of any required plan demands a smaller or larger scale e.g. a reconnaissance survey in connection with engineering scheme might be required on scale of 1:10,000 or site plan on a scale of 1:100.
 - (f) See [paragraph 21.32](#) for scale and numbering of cadastral maps.
 - (g) See [paragraph 5.18](#) for scale of Court Commission Surveys.

Marginal information, Drawing special features and printing

- 12.15. The land description database can be printed in the A3 size field sheet after entering the village, Grama Niladhari Division, Divisional Secretariat, District and Province.

- 12.16. In surveys falling within town limits, the number and name of the Wards (in one line) and name of local authority (in next line) should be printed in the space.
 “Ward No 36 , Kirula,
 Within the Municipal Council Limits of Colombo,”
- 12.17. The North line should be drawn at an appropriate position preferably at the top right of the corner body of the plan on A3 field sheet, to a length of about 4 cm.
- 12.18. When a wall and a fence follow one another in one straight line, the wall should be drawn conventionally (slightly thicker than the fence) to distinguish it from the fence.
- 12.19. When lot is composed of only one cultivation or when it has more than one cultivation, which are not separated on plan, the description need not be printed. The description should be printed only when different cultivations in a lot are separated on plan.

Preparation of digital plans burying landmarks and comparison of common boundaries

- 12.20. (a) Preparation of digital survey plan using data of field surveys and scanned survey plans, should be done simultaneously to the field work.
- (b) The Superintendent of Surveys and District Senior Superintendent of Surveys should ensure that the land marking is adequate and effective in the process of detail plotting of the boundaries of Title plans, Diagrams, Settled preliminary plans and buried landmarks.
- (c) When the survey area of each surveyor is adjacent to the other , the common boundary should be compared by Superintendent of Surveys. There should not be gaps or overlaps between these boundaries. Common boundary always should be surveyed by one surveyor and the field data should be given to the other surveyor for plan work.

Colours and symbols used in Plans

- 12.21. Pickets and chain lines will be in blue. A few field book numbers and page numbers should be shown in blue. Similarly level book numbers should be entered in blue on ethulon paper. The references of the old sheets should be shown in blue in A3 size field sheets in the work outside the F.V.P. area.
- 12.22. Arrows for direction of water flow will be drawn in black.
- 12.23. Landmark dots and the description of landmarks should be done in black.
- 12.24. Because of the fact that each plan must be scanned, the co-ordinate values should be printed at least at two corners, with the grid cuttings shown in black with two lines of one cm. length and its coordinates should be printed in black as the value increases in the readable direction at each section of the field sheet.

12.25. Clitches will be in black. Where half the wall or ditch etc., is claimed by each of adjoining owners, half clitches should be shown on either side. Do not draw the clitch across the feature.

12.26. All boundaries will be drawn in black except the following.

- (a) Stream and water edges should be drawn in cadmium orange. (This colour is used even if the edges coincide with other details but the initial description of the other detail will be in black.)
- (b) Transferred boundaries should be in red. Boundaries have to be transferred using scanned and geo referenced images of existing plans.

12.27. When Title Plan, Diagrams, Preliminary Plans or Diagram Plan are shown on any plan other than the original, the letters “TP”, “D”, “PP”, or “DP”, with the number are printed in red on the plan. Lease Plan or Lease Diagram numbers of lots abutting on new work will be shown in black on sporadic surveys. These numbers will however not be shown on plan for the lots covered by Block Surveys.

12.28. Trigonometric locations, local control points and pickets should be shown in the following dimensions and colours in the plans.

Trigonometrical stations	...	red triangles of 3.0 mm sides.
Local control points	...	blue triangles of 3.0 mm sides.
Primary traverse pickets	...	blue squares of 2.0 mm sides
Secondary traverse pickets	...	blue circles of 2.0 mm diameter.
Tertiary and traverse pickets	...	blue circles of 1.5 mm diameter.
Detail pickets	...	blue circles as small as possible.
Picket replotted from old field books		blue triangles of 1.25 mm sides.
Field Book reference	...	blue colour text as EDM <u>GA 2122</u> close to pickets.

18

Abbreviations of Plans

12.29. Use abbreviations in **Annexure X in Chapter XI** to describe all the abbreviations under the legend, when preparing the plans.

12.30. The followings should be noted when inserting the abbreviations on plan.

- (a) The abbreviations should be printed below the lot number.
- (b) No full stop should be inserted between the letters.
- (c) In close details the letters may be printed outside the lot with an arrow indicating the lot to which they refer, or in a separate reference table.
- (d) For abutting land, the abbreviations should be printed below name of the land.

12.31. All the boundaries, including the revenue boundaries should be described on the plan, and to describe the boundaries, abbreviations and symbols should be used according to the Department Survey Regulations Annexure X in chapter XI .

- 12.32. The abbreviations should be given where they will not confuse the details of the plan, and no full stops should be used after them.
- 12.33. All the lettering on the plan will be in accordance with the [paragraph 22.7](#).
- 12.34. The boundaries of all road and reservations must be in firm lines. Such boundaries must be described on the plan. If undefined they should be marked as "U". The description of the Footpath, Roads, Road (PS), Road (MC), Road (RDA) should be printed along the road, except on Block Survey Plans. The abbreviation "U" will not be used where the boundary is landmarked.
- 12.35. When a road or path runs along the edge of the watercourse, it should be shown and lotted separately from the watercourse. It is necessary for the Settlement Officer to issue separate notices for the two features.
- 12.36. Paths and water-courses have to be shown in real dimensions when the plan is prepared digitally. Footpaths should be shown in black, with real dimensions. It should be described using the abbreviation of Foot Path "FP".

Revenue Boundaries

- 12.37. Conventional signs in Annexure X in Chapter XI should be used to define revenue boundaries.
- 12.38. When a revenue boundary conventional sign is shown on plan, the names of the revenue division on both sides of the boundary should be printed. When the whole survey falls in the village for which a sheet is taken up, with one or more villages abutting on it, the name of the abutting villages only need be printed on plan.
- 12.39. It is not necessary to show the conventional signs for revenue boundaries round the whole of a large plan. Discretion can be used by the surveyor in this respect, but the revenue boundaries must be clearly shown by means of short portions of the conventional sign at appropriate places. Abutting revenue boundaries should be indicated with their conventional signs.
- 12.40. Where a revenue boundary runs along the center of a feature and lotting is necessary, as in Block Surveys, half the area of the feature should be lotted on the plan of each village. Similarly where a trigonometrical station is situated on the boundary of a village, the portion of the revenue boundary should be shown through the reservation for the trigonometrical station and the two portions of the reservation should be lotted separately.

Abutting descriptions

- 12.41. (a) Outside F.V.P. areas where the abutting title plan or preliminary plan is an old unlandmarked survey, the name of the abutting lots, descriptions, claimants and reference to old plans should be shown on the plan in addition to the T.P. or P.P. numbers. In town areas, the assessment number followed by the name of the road will be printed immediately below the name of the land. Where a new landmarked title plan, diagram plan or a preliminary plan abuts and coincides with the claimed boundary, the re-reference to the T.P. or P.P. showing the lot number in red will suffice. Otherwise full abutting description is required.

- (b) In F.V.P. and F.T.P. areas, abutting lot numbers should be printed without descriptions. Yet when there are more than one cultivation in an abutting lot, the description should also be printed.
- (c) In the plans of cadastral areas, abutting lot numbers / block numbers / CM numbers and the GN Division should be printed.
- (d) Red clitches on abutting boundaries should be avoided by printing abutting plan numbers.
- (e) In town areas, the direction of roads need not be printed on plan, where the roads have local names.

12.42. Where [title plans](#), [Outright grants diagrams](#) or settlement ordered private boundaries falling within private lands have to be dealt with in connection with acquisition surveys and they will be fixed approximately and shown in pencil lines within the land to be acquired and in red dotted lines as abutting boundaries. A reference should be printed on the plan as “ T.P. boundaries are shown in red by dotted lines”.

Where the title plan boundary coincides with existing boundary between two abutting claims, 3 red dots should be shown in continuation of the black abutting. The red dotted line should not be clitched.

When a T.P. or a P.P. lot covers more than one abutting lot, red clitches should be avoided by repeating such numbers.

Lotting

- 12.43.** Especially in [large surveys](#), [lots](#) should be numbered consecutively, beginning from North-west corner of the plan, continuing eastwards and returning westwards. For easy identification of lots, the consecutive numbers may appear close to each other as far as possible.
- 12.44.** After completion of plan, if it is found that some lots have been left unlotted, new lot number should be assigned. Fractional lot numbers should not be used under any circumstances as plan and TL will be prepared by digital date. Lot numbers can be assigned using given software.
- 12.45.** The numbers of lots in all full and half sheets are recorded in the left-hand margin of the field sheet, together with the month or months of survey. Also the number of the field book, the surveyor’s signature, rank and date should be mentioned.
- 12.46.** Where several insets appear on a sheet outside Block Survey area lotting should be consecutively done throughout the sheet, and should not commence from unity for each inset.
- 12.47.** Where boundaries of lots have been identified by inspection or by survey, a note to this effect should be made in the left-hand margin of the field sheet. In A3 Field Sheets this note should be made in a suitable position away from the corpus of the plan in outside the grid square.
- 12.48.** Preliminary Plan lot numbers appearing in red on the sheet will be ignored by the surveyor, while numbering the new lots.

- 12.49.** Large irregular shaped lots, which cross natural features, should be avoided. They should be broken up, by adopting the natural features as boundaries, and the portions should be lotted separately. When adopting the natural features such as roads, Water features as boundaries, one boundary & centerline line of that geographical feature should be shown & half of the extent of the natural feature should be entered as the extent in the TL. In such a case, in formulating digital data, the center line must be drawn as a firm line in the VIR-CLOSELINE data layer. (See Annexure X in chapter XI)
- 12.50.** Roads, streams, and reservation lots should not be clitched across as a general rule. However if a land which claimed by a single deed, will be separated likewise, lotting should be done according to the request of the claimant. Reservations set out for different purpose, should not be lotted together. When state land is thus fragmented, separate lot numbers should be given.
- 12.51.** A lot which has been decreed State in a Reference case, and an adjoining land which has been declared State by Final Order, should not be lotted together.
- 12.52.** Village boundaries should not be clitched. The land on either side must be separately lotted.
- 12.53.** Where separate villages do not exist, lot 1 will be assigned to the whole of the unclaimed area. The claimed lots will be numbered consecutively commencing from lot 2.

Sub divisional lots

- 12.54.** Each lot retains the number allotted to it, as long as it retains its original boundaries unchanged. If the size of the lot altered by a processed of fragmentation or by the deviation of a stream, path, and etc., two or more new lots will be created in replacement of the old. The original lot number will be cancelled on the plan, and the sub-divisional lots will be given whole numbers, in continuation from the last lot number used. This is known as the integral system of lotting.
- 12.55.** The numbers of sub-divisional lots on the old system of numbering by indices should be amended to the integral system if and when the lots are again subdivided.
- 12.56.** In the past some lands had been excluded from F.V.P.'s and F.S.P.P.'s issued. Sheets should be numbered as for Block Surveys and should be shown in the heading the 'Forest Survey Preliminary Plan' & number.
- 12.57.** Final Village Plan Sheets will be numbered consecutively, and the first new work after the Settlement Officer's Final Report will be shown on a sheet numbered thus. (Eg. F.V.P. No.326. Sheet No.1.) "24 km x 25 km sheet" number will not be assigned to Final Village Plan sheets.
- 12.58.** A list of Final Village Plan sheets, or Final Topographical Plan sheets, Insets and Supplements, together with lot numbers used giving reference to field books and pages, will be made on Final Village Plan or Final Topographical Plan to which they refer, in tabulated form as follows:

FVP/FTP Sheet No.	Inset or Sup No.	Lot Nos used	TL page Nos.	FB and page Numbers.	Extent of balance area.
----------------------	---------------------	-----------------	-----------------	-------------------------	----------------------------

Tenement Lists

- 12.59. The Tenementary Information Data Base software should be used to prepare the Tenement lists.
- 12.60. [Tenement List](#) should be printed in black on the A3 standard TL pages using the given facility in the same software.
- 12.61. Specimens of tenement lists for different types of surveys are shown in [Annexure I](#).
- 12.62. When a [Village Plan or Final Village Plan](#) lot is sub-divided, the old lot number will be cancelled in the original tenement list by inserting large red cross on the lot number, and inserting in “ See lotspage.....” in red in the “Remarks” column. A fresh tenement list page, should be attached to the original tenement list.
- 12.63. New information about lots should be included in the new page mentioned above. The action taken in respect of a plot of land from the date of issue of a village plan or final village plan should be clearly indicated in the land description list. The reason for the re-survey of the plot had to be mentioned under the “Legal provisions and the Reason for survey” on the supplementary land information list after entering new data in the TL database.
- 12.64. Extents of lots should be computed digitally and the total extent of sub lots should be as defined in [paragraph 13.19-13.22](#).
- 12.65. The balance area of sub-divided lot must always be shown in the tenement list.
- 12.66. The prominent names of all lands should be carefully given., When entering the names of lands, in to the database, enter the name as in the old plan together with the current names using in field by using the word “alias”, if the names used in the current field are different than the names in old in plans.
- 12.67. Land will be described according to its cultivation. If a lot contains only a few valuable trees and if their survey as a separate lot is not practicable, they should be enumerated. And also, The approximate age of the cultivation should be given.
- 12.68. Gardens do not contain old plantation, buildings etc. or any definite evidence on the ground to identify that they are “old gardens” should be described merely as “Temporary cultivation” and it should not be described as “Old cultivation” without firm evidence.
- 12.69. Even if the buildings are not shown on the plan, it must be recorded in the tenement list, together with their description as permanent or temporary.
- 12.70. As a general rule, any tiled and masonry building can be considered as permanent and any building with a cadjan roof and mud walls can be considered as temporary.
- 12.71. In the case of acquisition surveys and court commission surveys, it will be necessary to give detailed descriptions of the buildings, such as mud or brick, thatched or tiled. &c.,
- 12.72. Any well, spring or other similar feature within a lot should be mentioned. Wells should be described as “constructed” or “temporary”.

- 12.73. Roads maintained by estates should be described as “Road” and the fact that they are maintained by the estate should be mentioned in the “Remarks” column. The term “Estate Road” should not be used. Roads maintained by the Road Development Authority and Pradeshiya Sabha should be described as Road (RDA) and Road (PS) respectively.
- 12.74. As there is no dispute over the encroachments, the name of the claimant should be given as “State” for state lots of the state lands. The reason for the survey /legal provision, it should be indicated as “Encroachment cultivation” and should not include the name of the encroacher.
- 12.75. When there are several claimants, only the name of the main claimant with the terms “and others” should be indicated. When there are several groups of claimants, the name of the person as the representative should be indicated with the terms “and others”.
- 12.76. Addresses of claimants who do not live in the village under survey should be given.
- 12.77. The spellings of the names of villages in a Final Village Plans area should be in accordance with the Settlement Officer's Final Report. In all other cases, the spellings will be in accordance with the village list. Hamlets, which do not appear separately in the list, should be included in the inhabited villages to which they belong. In the case of abandoned villages the parent village should be added within brackets, after reference to the Divisional Secretary.
- 12.78. Lots falling within the limits of Pradeshiya Sabha’s, Urban Councils and Municipalities etc. must be described as being within such areas as well as in a particular village. Their assessment numbers and street names, as well as ward numbers must also be given as mentioned in [paragraph 12.16](#).
- 12.79. Areas should be computed digitally to the accuracy proscribed in Chapter XIII. When a lot is small and therefore has one or more zeroes after the decimal point (e.g. 0.0037 Ha), in order to help the layman, the equivalent area in square meters should be given in the Remarks Column of the Tenement List as (37 square meters) .
- 12.80. When work falls more than in one village, in the database all the village names should be entered under village name by using the “,” mark. Always the Grama Niladhari Division must be the base unit of the survey.
- 12.81. All the sections of the plan and all the pages of tenement lists should be signed by the Superintendent of Surveys. At the time of passing the plans Senior Superintendent of Surveys should sign the first section of the plan and last page of TL on behalf of the surveyor General and cross reference should be given on other sections and pages.
- 12.82. Survey Requisition No. (Divisional Secretary’s No. & date) should be entered under the Client’s Reference Number and under relevant reference No. (District Survey office reference No. and date) should be entered under S.G.’s No. in the TL database to print the TL properly.
- 12.83. See [paragraphs 6.46- 6.56](#) for Acquisition surveys tenement list.
- 12.84. If it is found that the old extent of one or more lots of the old TL to be changed, it should be crossed out in red and correct value should be entered in red. Relevant note should be given in black and Govt. Surveyor, Superintendent of Surveys and Senior Superintendent of Surveys should sign with their names, designations and date for the responsibility of the re-entering, checking and certifying respectively. In this case, it is not necessary to compile supplementary TL, but TL Database should be updated accordingly.

Survey Report

- 12.85.** A report on every survey should be sent with the completed plans. The relevant specimen forms for the different types of surveys are given in [paragraph 4.88](#).
- 12.86.** It is the responsibility of the Surveyor to [furnish the report correctly](#) and to record specific information regarding the survey. Surveyor should make notes in an unnumbered field book or in a notebook as the survey proceeds. Superintendent of Surveys should examine these notes at the inspections. During the inspection of the plans and the tenement list any uncertain details should be described in detail in the reports.
- 12.87.** Any of the following points, which require inclusion in the report, should be done in the sequence shown belows.
- North line used
 - Plotting
 - Fixation of Title Plans, Diagrams etc. and replotting
 - Differences in the position of or missing old landmarks
 - Differences in names of revenue areas and their boundaries; or names of lands their boundaries, extents and cultivations
 - change or nonexistence of old topographical features
 - Boundaries that have not been defined
 - Grama Niladhari or his representative
 - In an acquisition Survey, any differences between land surveyed and that of the sketch.
 - Any difference in the name of the applicant or person to whom boundaries were pointed out
 - Unsurveyed encroachments
 - Cemeteries
 - Hamlets
 - The important details for reduction and insertion on old plans
 - Any other matters of importance or interest
- 12.88.** Information, which can be properly included in the TL database, should not be included on the report. The specific information to be addressed to the client should be prepared separately and a report should be handed over to the Senior Superintendent of Surveys together with the recommendation from the Superintendent of Surveys.
- 12.89.** If the situation of the land, its boundaries, or its names as described in a survey requisition appear to be wrong, investigation should be made on the ground and the result should be given in the report.

Preparation of Supplementary TL

- 12.90.** Outside Cadastral area, if there are change in name of land, name of claimant, purpose of the Survey and information of the remarks column it is essential to compile supplementary TL after updating the Database of TL. For this purpose it is necessary to get a survey requisition or a letter which clearly indicating the mode of changing the original information in TL by the relevant authority. This survey requisition or letter can be considered as authorization of

changing the original information and reference to the requisition/letter should be given in TL Database. In this case following remarks should be given in “Claimant” column “Name of(old claimant) has been changed to name of(new claimant) without field investigation”. Marginal information should not be re-entered, but marginal information can be amended as required.

- 12.91.** For this purpose, a register which containing Date of request, Name and date of the applicant/application, Plan number, Lot number, SG’s number and Date of completion should be prepared and maintained in Divisional Secretary area wise in District Survey Office. SG’s number can be assigned as starting from one for each D. S. Division for the particular year.

Eg. For the first request from D.S. office, Madawachchiya in year 2015, can be numbered as MDW/SupTL/2015/01.

This number should not be entered into SRIMS database for any reason.

- 12.92.** Survey fees should not be charged for the preparation of supplementary TL for issuing grants/Instrument of disputes under the Land Development Ordinance and Land Grants (Special Provisions) Act. However survey fees should be charged according to the Departmental circulars for the other purposes of this ordinance and act ie. Preparing a supplementary TL for issuing Long Term Lease, Outright Diagrams and Vesting.

- 12.93.** In case of preparing Supplementary TL, relevant information should be checked and certified by the Superintendent of Surveys (Headquarters) and Senior Superintendent of Surveys respectively. As well name of the previous surveyor should be entered into Database of TL and hardcopy should not be signed.

- 12.94.** When preparing Supplementary TL after verifying in field, name of the surveyor should be entered into Database of TL and signature should be given on hardcopy. However verification in field for amending name of the claimant should be done only after receiving the requisition to DSO. In this case Superintendent of Surveys should check that the written information for amendments has been ensured by the relevant Grama Niladhari.

- 12.95.** TL page number for the new TL page should be ascertained from the District Survey Office. Checking officer and Certifying officer should confirm whether this number has been used for the correct requisition.

- 12.96.** Cross reference of the new TL page number should be given in red on old TL page.

- 12.97.** Issuing of certified copies of Supplementary TL should be done according to the [paragraphs 4.77 and 4.78](#).

- 12.98.** After publishing the Gazette notification of final decision by the Commissioner General of the Title Settlement under the Title Registration Act, TL of the relevant Cadastral Map should be updated according to the [paragraph 21.74](#).

Plan examination

- 12.99.** Once the survey is completed, surveyors must scrutinize their plans and connected documents thoroughly, to check whether any omissions.

- 12.100.** Superintendent of Surveys should check the correctness of all the facts during the examination and sign plans. These instructions are not a cover for finding all the mistakes that might arise.

When examining the plans, the Superintendent of Surveys should work accordingly to suit particular circumstances. See [Annexure II](#) for Instruction of plan examination.

- 12.101.** It is the responsibility of the District Senior Superintendent of Surveys to see that the above regulations have been carried out and plans are submitted with the correct digital files before plans are passed.
- 12.102.** District Senior Superintendent of Surveys is expected to prepare his own lists of points to be checked, for the various types of plans received in his offices. The object is to ensure the expeditious and efficient check, so that the copies of plans can be forwarded as early as possible.
- 12.103.** When a surveyor takes over an uncompleted survey from another surveyor, the District Senior Superintendent of Surveys must decide what each surveyor is responsible for, and this must be clearly indicated on the plan.

Signing of Plans

- 12.104.** All plans should be signed in black ink by the Surveyor, Superintendent of Surveys and Senior Superintendent of Surveys. If an officer is not responsible for all the work of the plan, the portion for which he is responsible should be clearly indicated. The District Senior Superintendent of Surveys or Acting District Senior Superintendent of Surveys will sign “for Surveyor General” at the time of passing the plan and at each stage of passing subsequent work. He will also sign “for Surveyor General” in all cases of lots dealt with by him afresh when plans have not been authenticated previously.
- 12.105.** When an area forming a part of an existing plan is superseded by a new plan, the outer boundary of the area should be hachured in pencil on the old plan, to show it has been superseded, and necessary reference made on the old plan. When the whole of the old plan is superseded, it should be proscribed, and referenced to the new plan in pencil. Original Block Survey sheets or Town Survey sheets will be exceptions to this rule.

Paragraph 12.61

Annexure I

7/10/2014

T1 Data System

செ. கிராமம் Village :- Padukka
 கு.ச.கி.எ.சி. வைக்காசா கிராமத்தின் G.N. Division :- No.460B, Gangoda
 டி.எ.ச. வைக்காசா பிரதேசத்தின் D.S. Division :- Padukka
 தெற்காசா மாவட்டம் District :- Colombo
 வடமேற்கு மாகாணம் Province :- Western



இலங்கை நில அளவைத் திணைக்களம்
Sri Lanka Survey Department

ஓ.பி.சி. 895 ஏக்கர் நில வட்டத்தில் T.L. Page No :- PP 883, 132
 895 ஏக்கர் வரைபட இல Plan No :- --
 வட்டம் எ.எ.சி. 895 இல Block No :- --
 ஏக்கர் எ.எ.சி. பிற்பேரகளை இல Sup No :- --
 ஓ.பி.சி. 895 ஏக்கர் வட்ட இல Inset No :- --
 ஓ.பி.சி. 895 ஏக்கர் வட்ட இல Sheet No :- --

க.ச.எ.சி. ஏக்கர் நிரலில் S.G.'s Reg. No :- CO/PAD/2018/600
 ஏ.பி.சி. ஏக்கர் நிரலில் S.G.'s Reg. No :- CO/PAD/2018/600
 சி.பி.சி. ஏக்கர் நிரலில் S.G.'s Reg. No :- CO/PAD/2018/600

கட்டு பகுதி இல Lot No	நில அளவு Extent			சமீபத்தில் பயன்படுத்தப்பட்ட பகுதி Name of Land	சமீபத்தில் பயன்படுத்தப்பட்ட பகுதி Present Land Use	சமீபத்தில் பயன்படுத்தப்பட்ட பகுதி Chimani	சமீபத்தில் பயன்படுத்தப்பட்ட பகுதி Legal Provisions & Reason for Survey	புற எல்லைகள் Divalls of Boundaries				முன்பு பயன்படுத்தப்பட்ட பகுதி Previous Lot References
	ha	sqm	A R P (approx)					கி.மீ.தூ. North	கி.மீ.தூ. East	கி.மீ.தூ. South	கி.மீ.தூ. West	
1	0.2150	0	2	5.0	Front Path	State	Reservation for front path	Lot	Lot	Lot	Lot	PP 883-132 : Part of lot-7K
2	0.1470	0	1	33.9	Paddy	State	Under Land Development Ordinance, Cultivated by Linnage Girigotis Fernando of Padukka under Permit No 216	Lot	Lot	Lot	Lot	PP 883-132 : Part of lot-7K
3	0.0870	870	0	34.4	Garden contains coconut and arecanut plants 2 years and a temporary hut	State	Under Land Development Ordinance, Cultivated by Mudiyanalage Kiribanda (pat known)	Lot	Lot	Lot	Lot	PP 883-132 : Part of lot-7K
4	0.1870	0	1	33.9	Chena	State	Letted to complete Plan	Lot	Lot	Lot	Lot	PP 883-132 : Part of lot-7K
5	0.2102	0	2	3.1	Garden contains coconut and arecanut plants 2 years old	State	Reservation for Road Cultivated by Mudiyanalage Kiribanda of Padukka allottee of adjoining lot No. 3	Lot	Lot	Lot	Lot	PP 883-132 : Part of lot-7K
6	0.1870	0	1	33.9	Chena	State	Under Land Development Ordinance, Reserved for allottee of adjoining lot No. 2	Lot	Lot	Lot	Lot	PP 883-132 : Part of lot-7K
Grand Total	1.0732						For suitable action					

சமீபத்தில் பயன்படுத்தப்பட்ட பகுதி
 சரிபார்க்கப்பட்ட பகுதி
 Surveyed and Drawn by K. G. Perera
 க.ச.எ.சி. ஏக்கர் நிரலில் S.G.'s Reg. No :- CO/PAD/2018/600
 சி.பி.சி. ஏக்கர் நிரலில் S.G.'s Reg. No :- CO/PAD/2018/600
 டி.எ.ச. ஏக்கர் நிரலில் S.G.'s Reg. No :- CO/PAD/2018/600

From :- 2018 July 80 இரண்டாம் திணிப்பு - 2019 March 60 வரை

:- Dehiwala
:- No 540A, Dehiwala West
:- Dehiwala
:- Colombo
:- Western

ශ්‍රී ලංකා මිනිසුන්ගේ රජයේ කළමනාකරණ දෙපාර්තමේන්තුව
Sri Lanka Survey Department



මෙම ග්‍රාමයේ නම :- Dehiwala
මුළු නිලධාරී කොටස කිහිපිහිලි :- G.N. Division
ද.අ.අ. කොටස :- Dehiwala
දිස්ත්‍රික්කය :- Dehiwala District
පළාත :- Western Province

:- PPA 2501
:- --
:- --
:- --
:- --

ස.අ.අ. කේ.අ.අ. නිලධාරී :- Co/Dehi/2017/654
අදාළ ග්‍රාමයේ :-
මෙහිදී :- Dehiwala Divisional Secretary's No. Dehi/201/04/1/46 dated 2017-09-01

කැමරා අංකය Lot No	මෙම ග්‍රාමයේ විස්තීර්ණය Extent			මෙහිදී නම Name of Land	වර්තමාන විද්‍යාලය Present Land Use	මාලිකා Chieftain	නීතිමය විධිවිධාන Legal Provisions & Reasons for Survey	මෙම බදු විස්තීර්ණය Details of Boundaries				පූර්ව විස්තීර්ණය Previous Lot References
	හැ	අ	ප (අඩු)					උතුර North	දකුණ East	දකුණ South	බටහිර West	
10	1.2155	3	0	0.6	Keduruwala	State	Section 10 para 7 Boundaries have been re-surveyed and certified under the L.D.O. by Madam Justice Kiribanda of Kiriwath on Permit No. 24 For issue of grant	Lot	Lot	Lot	Lot	
Gross Total	1.2155											

මෙම වෛශ්‍යයේ
අවස්ථාවේ
බදු
විස්තීර්ණය
අවස්ථාවේ
බදු
විස්තීර්ණය

T.P.Rathnayake Gramaniadari of Dehiwala West Division No. 540/A & allottee

T.P.Rathnayake Gramaniadari of Dehiwala West Division No. 540/A & allottee

මෙහිදී
බදු
විස්තීර්ණය
අවස්ථාවේ
බදු
විස්තීර්ණය

From :- 2018 January මාසයේ
2018 July අගෝස්තු මාසයේ

EXAMINATION OF PLANS

General Notes on Examination of Plans

Check:

1. Checking coordinated points with field book.
2. Line checking with field book.
3. Checking description of permanent boundaries and landmarks.
4. Field book references shown in blue on plan.
5. Field sheet number, and see that the field books, etc., are correctly referenced to the plan.
6. Checking the accuracy of the recorded grid coordinates.
7. Sheet edges and see that the detail (Village, G.N. Division, etc.) agrees exactly.
8. Checking entered North line, Scale, National Map reference, sheet No, 16 chRD No correctly.
9. Administration boundaries of C.M., Village, G.N. , D.S., District and other details.

Verify that:

10. All pickets have been correctly shown and chain lines have been inked.
11. All streams are described, and checked direction of flow is correct.
12. The directions of all roads and paths are given in every case.
13. All boundaries are described and checked with field books.
14. All boundaries have been land marked sufficiently or have been reported on.
15. The boundaries of streams and contours are rounded and that there are no sharp corners.
16. All details and printing are in dense firm lines.
17. Lots are correctly numbered.
18. The tenement lists have been drawn up in accordance with the Regulations.
19. All coordinate sheets (to be sent) have been carefully filled up, and the back of the form correctly entered and signed.
20. The field books are properly indexed and referenced and they are duly signed together with their foot notes.
21. Any differences from the 1/50,000 topographical map discovered in the course of survey have been reported.
22. Check descriptions of lots with field book and tenement list.
23. Is the spelling of names of villages, lands, persons, &c., in accordance with other plans and documents? If there are differences they should be mentioned in the report.
24. Check surveyor's report.

Special Notes for Examination of Topographical Preliminary Plans

Verify that:

25. The 1/50,000 tracing of the Topographical Preliminary Plan, to be sent to Head Office for fixation on the 1/50,000 sheet, is accurate and contains all the necessary data such as streams, roads, abutting boundaries, &c.
26. If part of a village falls inside the topographical area and part outside it, that the abutting boundaries of the village are shown and the abutting village described as "Part of".
27. If a Divisional Secretary's or Province forms the abutting boundary, the proper conventional sign is shown.

28. The positions of the insets are shown accurately on the 1/50,000 tracing and their shapes sketched in as accurately as possible to agree with the 1/4,000 inset plan and that village boundaries, where they exist, are shown.
29. If more than one inset falls in a village, the insets and the lots are numbered consecutively.
30. That abutting descriptions and lot numbers are shown on every inset.
31. The first page of the tenement list is taken up for the main lot only.

Special Notes for Examination of Demarcation Survey Plans

Verify that

32. Check Settlement Officer's requirements with Block Survey and supplementary tenement lists.
33. The boundaries of the sub-lots agree with the sketch.
34. The extents cut out are in order and within the limits laid down.
35. The sub-lots are in order and no portion of the original lot has been left out.
36. Check amendments on Block Survey Sheet.
37. Verify that the printing on Village Plans are on the same lines as the original.
38. Check supplementary tenement list with original tenement list and see that proper references are made.
39. Check cancellation of Settlement Officer's requisitions.
40. Check report and any information relevant to the work.
41. Verify that the Block Survey Sheet is signed.

Special Notes for Examination of Plans of Sporadic Surveys

Verify that:

42. Field book references are shown in blue on plan.
43. The field sheet is correctly numbered and all documents are referenced to the plan.
44. All pickets have been correctly shown and chain lines have been inked.
45. The field books are properly indexed and referenced and are duly signed together with their foot-notes, and the field sheet number and requisition number are entered on every page.
46. Transferred and compiled boundaries are shown in red in field books.
47. The landmark certificate and the certificate regarding pointing out by and to of boundaries are given at the end of each piece of work, or in the case of a large survey on the index page.
48. Reason is given at the foot of the page for not land-marking any boundary which is not permanent.
49. Any differences from the 1/50,000 topographical map discovered in the course of survey have been reported.
50. If State land adjoining land surveyed is cultivated, it is reported whether it is an encroachment or cultivation on authority.
51. The outline of the new survey is inserted in pencil on all old field sheets, where it abuts on old work, with a reference in red to the new sheet.
52. If new plan supersedes existing plan, the latter is hachured and referenced in pencil to the former.
53. All streams are described, and the direction of flow is correct.
54. The widths of single line channels are given on tenement list.
55. The directions of roads and paths are given in every case.
56. The boundaries of streams and contours are rounded and that there are no sharp corners.
57. All -detail and printing is in dense firm lines.
58. The tenement lists have been drawn up in accordance with the Regulations.

59. Any boundaries that are not be adopted have been properly ditched.
60. All roads and paths have been described.
61. The necessary old permanent pickets have been surveyed and shown.
62. If there is an inset, it is correctly referenced with scale if necessary.
63. Lots to be cut out fall within the correct mapped-out area, and, if not, the matter has been reported and necessary action taken.
64. All boundaries are described and checked with field books.
65. All boundaries have been land marked sufficiently or have been reported on.
66. A note has been made in the margin of the original sheet and in the field book regarding the replacement of any shifted, broken or missing landmarks and the relevant pencil note made against the landmark and also reported on.
67. Lots are correctly numbered.
68. All lots dealt with are entered on margin of sheet with field book numbers, date of survey and signature.
69. All co-ordinate sheets (to be sent) have been carefully filled up. and the back of the form correctly entered and signed.
70. The description of lots in the tenement list and the plan agree with those in the field book.
71. The spelling of names of villages, lands, persons, &c., is in accordance with other plans and documents, and the name of land agrees with that given on the requisition, and, if not, these hay been reported on.
72. Fixation or comparison tracings are taken from the original surveys of the boundaries dealt wit and show north line, scale, sheet number, whether enlargement or reduction, whether used for fixation or comparison, and are signed and dated by the surveyor.
73. The fixations are correct, and that data accepted for fixation are indicated by ticks.
74. Earlier fixations have been altered unnecessarily.
75. Fixations have been, properly classified as "P", "Q" or "R".
76. All fixation tracings are sent with the plan.
77. The Departmental Survey Regulations in connection with safety lots and claimed boundaries have been properly attended to.
78. All the boundaries have been properly straightened or left unstraightened, whichever is necessary.
79. Necessary means of access have been left.
80. All necessary reservations have been left.
81. If adjoining a road, the proportion of frontage to depth is according to orders.
82. Special requirements, if any, mentioned in the Requisition have been attended to.
83. The work has been plotted to the correct scale, and if necessary, the scale has been written on the plan or inset.
84. The situation and description of the land agrees with that given on the Requisition and, if not the reason has been reported.
85. The extent cut out is correct, and, if not this has been properly reported on.
86. All small balance areas have been defined and lotted to complete the plan, where this is necessary.
87. The Requisition has been correctly cancelled with date of survey, sheet number, lot numbers' and surveyor's signature and date.
88. In an Acquisition Survey, the land cut out agrees with that described in declaration and shown on the sketch, and, if not whether action has been taken as indicated in paragraph 6.6 - 6.11.
89. The plan shows all roads, streams, &c., which appear, according to older surveys, to pass through the new work; if not, this has been reported on.
90. The work fits properly on the 1:10,000 sheets, and, if not, this is reported on.
91. If the work is to be sent direct to Head Office, two amendment tracings are prepared-one to be sent to Head Office and one to the District Senior Superintendent of Surveys with the additional information.
92. If in Final Village Plan area, the Diagram copy of the Final Village Plan has been amended properly, and, if the Plan is amended diagrammatically, this is reported on.
93. The numbers of all field books and field sheets taken up, and the last lot number used are entered on the Final Village Plans.

94. The tracing for insertion on the Final Village Plan is correct.
95. Adjoining Final Village Plans and Village Plans have been amended where necessary and amendment tracings sent in.
96. Unsurveyed encroachments, if any, are reported on.
97. The Grama Niladhari's notice form is correctly filled up with the Grama Niladhari's Division number, and the Grama Niladhari's name agrees with that in tenement lists.
98. If signed by someone other than the Grama Niladhari deputed, there is a report on this.
99. The boundaries and landmarks have been pointed out to the Grama Niladhari and the applicant, and this has been certified in the notice form and in the tenement list.
100. If no reservations have been left the reason is given in the tenement list, or if reservations are reduced reasons are explained in the report.
101. If a revenue boundary passes through or adjoins the work, it is correctly shown on the plan and defined where necessary.
102. If there is discrepancy between the position of a revenue boundary as shown on the new survey, and on the old plan, this has been reported on.
103. The age of cultivation has been given in the tenement list.
104. The number of landmarks shown in the Grama Niladhari's form and Bill of Cost, if there is one, agrees with the plan.
105. Check surveyor's report, and comment on quality of work.

Special Notes for Examination of Engineering Survey Plans

Verify that:

106. The scale of the plan, and longitudinal and cross-sections are according to the specification.

Check:

107. Plotting of spot heights.
108. Interpolation of contours.
109. Values of the benchmarks shown
110. Printed contour line values and whether they are printed as a mountain climb.
111. Plotting of longitudinal sections, if shown on the plan.
112. Landmarking of boundaries between State and claimed land, if any.
113. Verify that all roads and paths have been described.
114. Numbering of sheets with key-diagram and verify that all references are shown on this.
115. Specification with the plans and verify that all discrepancies have been explained in the report.
116. Grid lines and their numbering.
117. 4x2.5 Km Standard Sheet line positions and square number in margin.

Special Notes for Examination of Town Survey Plans

Check:

118. The boundaries of claims and their descriptions.
119. Buildings and their descriptions.
120. Lot numbers and ditches.
121. State lands and their fixations, verify that their boundaries are defined correctly.
122. Compare boundaries of lots and their numbers on the abutting sheet.
123. Check headings and marginal requirements.

124. Check benchmarks and their values.
125. Verify whether the requirements of the specification have been duly carried out.
126. Check names of roads and Divisions or Wards on the sheet and on the adjoining sheet.
127. Verify boundaries of the Town Area with the latest Proclamation, and see that they are correctly defined.
128. Verify that the size and type of printing on separate sheets are the same.
129. Verify that plans are signed in accordance with Departmental instructions.
130. Verify that tenements are correctly drawn, giving Assessment numbers and the respective Division, Ward or Road, and that all Assessment numbers have been included in the tenement list.
131. Check key Diagrams.
132. If large scale insets have been used, compare the outer boundaries.

D.S.R.

PLAN WORK.

CORRECTION SLIPS

CHAPTER XIII
COMPUTATION OF AREAS
INDEX

D.S.R. Reference	Description	Page
	<u>Things to be consider of area computation</u>	
13.1	Two independent computations for all lots	1
13.2	Accuracy of area computations	1
13.3	Certify the correctness of the computation sheet	1
13.4	Area computation by computer overcome the errors in computation	1
13.5	Check of area computation when specified extent cut out	1
13.6	Corrections to standard area	1
	<u>Dealing with the balance area in F.V.P. remaining area</u>	
13.7	Dealing with the balance area under one hectare in F.V.P.	1
13.8	Dealing with the balance area over one hectare in F.V.P	1
	<u>Area Computation of Demarcation Surveys</u>	
13.9	Area computation of Block Survey lots	2
13.10	Area computation of remainder lot after subdivisions in demarcation surveys	2
	<u>Determination of permissible error in area calculation</u>	
13.11	Calculating the permissible error in area of a land parcel based on the nature of boundaries	2
	<u>Definition of boundaries</u>	
13.12	Fix boundary	2
13.13	General boundary	2
	<u>Accuracy levels</u>	
13.14	Determine Class I accuracy and the Specification	2
13.15	Determine Class II accuracy and the Specification	3
13.16	Determine Class III accuracy and the Specification	4
	<u>Area Calculation</u>	
13.17	Use of decimal places in area of a land parcel	4
	<u>Adaptation of the area in a land parcel</u>	
13.18	Comparison of the area of the previous survey	4
13.19	Statement of the tenement list when the Extent of the previous survey is found to have a significant difference after digital re-computation	5
13.20	Statement of the tenement list when the Extent of the previous	5

D.S.R. Reference	Description	Page
	survey is found to have no significant difference after digital re-computation,	
13.21	Software for Area calculation	5
	Annexures	
<u>Annexure I</u>	Pre-calculated values for permissible error for Class I and Class II accuracy levels (for easy reference)	6

CHAPTER XIII

COMPUTATION OF AREAS

Things to be consider of area computation

- 13.1. The surveyor should compute and certify the extents of all the lots and Superintendent of Surveys should carry out an independent computation for all the lots and on the plan and compare the results. The computed extent will be entered in the tenement list but not on the plan.
- 13.2. The District Senior Superintendent of Surveys is responsible for the accuracy of all computations.
- 13.3. Although the form S128 is used to record the extent computations, it can be printed automatically using SDCAD software. After the accuracy of the results should be verified and certified by The Superintendent of Surveys should verify and certify the accuracy of the result and his initials and file in the requisition file.
- 13.4. Whenever the usage of computers/calculators to compute an area of a land parcel with the help of original co-ordinates (i.e., digital computation), overcome the errors occur in area computation, but it is advisable to do the check computation using the software provided by the department to see whether the correctness of computed area.
- 13.5. Where specified extents have to be cut out for exchange, the computations must be carefully checked by the Surveyor before plans are forwarded.
- 13.6. The correction of the standard extent should be calculated and divided for lots. After The method of the error calculation should be entered in red and signed by the surveyor, Superintendent of Surveys should certified it.

Dealing with the balance area in F.V.P. remaining area

- 13.7. Where part of a state area in a Final Village Plan is cut out, the balance area, if one hectare or under, must be completed on the same plan, and for this purpose the old boundaries and the tenementary information must be verified except where such balance area is a reservation, a path, a stream or other State land which will not be alienated, when, with prior approval from the District Senior Superintendent of Surveys, it need not be completed on the same plan.
- 13.8. Where the balance area is over one hectare, or has not been surveyed in accordance with [paragraph 4.36](#), or the proceeding sentence, it need not be completed on the same plan, but the area can be derived by deduction, without a connected plan. In such cases the following remark should be entered against the lot. "Balance area by deduction. No action should be taken on this lot without a fresh survey and connected plan". The boundaries of the new work should be inserted in pencil on the old sheets, with a pencil reference to the new sheet.

Area Computation of Demarcation Surveys

- 13.9.** In Demarcation Surveys the areas of Block Survey lots must be retained. However, the new extent (after digital computation) has to be compared with old extent (sliding ruler computation) and action should be taken as paragraph 13.19.
- 13.10.** In Demarcation Surveys, where the remainder of a lot, after subdivisions have been made, is greater than 75 per cent of the original area, and is not less than one hectare in extent, it need not be computed. The area can be obtained by subtracting the total area of the subdivisions from the original extent of the lot. The total extent cut out and each of the subdivision must however, in these cases be computed separately, and the extents of the subdivisions must be adjusted to agree with the computation of the total extent cut out, instead of being adjusted to the area of the original lot. "Balance area by deduction" should be noted in the remarks column of the supplementary tenement list against the lots in these cases.

Determination of permissible error in area calculation

- 13.11.** You are instructed to adapt the equation defined in this chapter in calculating the permissible error in area of a land parcel based on the nature of boundaries defined on the specified accuracy levels below. It should be noted that the method of ground survey technique and the number of points on the boundaries of the land parcel are irrelevant in adapting this equation.

Definition of boundaries

13.12. Fixed boundary:

It is a boundary that is made of man-made features and consists of permanent features such as landmarks, boundary walls, walls, wire fences, wire and live fences etc. Missing features on a fixed boundary should be able to be re-established accurately.

13.13. General boundary:

It is a boundary that consists of natural features of which position is vague (cannot be determined precisely). Some of the examples are: live fences, hedges, banks, ridges, ditches, grass lines etc.

Accuracy levels

13.14. Class I

Planimetric positional uncertainty (σ_d) in this class is $\pm 7.5\text{cm}$.

Table 1: Equation to determine Class I accuracy and the specification to be adhered to achieve this accuracy level

Permissible error in area calculation based on equation: ($\sqrt{Area} \times \sigma_d \times \sqrt{2}$) where area in square meters (m ²) and σ_d – Plannimetric uncertainty of each detail point on the boundary of land parcel in meters (m)	
Plannimetric uncertainty (σ_d) of a detail point on fixed and identical boundaries	Permissible error (m ²)
0.075m (7.5cm)	$0.1061 \times \sqrt{Area}$
Specifications	
Instrument and target centering errors	$\leq 2\text{mm}$
Minimum length of a detail traverse line	30m
Maximum length of a detail traverse line	750m
Minimum length of a side shot to a detail point	3m
Maximum length of a side shot to a detail point	100m
Maximum length of an offset to a detail point	3m (no oblique offsets allowed)
Detail traverse closeness factor	$0.4\sqrt{k}$, k is the total length of traverse in km
Angle measurement	Whole circle bearing
Azimuth control	20 lines
Azimuth closure	3'

13.15. Class II

Plannimetric positional uncertainty (σ_d) in this class is $\pm 15\text{cm}$.

Table 2: Equation to determine **Class II** accuracy and the specification to be adhered to achieve this accuracy level

Permissible error in area calculation based on equation ($\sqrt{Area} \times \sigma_d \times \sqrt{2}$) where area in square meters (m ²) and σ_d – Plannimetric uncertainty of each detail point on the boundary of land parcel in meters (m)	
Plannimetric uncertainty (σ_d) of a detail point on general boundaries or a mix of fixed and general boundaries or non-identical fixed boundaries	Permissible error in area (m ²)
0.15m (15cm)	$0.2121 \times \sqrt{Area}$
Specifications	
Instrument and target centering errors	$\leq 2\text{mm}$
Minimum length of a detail traverse line	20m
Maximum length of a detail traverse line	750m
Minimum length of a side shot to a detail point	2m
Maximum length of a side shot to a detail point	100m
Maximum length of an offset to a detail point	5m (no oblique offsets allowed)
Detail traverse closeness factor	$0.4\sqrt{k}$, k is the total length of traverse in km
Angle measurement	Whole circle bearing
Azimuth control	20 lines
Azimuth closure	3'

13.16. Class III

Planimetric positional uncertainty in this class depends on the positional accuracy of the hand-held GPS (HHGPS) device and nature of the boundaries is irrelevant in adapting this equation.

Table 3: Equation to determine **Class III** [accuracy and the specification](#) to be adhered to achieve this accuracy level

Permissible error in area calculation in surveys carried out for planning purposes and topographic map updating with Hand-Held GPS	
Planimetric accuracy(σ_d):	Planimetric accuracy of Hand-Held GPS (generally between 0.5m – 5m)
Permissible error in area (m ²)	$\sqrt{\text{Area}} \times \sigma_d \times \sqrt{2}$ where area in square meters (m ²) and σ_d – Planimetric accuracy of detail point on the boundary of land parcel in meters (m)

[Area calculation](#)

13.17. Use of decimal places in area of a land parcel.

Extent	Class accuracy	No. of decimal places in extent (Hectares)
Up to 8093.7120 m ² (2A - 0R - 0P)	I	Four (04) decimals places
Greater than 8093.7120 m ² (2A - 0R - 0P)		
Up to 2023.4280 m ² (0A-2R-0P)	II	Four (04) decimals places
Greater than 2023.4280 m ² (0A-2R-0P)		
No limit	III	Three (03) decimals places or lesser depending on the requirement of the accuracy level of the work.

[Adaptation of the area in a land parcel](#)

13.18. Following criteria should be adapted in [comparison of the area](#) of the same identical land parcel based on a new survey with the existing area of a previous survey(s).

- i. If the difference in area between the new survey and the previous survey is within the permissible error given by the equation (some pre-calculated values are depicted in [Annexure I](#)) and if it is determined that no further action has been taken in accordance with the requirements of the previous survey, then the new area must be used as the correct area.

- ii. If the difference obtained is outside the permissible error allowed for the area of the new survey of the land parcel, relevant area of the previous survey must be re-ascertained to do the following:
 - 13.19.** If the area of Lot X of the previous survey is found to have a significant difference after digital re-computation and the re-computed extent of Lot X in the previous survey is within the permissible error compared to the new survey, re-computed extent must be accepted and the statement “Extent amended from X.XXXX to Y.YYYY after digital re-computation of Lot X” should be made on the remarks column of the tenement list only if there is no significant boundary deviations on a further verification by way of a graphical comparison of the boundaries of the newly surveyed land parcel with that of previously surveyed same land parcel.
 - 13.20.** If the area of Lot X of the previous survey is found to have no significant difference after digital re-computation, area of the new survey must be accepted and the statement “Extent amended from X.XXXX to Y.YYYY after resurvey and digital computation” should be made on the remarks column of the tenement list.
 - 13.21.** This equation has been incorporated in the standard survey data processing software used by the survey department. However, since computed values for easy reference has given at the end of this chapter.

[Paragraph 13.19](#)[Annexure I](#)

Pre-calculated values for permissible error for Class I and Class II accuracy levels (for easy reference)

Area in Perches	Area in square meters	Permissible error (σ_{area}) in square meters (m^2) = $\sqrt{\text{Area}} \times \sigma_D \times \sqrt{2}$	
		For Class I accuracy: $0.1061 \times \sqrt{\text{Area}}$	For Class II accuracy: $0.2121 \times \sqrt{\text{Area}}$
1	25.2928	0.53	1.06
2	50.5857	0.75	1.51
5	126.4642	1.19	2.39
8	202.3428	1.51	3.02
10	252.9285	1.69	3.37
15	379.3927	2.06	4.13
20	505.8570	2.39	4.77
25	632.3212	2.67	5.33
30	758.7855	2.92	5.84
35	885.2497	3.16	6.31
40	1011.7140	3.37	6.75
80	2023.4280	4.77	9.54
120	3035.1420	5.84	11.69
160 (1A-0R-0P)	4046.8560	6.74	13.49
240 (1A-2R-0P)	6070.2840	8.27	16.53
320 (2A-0R-0P)	8093.7120	9.54	20.24
400 (2A-2R-0P)	10117.1400	10.67	21.33
480 (3A-0R-0P)	12140.5680	11.69	23.37
560 (3A-2R-0P)	14163.9960	12.63	25.24
640 (4A-0R-0P)	16187.4240	13.50	26.99
720 (4A-2R-0P)	18210.8520	13.32	28.62
800 (5A-0R-0P)	20234.2800	15.09	30.18
1600 (10A-0R-0P)	40468.5600	21.33	42.67
3200 (20A-0R-0P)	80937.1200	30.18	60.34
4800 (30A-0R-0P)	121405.6800	36.97	73.90
6400 (40A-0R-0P)	161874.2400	42.69	85.34
8000 (50A-0R-0P)	202342.8000	47.73	95.41

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER XIV
MAPS, DIAGRAMS AND REPORTS
INDEX

D.S.R. Reference	Description	Page
	<u>Amendments in 1:50000 maps</u>	
14.1.	Issuing 1:50,000 maps to field	1
14.2.	Amendments in 1:50,000 maps	1
14.3.	Recording the amendments of 1:50,000 Maps by District Senior Superintendent of Surveys and Superintendent of Surveys	1
14.4.	Recording the amendments on master copy	1
	<u>Preliminary Diagrams</u>	
14.5.	Preliminary Diagrams	1
	<u>Area Diagrams (Sporadic Surveys)</u>	
14.6.	Keep a separate “Area Diagram” for each sporadic surveys	2
14.7.	Content of Area Diagram	2
14.8.	Locating surveys in area diagram	2
14.9.	Survey requisition detail in prioritization categories	2
	<u>Office Progress Diagrams</u>	
14.10.	Keep an up-to-date office progress diagram	2
	<u>Surveyors' Journals</u>	
14.11.	Recorded duties (Journals) on form S /347N	2
14.12.	Maintaining Journals namely Shuttle-Copy and Master-Copy	2
14.13.	Preparing bill of cost	2
	<u>Miscellaneous Reports</u>	
14.14.	Ministry’s Progress Review	3
14.15.	Monthly Returns	3
14.16.	Quarterly Reports	
14.17.	Annual Reports	3
14.18.	Sending Annual Reports to Progress branch in S.G.O.	3
14.19.	Cost of Work	3
14.20.	Entered work progress in Confidential report	3
	Annexures	
<u>Annexure 01</u>	Area Diagram	4

CHAPTER XIV**MAPS, DIAGRAMS AND REPORTS****Amendments in 1:50,000 maps**

- 14.1.** District Senior Superintendent of Surveys is responsible for issuing 1:50,000 maps to be revised in the district to the surveyors through respective Superintendent of Surveys. When a revised map is published, their copies will be issued to the Districts by the Senior Superintendent of Surveys (Mapping).
- 14.2.** Every surveyor will verify the correctness of the 1:50,000 map and report the amendments if any to Head Office through his Superintendent of Surveys and the District Senior Superintendent of Surveys during his stay at a new station, Superintendent of Surveys should assign approximately areas of 5 kilometers radius to each surveyor for revision.
- Roads should be verified in terms of the standard reference on the 1:50,000 map, and they should be further classified as “concrete paved”, “motorable” or otherwise.
- If any amendment is identified, a tracing should be prepared showing the amendments in red and signed with the date. The publication date of the 1:50,000 map should be written on the tracing.
- Even though amendments are not found, still a report should be submitted. If there are considerable amount of amendments to be done involving actual surveying, the surveyor should report accordingly. Senior Superintendent of Surveys (Map Publication) should inform D.S.G. (Geo Informatics) to make arrangements for field data acquisition. If considered a Topographical Revision is necessary, it will be carried out as per Chapter XIX.
- Surveyors engaged on Engineering Surveys, Forest Surveys or Town Surveys are exempted from this order.
- 14.3.** District Superintendent of Surveys and Superintendent of Surveys should record the amendments reported by their surveyors, on their copies of the 1:50,000 maps. While on inspection they should always have the 1:50,000 map of the area they are inspecting with them, as a considerable amount of verification can be done whilst traveling along roads by car or cycle.
- 14.4.** The information shown on the tracing will be recorded on the ‘Master Copies’ in Map Publication Branch and will be used in the preparation of the next edition of the 1:50,000 sheets and of other maps which are compiled from the 1:50,000 sheets.

Preliminary Diagrams

- 14.5.** District Senior Superintendent of Surveys should issue a tracing at 1:50,000 scale showing the surveys that has already been carried out in and adjoining area to the Superintendent of Surveys before the survey of an area is started.

Area Diagrams (Sporadic Surveys)

- 14.6.** Every District Senior Superintendent of Surveys and Superintendent of Surveys will keep a separate “Area Diagram” for each area, on which all sporadic surveys to be done is shown.
- 14.7.** The area diagrams are usually on the scale of 1:50,000. They should show all roads, railways, towns, principal villages, rivers and the boundaries & numbers of villages which have been blocked surveyed.
- 14.8.** Surveys will be located, but not marked, on the 1:50,000 Topographical maps. They should be located in the correct Grama Niladhari division, but if there are too many surveys in a single village they are shown as [Annexure I](#).
- 14.9.** Survey requisitions for each priority classification mentioned [paragraph 4.15](#) must be retrieved from the SRIMS database. Number of Survey requisition in each D.S. division should be tabulated as per the prioritization categories in SRIMS and shown below the area diagram. (as Annexure I)

Office Progress Diagrams

- 14.10.** District Senior Superintendent of Surveys will keep an up-to-date office progress diagram. This diagram shows the action taken on surveys completed and sent to the District Survey Office by the field staff, and records the examination & disposal of such surveys. Additionally, these aspects of the SRIMS database must be keeping up to date.

Surveyors' Journals

- 14.11.** All surveyors should keep journals on form S 347/N. This should be entered at the end of each day. The work performed by the surveyor and the Survey Field Assistant should be recorded separately and entries should be made to the nearest half-day. When the figures thus entered to do not give a clear indication of the volume of miscellaneous work done, a concise note should be made in the remarks column.
Surveyors engaged on GNSS traversing or special surveys should amend the headings in the journal to suit such work.
- 14.12.** Two journal forms namely “Shuttle-Copy” and “Master-Copy” should be maintained for each month. Shuttle-Copy will be sent to the Superintendent of Surveys at the end of each week and brought up-to date on receipt from him. All remarks made by him on Shuttle-Copy should be copied in red on to the Master-Copy.
At the end of the month the surveyor will retain the Shuttle Copy with him and Master Copy will be submitted to Superintendent of Surveys at the monthly progress review meeting along with next month work program, survey equipment and vehicle reservation request etc.
- 14.13.** No. of allotments, extent, no. of landmarks used etc. should be separately recorded for each requisition in order to calculate bill of cost for some type of surveys.

Miscellaneous Reports

14.14. Ministry's Progress Review:

District Senior Superintendent of Surveys should submit progress reports generated through SRIMS on work accomplished during the month to reach Additional S.G. (Field) in Head Office by the end of each month.

14.15. Monthly Returns:

Monthly progress reports should be prepared and submitted by Superintendent of Surveys to reach the District Senior Superintendent of Surveys by the 2nd working day of the following month. District Senior Superintendent of Surveys should prepare and forward monthly returns to reach Head Office through Provincial Office by 10th of the month. The PRS 1 and PRS 2 reports on Bim Saviya surveys obtained from the SRIMS database should be signed along with other monthly reports.

14.16. Quarterly Reports :

The quarterly report containing a summary of the work done in district should be submitted within all quarter to the Provincial Surveyor General by the District Senior Superintendent of Surveys.

14.17. Annual Reports:

Every District Senior Superintendent of Surveys should prepare a summarized report on work completed during the year through SRIMS and forwarded to the Provincial Surveyor General.

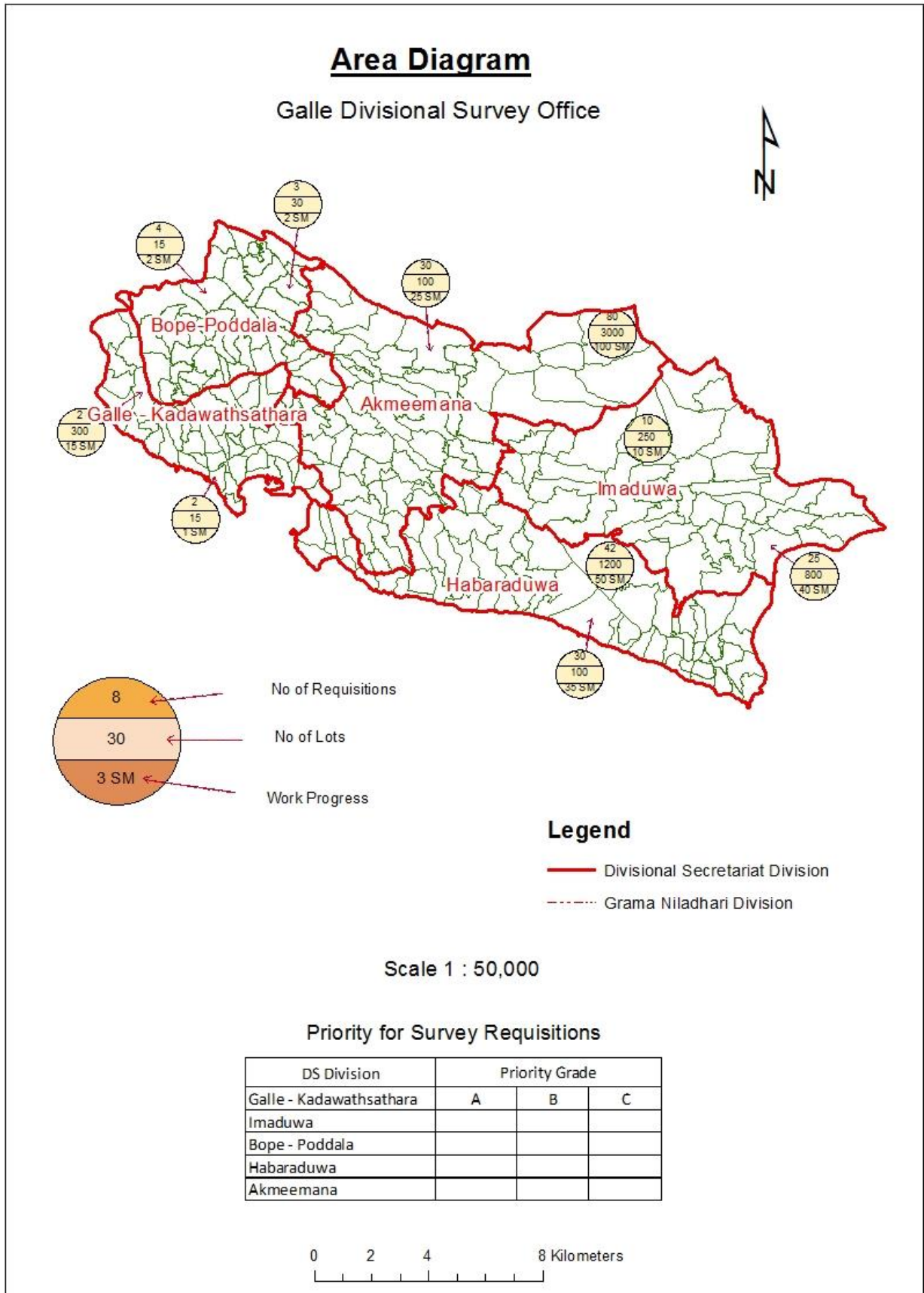
14.18. Annual reports should reach to Progress branch in Head Office by the 10th of January each year.

14.19. It is the duty of every surveyor to keep the cost of his work as low as possible, and every Superintendent of Surveys should look into the cost involved in surveys done under his supervision in order to achieve the target.

14.20. Every surveyor will enter the average monthly progress in cage 7 of his confidential report form. Superintendent of Surveys should take into account the facts in cage 4, 5, and 7 of the confidential report in recommending next salary increment.

Paragraph 14.8

Annexure I



CORRECTION SLIPS



CORRECTION SLIPS

CHAPTER XV**PREPARATION OF BLOCKING-OUT DIAGRAMS AND
STAKING OUT SURVEYS****INDEX**

D.S.R. Reference	Description	Page
	<u>Things to be considered in preparation of blocking out diagrams</u>	
15.1.	Survey requisition for preparing B.O.D. and staking out surveys	1
15.2.	Preparation of B.O.D. in accordance with the laws of UDA / administrative boundaries	1
	<u>Field Work</u>	
15.3.	Procedure of surveys when encroachments exist	1
15.4.	Surveying of outer boundary and detail survey	1
15.5.	Suitable access to each lot	1
15.6.	Separation of lands not suitable for distribution	1
15.7.	Usage of instruments for survey	1
15.8.	Setting out boundaries as old boundaries	1
15.9.	Setting out allotments by staking out	1
15.10.	Handling survey requisition without the list of allottees	2
15.11.	Documents to point out the boundaries for allottees	2
15.12.	Checking the accuracy of blocking out	2
	<u>Plan Work</u>	
15.13.	Showing proposed lots on tracing	2
15.14.	Preparing tracing	2
15.15.	Lotting the allotments	2
15.16.	Details in the table	2
15.17.	Endorsement on requisition by surveyor	2
15.18.	References for B.O.D. on old plan	2
15.19.	Survey forms to be used	2
15.20.	Annexing original tracing in the survey requisition file	2
15.21.	Forwarding completed survey requisition to District Survey Office	3
15.22.	Forwarding copies of tracings to Divisional Secretaries	3
15.23.	Sending an additional copy of the tracing to the Forest Conservation Department	3
15.24.	Endorsement on B.O.D. when the staked out boundaries are pointed out	3
15.25.	Keeping of completed survey requisition files	3
	<u>Special things of Blocking Out of lands under Irrigation Schemes</u>	
15.26.	Survey requisition made by the Irrigation Department	3
15.27.	Staking out in separate tracts	3
15.28.	Comparing B.O.D. and Engineering survey sheets	3
15.29.	Setting out of channels in irrigation schemes	3
15.30.	Supply of stakes	4
15.31.	Action to be taken when the amendments appear in B.O.D.	4

CHAPTER XV**PREPARATION OF BLOCKING-OUT DIAGRAMS AND
STAKING OUT SURVEYS**Things to be considered in preparation of blocking out diagrams

- 15.1. The National Building and Research Institute (NBRO) should be consulted for a feasibility report when receiving a requisition for survey for the preparation of Blocking Out Diagram (B.O.D.) on Staking out surveys, if it is essential.
- 15.2. If the land for which the B.O.D. is prepared, falls in a local government area, the B.O.D. has to be prepared in accordance with the rules and regulations of Urban Development Authority Act. B.O.D.'s of other areas should be prepared as per the rules and regulations of the relevant administrative divisions. The reservations should be maintained vide Departmental Survey Regulations and the rules and regulation of Road Development Authority, Irrigation Department and other institutions should also be followed accordingly.

Field Work

- 15.3. If encroachers are residing within the proposed land for B.O.D., a tracing should be prepared to show those land parcels and a tenement list should be prepared including the information such as the name, address of the encroacher, land use, extent of the land etc.
- 15.4. On receipt of a survey requisition, after a preliminary investigation, outer boundary of the land proposed for B.O.D. surveyed in outer boundary and details should be surveyed. Beside that if the area is undulated a contour survey need to be conducted to design roads, drains, allotments etc. If the proposed land is fairly a large one a coordinated traverse need to be connected to a control network for the accuracy.
- 15.5. When preparing the blocking out diagram, the Surveyor should allocate access to each plot of land and if there are state lands adjacent to the block plan, the appropriate means of access should be considered and laid down. The instructions of the Superintendent of Surveys should be obtained in this regard. If any land is abutting settled private, is abutting the B.O.D., a safe strip of land need to be kept to use as access roads to such lands if necessary.
- 15.6. If lands below the full flood level, marshy lands, rock outcrops not suitable for alienation, lands with the slope more than 30 degrees extending more than 20 meters etc. exist within the proposed area for B.O.D, should be excluded from the B.O.D., as they are not suitable for distribution.
- 15.7. When land parcels in the B.O.D., to be staked out in field, any suitable survey equipment can be used.
- 15.8. The Divisional Secretary will issue a requisition for survey along with the list of allottees for staking out as per B.O.D. Old landmarks will be used to set out boundaries in a F.V.P. area and landmarked P.P. Reopening of old boundaries should be done on the occasions where no old landmarks are available on ground.
- 15.9. After setting out access roads and main survey lines on ground, stakes will be set out on ground using the compiled data. It is not necessary to clear the entire boundary between contiguous

allotments; distances of about 5 meters from stakes on either side in the direction of the other would suffice.

- 15.10.** Requisitions for survey received without the list of allottees should not be staked out. However, if a requisition is received for the preparation of B.O.D., The B.O.D. should be prepared and sent to the Divisional Secretary for approval. Staking out should be carried out list of allottees is received.
- 15.11.** Staked out boundaries should be pointed out to allottees and their signatures should be obtained in duplicate on two separate forms. The list of absent allottees should be point out and handed over to the Grama Niladhari/ colonization officer, and a certificate should be obtained in duplicate on two separate forms. The signatures of the allottees already residing in the allotment should be obtained in duplicate on two separate forms.
- 15.12.** The Superintendent of Surveys should carry out adequate field inspections to check the accuracy of the setting out by using suitable survey instruments.

Plan Work

- 15.13.** Boundaries of proposed lots in B.O.D. (tracing) should be shown in red.
- 15.14.** The surveyor should prepare the B.O.D. to meet the requirements of requisition for survey. The Number of the requisition should be assigned as the number of the B.O.D., for easy reference. In order to set out boundaries of allotments on ground can be done with the help of compiled distances, angles and coordinates either from tracing or from the digital data.
- 15.15.** The lots in the Blocking Out Diagram (B.O.D) should be shown in red in a circle, such as (A), (B), (C) and after lot (Z), (AA), (AB), (AC) and so on should be used. Letters I, O, L should not be used for numbers and a certificate to that effect should be written in red an appropriate place on the tracing.
- 15.16.** All lots shown in the Blocking Out Diagram (B.O.D) should be shown in red in the table with the lot numbers, extents and descriptions.
- 15.17.** When endorsing the requisition for survey on completion by the surveyor, the staked out extents of the allotments should also be mentioned therein.
- 15.18.** If the area of blocking out falls within the area of “ F.V.P./F.T.P/ P.P.”, the outer boundary of new work and requisition No. should be inserted on such plan and the boundary should be hatched with a pencil. When such boundaries fall in P.P. areas, the reference should also be inserted on field copy of 16 chains R.D. and its office copies in pencil.
- 15.19.** In the event of completion of the requisitions for survey received for the preparation of B.O.D. and staking out, form Survey 418 should be used for finally settled areas and form Survey 417 should be used for outside of the finally settled areas.

- 15.20. Once a requisition for staking out is completed it should be checked by the Superintendent of Surveys. The tracing, requisition file and the report of important and considerable matters to Divisional Secretary should be handed over to the Senior Superintendent of Surveys.
- 15.21. The original tracing prepared by the surveyor for staking out should be filed in the requisition file and handed over to District Survey Office for use in future survey work.
- 15.22. The requisition will be then approved by the Senior Superintendent of Surveys of the district and a copy of it will be sent to the Divisional Secretary along with the surveyor's report and a copy of the signature list of allottees for handing over allotments.
- 15.23. If the area of survey is within the forest area or it contains valuable timber trees, an additional copy of the B.O.D. should be forwarded to the Forest Conservation Department.
- 15.24. When stakes are buried, they will be shown on the B.O.D. as 'St' in red and the position of stake in black. After that the surveyor should give the following endorsements on the B.O.D. in red thus "I certify that the boundaries of Lot Nos: from..... to Staked out and pointed out in field by me as per the Divisional Secretary (.....) 's Requisition No:..... of and the S.G.'s No:....." Above endorsements should be followed by the surveyor's signature, name, designation and date of B.O.D., in red. Thereafter the Supdt of Surveys and Senior Superintendent of Surveys need to sign the B.O.D., for checking and approving the work in red respectively. Both of their signatures need to be follow their name, designation and date signed in red. These endorsements should be given on a photocopy of the B.O.D. to be sent to Divisional Secretary. Simultaneously, original tracing should be filed in B.O.D. requisition file, and photocopy should be filed in the staking out requisition file.
- 15.25. Having filled the information of the front cover page of the surveyor's report form, the Senior Superintendent of Surveys should take actions to keep the B.O.D. and requisition file at the District Survey Office.

Special things of Blocking Out of lands under Irrigation Schemes

- 15.26. When staking out lands for an irrigation scheme, it should be done according to the blue print of the Blocking out Plan (B.O.P.) or its soft copy supplied along with the survey requisition which is prepared and sent by the Irrigation Department. Roads, channel, drainage lines and allotment boundaries must be staked out according to the blue print of B.O.P. or its soft copy by the surveyor.
- 15.27. Such staking out will be carried out by tracts. If the tract is too large, it should be split up into convenient blocks not exceeding 200 hectares each.
- 15.28. A tracing should be prepared from the B.O.D. and it should be adjusted and compared on the engineering survey sheet after which all benchmarks and necessary consecutive pickets in groups of three should be copied and required distances will then be compiled. When the soft copies are supplied, the required distances, angles and coordinates can be calculated through computers.
- 15.29. Channels and roads already constructed or set out to be constructed should be surveyed by a traverse connected to the national coordinate system using Theodolite/Total Station. Once this survey is plotted on a sheet, the above tracing should be superimposed on it. If the main distributor channels had not been constructed, those should be set out on the ground and the

approval of the Irrigation Engineer should be obtained to ensure that no major deviations will take place at the construction stage. If the channels that are to be constructed differ from the trace shown on the B.O.D, the amended traces with the subsequent alternation of the boundaries of the allotments should be shown on the B.O.D., and get it approved by the Irrigation Engineer in Charge of the scheme.

- 15.30.** Arrangements should be made in time with the Divisional Secretary or the Irrigation Engineer to obtain adequate wooden stakes.
- 15.31.** If there are only minor alterations to be made to the B.O.D., at the time of staking out its boundaries, the Divisional Secretary's copy of the B.O.D. should be obtained and returned back at the completion of staking out after altering amendments in red therein. Actions should be taken as mentioned in sub section 15.24 for buried stakes. Where a large number of amendments are involved, an amended B.O.D. should be prepared and inform the Irrigation Department.

D.S.R.

PREPARATION OF BLOCKING-OUT
DIAGRAMS AND STAKING OUT SURVEYS

CORRECTION SLIPS

D.S.R.

PREPARATION OF BLOCKING-OUT
DIAGRAMS AND STAKING OUT SURVEYS

CORRECTION SLIPS

CHAPTER XVI
TOWN SURVEYS
INDEX

D.S.R. Reference	Description	Page
	<u>Introduction</u>	
16.1.	Town Surveys on Local council request	1
16.2.	Determination of the area to be surveyed	1
	<u>Types of Town Survey Plan</u>	
16.3.	Types of plans prepared in town surveys	1
	<u>Field work of Assessment Surveys</u>	
16.4.	Authority to enter private land in town surveys	1
16.5.	Control traverse for Assessment surveys	1
16.6.	Landmarking in town surveys	1
16.7.	Types of Benchmark used in town surveys	1
16.8.	Use of air survey methods for town surveys	2
16.9.	Preparing air survey plan for necessary area	2
16.10.	Traverse for detail survey	2
16.11.	Building Survey	2
16.12.	Survey of boundaries	2
16.13.	Showing assessment falling within a claim	2
16.14.	Provide one assessment when the boundary cannot be settled	2
16.15.	Surveying of small parts of buildings	2
16.16.	Surveying drains along the boundaries of roads and public drains falling through private lands	2
16.17.	Completion of field work in a systematic manner in field sheets	2
16.18.	Conventional signs to be used for boundary description	2
	<u>Plan work of Assessment Surveys</u>	
16.19.	Plotting outer boundary of the town area	3
16.20.	Obtain plan number for town survey plans	3
16.21.	Numbering of field sheets	3
16.22.	Scale of town surveys	3
16.23.	Entering assessment numbers in sheets	3
16.24.	Showing old and new details of the land	3
16.25.	Detail Survey and showing plan	3
16.26.	Plan work of Town Surveys	3
16.27.	Preparation of sheet edge comparison tracings	3
16.28.	Sending completed sheets for printing	3
16.29.	Surveyor's report	3
16.30.	Approving of key diagrams and Printing	4
16.31.	Forwarding coordinate sheets of detail traverse	4
	<u>Field work of Contour Surveys</u>	
16.32.	Methods for leveling	4

D.S.R. Reference	Description	Page
16.33.	Details leveling in contour survey	4
	<u>Plan work of Contour Surveys</u>	
16.34.	Scale of Contour surveys	4
16.35.	Contour intervals and its thickness	4
16.36.	Amendment of details in contour survey plan	4
16.37.	Showing contour details on ethulon/Tracing	4

CHAPTER XVI

TOWN SURVEYS

Introduction

- 16.1. Town Surveys are done for Local Authorities, i.e., Pradeshiya Sabas, Urban Councils and Municipalities, at their request.
- 16.2. The limits of the area to be surveyed are determined by notification in the Gazette.

Types of Town Survey Plan

- 16.3. Plans supplied are of 2 types.
- a) Assessment plans showing roads, paths, watercourses, other natural features, property boundaries and buildings together with other details.
The assessment plan is a record of detail as it exists on ground and is meant for assessment purposes only. Old work is not dealt with and no tenement lists are supplied. Assessment numbers of properties are handwritten on copy of plans supplied to the local authority.
- b) Contour Plans supplied at the request of the Director General of Water Supply and Drainage Board.

Field work of Assessment Surveys

- 16.4. A letter of authority may be obtained from Surveyor General by each surveyor to enter private land for the town surveys.
- 16.5. Existing traverse control is examined and this is supplemented by a framework of control traverses, which may run on the outer limits of the town and along principal roads and streams.
- 16.6. The Commissioner of Local Government requires that Town boundaries not defined by natural or artificial features should be defined by landmarks. As no Revenue Plan is issued, departmental Landmarks should not be used. Necessary landmarks should be obtained from the Regional Assistant Commissioners of Local Government. These should be buried at 200 meters intervals and at prominent bends. This landmark should be clearly shown as black square on plan with an appropriate size. Whenever sections of these boundaries coincide with Landmarked Revenue boundaries such as F.V.P, they will not be defined further by Local Government landmarks. Departmental landmarks in such sections should be shown on the plan in the usual manner. Landmarks, both departmental and Local Government demarcating town boundaries will not be described on the plan but should be included in the list of references.
- 16.7. Benchmarks should be applied at the time of assessment. Further Benchmarks should be applied later if necessary.
- (a) Benchmarks are shown with their values on the assessment plans thus:



C Type Benchmarks (without Bolts) are constructed at about 1 km intervals along principal roads, preferably at the main road junctions. If live rock, concrete or masonry structures are not available “E” Type Benchmarks (without Bolts) will be used. Necessary control Leveling is done for the purpose of leveling these Benchmarks.

- (b) Type E Benchmark may be buried for security near road junctions, in adjacent private gardens with the permission of the landowners.
 - (c) Sketches showing values and locations of benchmarks should be prepared and forwarded with location diagrams on a suitable scale on completion of work.
- 16.8. Paragraph 16.6 & 16.7 indicates the procedure when ground survey methods are exclusively used for the town survey. Air survey methods may also be used. In this case, Senior Superintendent of Surveys (Air Surveys), will supply his requirements of ground control points, which will be surveyed and leveled.
 - 16.9. Senior Superintendent of Surveys (Air Surveys) will prepare photogrammetric plot of the required area in suitable scale & will be send to Senior Superintendent of Surveys (GIS) & he will forward the copy of this to field for field revision. After field revision town survey sheet will be printed by Senior Superintendent of Surveys (Mapping).
 - 16.10. Available traverses are being used for this purpose. More detail traverses may be run to provide further control for survey of detail, if necessary. These traverses should be reduced to the minimum required.
 - 16.11. Offsets to buildings, may be taken up to 10 m. Such buildings may also be picked up on swinging lines.
 - 16.12. Boundaries of claims should be surveyed, as they exist on ground. When the boundaries are not evident, but the adjoining claimants agreed on a common limit, they may be surveyed but should be described as indefinite.
 - 16.13. Each assessment falling within a claim should be separately shown. If this is likely to cause confusion as in the case of tenements, 3 or 4 such assessments may be grouped together. Field Books are not maintained and T.L. s will not be prepared.
 - 16.14. Two or more lands bearing different assessment numbers may also be grouped and surveyed as one lot where it is found impossible to settle the boundaries of individual assessment on claims at the time of survey. A report should be forwarded with completed plans in such cases.
 - 16.15. Small projections, recesses and angles of buildings which fall entirely within one claim need not be measured if they cannot be drawn clearly on plans.
 - 16.16. Drains running within the limits of a road and public drains running through private property should be shown.
 - 16.17. Sheets should be taken up for survey and completed in order, so that the local authority may take action on plans Ward by Ward.
 - 16.18. Use abbreviations in [Annexure X in chapter XI](#) to describe boundaries.

Plan work of Assessment Surveys

- 16.19.** The outer boundary of the town is plotted on A1 sheet on a suitable scale. e.g. 1:10,000 and a key diagram of the sheet area is prepared. All sheets taken up are A3 sheets.
- 16.20.** A plan number for the town survey plans should be obtained from Senior Deputy Surveyor General (Document Management and Professional Standard).
- 16.21.** Sheets are numbered from unity. The sheet numbers of the abutting sheets should be indicated on the relevant margins of each sheet.
- 16.22.** All Town Surveys will in future be on the scale of 1:1000. Data should be collected according to the scale.
- 16.23.** Assessment numbers should be entered in pencil on the original sheets.
- 16.24.** Old details, which exists, are shown in black and new details are shown in red.
- 16.25.** The following details must be surveyed and these boundaries should be shown on plan.
Benchmarks, all water courses streams, rivers, canals, channels, all drains along roads, open masonry drains along roads, open storm water drains, manholes of covered and underground storm water drains, manholes and vent columns and sewers maintained by the Local Body, sewage pumping stations, treatment grounds, sewerage disposal outlets, the outer boundary of paddy field areas, grass field areas, marsh areas, fallow lowland areas, pits, water holes, ponds, tanks, bunds, embankments, culverts and bridges with their outlet dimensions, limits of the areas subject to salvinia-infestation in dotted lines, limits of area subject to low flood, medium flood and high flood in broken lines and described as L.F.L., M.F.L., and H.F.L.
- 16.26.** Plan work should be carried out as follows.
- a) Heading of the plan should be in Sinhala and English.
 - b) Other detail in Sinhala.
 - c) An English translation should be given to the reference. Key of abbreviations should be shown on the plan in Sinhala.
 - d) The tracing giving details for computer printing should conform to (a), (b), and (c) above.
 - e) Town Survey Plans will be prepared in English in the Northern and Eastern.
 - f) The following main new items should be described on plans.
 - i. Ward numbers and names.
 - ii. Descriptions of buildings, i.e. whether temporary or permanent.
 - iii. Descriptions of boundaries.
 - iv. Road names.

The conventional abbreviations mentioned in Annexure X in Chapter XI may be used.

- 16.27.** As soon as work on a sheet is completed, sheet edges should be compared or sheet edge comparison tracings should be prepared and kept for comparison with adjoining sheets. This procedure is adopted so that sheets may be passed by the Superintendent of Surveys and sent for printing as each sheet is completed.
- 16.28.** Completed sheets should not be retained in the field and sheets sent for printing should not be recalled for comparison of sheets edges.
- 16.29.** A surveyor's report should accompany every sheet.

- 16.30.** The key diagram should be passed by the Superintendent of Surveys and District Senior Superintendent of Surveys and forwarded with a type sheet for printing on completion of work.
- 16.31.** On completion of work, co-ordinate sheets of detail traverses with a key diagram should be systematically filed and forwarded to the District Survey Office.

Field work of Contour Surveys

- 16.32.** The method to be adopted in Leveling i.e., rectangulation or instrumental tracing of the contours will be determined by the District Senior Superintendent of Surveys.
- 16.33.** The following details must be leveled.
Benchmarks, spot heights at 50 m intervals and changes of slope along one edge of the carriage way of all metaled roads, along center line of other roads, paths, etc, heights on manhole lids of storm-water drains and sewers maintained by the Local Body, banks and water courses, streams, rivers, canals, channels at their confluence's and at 1/2 km intervals, heights (at the ends and at 1/2 km intervals in between) on top and toe of bunds and embankments, heights of banks and beds of pits, water holes and ponds.

Plan work of Contour Survey

- 16.34.** This survey is on the scale of 1:2,000.
- 16.35.** Contours will be shown at 1 m intervals to a thickness of 0.25 mm and every 3 m contour will be shown to a thickness of 0.8 mm. In hilly country, contours may be at 2 m intervals where, appropriate.
- 16.36.** When recent assessment surveys exist the contours will be shown on 1:2,000 A3 print of these plans. Sufficient revision of detail need to be revised to include new roads and public buildings only.
- 16.37.** Amendments to detail will be inked in red on a 1:4,000 A3 print. An ethulon/ tracing will be taken up for hypsometry and the contours BM's their values ruling heights and registration marks will be shown in black on it.

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER XVII**MISCELLANEOUS****INDEX**

D.S.R. Reference	Description	Page
	<u>Special survey work</u>	
17.1	Maintaining of Requisition files	
	<u>Title Plans, Diagrams</u>	
17.2	Issuing copies of Title Plans and diagrams	2
17.3	Updating database system on issuing diagrams	2
17.4	Updating details in Final Village Plan on issuing diagrams and Entering information into Database	2
	<u>Final Reports</u>	
17.5	Final Reports and Final Village Plans	2
17.6	Settlement plans with regard to Final Report	2
17.7	Notice after receiving the Final Report	
	<u>Final Village Plans</u>	
17.8	Inserting the completed plan on Final Village Plans	2
17.9	Preparation of Final Village Plan	3
17.10	Issuing of printed copies of Final Village Plan	3
17.11	Surveys after printing Final village plan	3
17.12	Cancellation of original Village Plan and connected TLs after printing Final Village Plan	3
17.13	Destroy of unnecessary connected papers of original Village Plans after printing Final Village Plan	3
	<u>Data collection by Hand Held GPS Receivers</u>	
17.14	Data collection by Hand Held GPS Receivers	
17.15	Data Collection when the existing boundary is the boundary of an old statutory plan	
17.16	Data Collection when old surveys are not covered	
17.17	Obtaining prior approval of the Senior Superintendent of Surveys to collect data when coordinates are not available from HHGPS receivers	
17.18	Procedure for collecting data using satellite images	
17.19	Showing extent when the extent is more than 100 hectares or less	
17.20	Maintaining of digital data files	
	<u>Data collection for preparing parcel fabric using Satellite images</u>	
17.21	Types of satellite images used for data collection	
17.22	Data collection for preparing parcel fabric	
17.23	Roads and waterways should be digitized first	
17.24	Data collection that are unable to mark boundaries	
17.25	How to act when there is a Registered Licensed surveyor's plan	
17.26	Filling of Data Sheets for lots in parcel fabric	
	<u>Field notes for parcel fabric</u>	
17.27	Providing a unique number to the land	

D.S.R. Reference	Description	Page
17.28	Note on the cover of the field book	
	<u>Instruction for digitized land lots</u>	
17.29	Land lot digitization of geo-referenced image	
17.30	Rules for digitizing	
17.31	Data Structure	
17.32	Data Structure for lines	
17.33	Data Structure for points	
17.34	Data Structure for polygons	
17.35	Naming of digitized data files	
17.36	Destroy data sheets	
	<u>Preparing parcel fabric</u>	
17.37	Plotting of stored GPS coordinates using QGIS/ArcGIS	
17.38	Lot number should be given for every enclosed lot	
17.39	Note to be applied in fabric diagram	
	Annexures	
<u>Annexure I</u>	Data Collection Sheet for National Parcel Fabric	
<u>Annexure II</u>	Data Structure for lines	
<u>Annexure III</u>	Data Structure for points	
<u>Annexure IV</u>	District Codes	
<u>Annexure V</u>	Block Codes	
<u>Annexure VI</u>	Codes for plan type	

CHAPTER XVII**MISCELLANEOUS****Special survey work**

- 17.1. In District Survey Office, separate files should be maintained for each Divisional Secretary areas relating to special survey work in any Divisional Secretary Areas.

Title Plans, Diagrams

- 17.2. Title Plans, Diagrams, etc.: Copies of Title Plans are issued from Document Management and Professional Standards (DM & PS) branch in Surveyor General's Office (Head Office) or from District Survey office by using DMS database. Other Diagrams, Lease Diagrams for each issued by the District Survey office. A register for issuing Diagrams should be maintained as Divisional Secretariat division and separate pages should be taken for each Grama Niladhari Division and should be recorded.
- 17.3. Information of this register should be entered in the "Issue LDO Diagrams" at "Staff Access" of the Department website database simultaneously.
- 17.4. After the L, O and V Diagrams in Final Village Plan area have been numbered and issued, the District Senior Superintendent should enter the numbers in red in all copies of the Final Village Plan Tenement List, & within the lots in Field sheet. Information on these Diagrams should enter into the "ProMS" database simultaneously.

Final Reports

- 17.5. After the Demarcation Surveys of a village have been completed, the Settlement Officer completes all his settlements and sends a Final Report showing the disposal of all the lots in the village to the Surveyor General.
- 17.6. The settlement Plan on a scale of 1:25,000 to illustrate the settlements in the Final Report is prepared in Head Office and should be sent for printing.
- 17.7. When the draft Final Report is received from the Settlement Officer, Snr. D.S.G (DM & PS) will inform the District Senior Superintendent of Surveys immediately.

Final Village Plans

- 17.8. The preparation of the Final Village Plan and Tenement List is then commenced in Head office. Any work done after the issue of the Final Report to be included it should reach Document Management & Professionals Standards branch in Head Office before the Final Village Plan is printed. Failing which it should be introduced by the District Survey Office.
- 17.9. The Final Village Plan is printed in one or more A3 size sheets, and is filed in cardboard covers with the Final Report and the Mapping out Diagram.
- 17.10. On completion of the Final Plan, one copy each is issued to the Divisional Secretary and settlement Officer concerned and two copies to the District Senior Superintendent of surveys. Divisional Secretaries copy is issued to the Divisional Secretaries for the use of their staff.

Copies issued to the District Senior Superintendent of Surveys for the use of surveyors as field copy and other copy can be used in District Survey office as Office copy.

- 17.11. All subsequent work in this area is then carried out based on the Final Village Plan.
- 17.12. When a Final Village Plan is received by the District Senior Superintendent of surveys, the Village Plan tenement list should be cancelled and Senior D.S.G. (DM & PS) should be informed.
- 17.13. After one year, District Senior Superintendent of surveys will sort out the papers in the Village Plan file and destroy all unimportant papers retaining only important papers with regard to the method of survey, i.e. computation sheets, detail co-ordinates or any other matter of interest.

Data collection by Hand Held GPS Receivers

- 17.14. Hand Held GPS (HHGPS) could be used to carry out surveys that require to prepare tracings of accuracy level III according to [paragraph 13.16](#), as per instructions received from District Senior Superintendent of Surveys. Data should be collected to comply with the required accuracy and field book keeping and maintain field records in accordance with [Annexures IV & V of Chapter XI](#) respectively. The coordinate system of HHGPS should be changed to SLD 99 and coordinates of all turning points also must be stored and recorded.
- 17.15. When the outer boundary falls on the old boundaries of statutory survey plan and the difference between those two boundaries are less than 5m, the old boundaries should be considered as the accurate boundary and old measurement should be used for re-plotting. When the said difference is larger than 5m, the present boundaries should be surveyed and included in the tracing.
- 17.16. All boundaries in and around the land (not covered by the old survey) must be coordinated and plotted by HHGPS equipment. The water features and the common access roads should be shown and buildings should not be shown.
- 17.17. When it is difficult to reach the boundary points to capture the data using HHGPS and those boundaries are clearly visible in the satellite images, the prior approval from senior superintendent of surveys need to be obtained to collect data vide [paragraph 11.68](#).
- 17.18. When it is decided to collect the boundary data using satellite images, the maximum distance between two turning points should limit to 300m. Then those points shall mark using wooden pegs and take HHGPS coordinates for those points. The boundaries between the said two points should be digitized using satellite images. The coordinates of those digitized points also need to be recorded in the field book while referring it to the prospection diagram. A note on how these surveys were conducted should be included in the tracing and survey report.
- 17.19. When the extent is more than 100 Ha, the extent should be given to the nearest Hectare. If the extent is less than 100 Hectare, the extent should be given to the nearest decimal of Hectare.
- 17.20. In addition to the plan prepared in this survey, the following digital data files should be kept in the District Survey Office. Those digital data files should be sent to the Land Information Systems through the SRIMS database. Under the SRIMS Database Project, for example, inclusion of Plantation Surveys or Survey Reference is compulsory.

The following HHGPS data files should include in the Zip folder and the naming of those files should refer the tracing number.

- . gpx files of way points and tracks
- .dxf file of digital survey data

- . kml file of the projected digital survey data on Google Earth.

Data collection for preparing parcel fabric using Satellite images

- 17.21. The Grama Niladari (GN) Division boundary should be the geometric base region for collecting parcel fabric data. Updated versions of High resolution satellite data (more than 50 cm) could be used for this purpose.
- 17.22. The following areas should exclude when collecting data for creating Parcel Fabric within the selected GN Division
- Areas where Digital Survey data exist.
 - Areas where the department survey hard copy plans exist.
(In case of hard copy plan, the outer boundary of the surveyed area should be digitized and include in the Parcel Fabric.)
- Apart from those areas the data collections to be done for parcel fabric using satellite images.
- 17.23. The easy identifiable roads and waterways in the area must first be digitized. The boundaries on both sides of the road and the boundary lines of the water ways should be marked on satellite images and the land boundary identified on the satellite image should be marked.
- 17.24. When difficulties encountered during identification of parcel boundaries, the HHGPS should be used for collecting of such missing boundaries. The collected HHGPS data should be downloaded and incorporated to the Parcel Fabric data. 10% of the interpreted parcel boundaries should be cross-checked with the HHGPS in order to validate the digitized data.
- 17.25. When a plan of a Registered Licensed Surveyor falls in the area, the coordinates of three identified points (at least) should be obtained by the HHGPS and incorporated by digitization in the Parcel Fabric data. In such circumstances, it is not required to collect the data by satellite images or HHGPS once again.
- 17.26. The attribute data of the individual parcel in the Grama Niladhari Division should be collected using the data sheet in [Annexure I](#). The data sheet should be distributed to the claimants of individual parcel through Grama Niladhari of the division. By completing sample data sheet, the data entries could be explained to the Grama Niladhari in a simplified manner.

Field notes for parcel fabric

- 17.27. After collecting the data for the Parcel Fabric diagram, all the parcel boundaries should be sketched in the field book and should be given reference numbers in a systematic manner. At the time of collecting data sheet vide Annexure I filled by the claimants the reference lot number given in the field book should be recorded as the serial number. The Add Collected Data option in the OLD TL System should be used for entering the data sheet to the system for digitization.
- 17.28. “Parcel Fabric”, CM Index number, Name and the number of the GN division should be written in the cover page of the field book.

Instruction for digitizing land Parcels

- 17.29. The following instructions should be followed in Digitizing parcels.

- ❖ Lots digitization of Geo-referenced image

After the geo-referenced imagery, the lots of the image can be digitized. The coordinates of the mosaic image should be double-checked and verified as national coordinate system SLD_99. Digitizing could be done in manual/semi-automatic/automatic manner depending on the quality of the scanned image of the original source document. Image cleaning should be done at initial stage when digitizing in semi-automatic/automatic manner. The Photoshop software could be used for this purpose. As the QGIS software is used for digitization in the department, no instruction is given for digitization in the system of semi-automatic/automatic.

The polyline should be digitized using QGIS software and the original drawings should be digitized so as not to be distorted.

17.30. Rules for Digitizing

In digitizing the following rules must be taken in the context of the others before being applied.

- Setting the snap environment based on the scale of the original survey plan (1:4000 – 1m, 1:2000 – 0.5m , 1:10,000 – 1 to 2m).
- Digitizing should be done in polyline mode.
- All the lines should be straight within landmark node to landmark node
- All the landmark points should be extracted from line data as nodes and save in a point layer with respective point descriptions.
- Lines must not cross without nodes. Lines that meet end to end should be mathematically joined (snapped) together.
- Do not have duplicate lines.
- Common area boundaries must only be digitized once.
- Nodes and polygon should be created using digitized line data. Polygons/areas should be a neatly closed polygon and all polygons could be used to generate system extent. These polygons should not have any sliver polygons, no overlaps & no gaps. These digitized feature should be stored as polylines, nodes & polygons in separate files.
- The standard symbols shall be used for digitizing symbols in the plan.
- Those symbols should store in the separate data layer

17.31. Data Structure

All digitized data should prepare as polylines, nodes and polygons.

17.32. Data Structure for lines

When digitizing survey boundaries all the boundaries must be coded. The standard codes are given in [Annexure II](#). The data structure is as follows.

Field Name	Field Type	Field length	Remarks
DSR_IX_ID	numeric	4	
DSR_IX_AS	Text	6	Only for Sinhala text in a plan

DSR_IX_AE	Text	6	Only for English text in a plan
-----------	------	---	---------------------------------

17.33. Data Structure for points

In this case, every point must be encoded in parallel to the digitization of the data. The standard codes to be used for this purpose are given in [Annexure III](#).

Field Name	Field Type	Field length	Remarks
DSR_IX_ID	numeric	4	
DSR_IX_AS	Text	6	Only for Sinhala text in a plan
DSR_IX_AE	Text	6	Only for English text in a plan

17.34. Data Structure for polygons

Prepare empty shape file by using the marginal formation of the survey plan as per data structure given below.

Field Name	Field Type	Field length	Description
district_c	Text	2	The standard District code values are given in Annexure IV
cmi_index	Text	6	'cmindex' number given to LIS branch by each district. Available in www.lis.survey.gov.lk website
block_code	Text	2	Select from the values specified in Annexure V
cm_lot	Text	4	Not required. Keep blank
plan_type	Text	2	Select from the values specified in Annexure VI
plan_d_code	Text	2	Apply this district code for plans in other districts. Keep blank if not applicable.
plan_No.	Text	5	Plan Number (Eg. F.V.P. 12- 00012, PPCO 2345-02345)
inset_No	Text	4	Applicable only for F.V.P.and Topo P.P. (Eg. Inset 25 - 0025). Keep blank for other plan types.
sup_No	Text	4	Applicable only for F.V.P.and Topo P.P. (Eg. Sup 25 - 0025). Keep blank for other plan types..
sht-No	Text	4	If available, use 4 digits. (Eg. Sheet 2 - 0002)
village_na	Text	25	Village name as stated in the plan. First letter must be in capital. (Eg. Mahawa)
gnd_name	Text	25	If Grama Niladhari Division name could be found, the first capital letter in English (Mahasenpura). Otherwise keep blank.

Field Name	Field Type	Field length	Description
gnd_code	Text	5	If Grama Niladhari Division code could be found as used. Otherwise keep blank.
place_name	Text	25	If found, First capital letter in English (Mahasenpura). Otherwise keep blank.
Lot_No	Text	5	If the Lot number is 23, complete it as 00023.
Lot_suffix	Text	4	Applicable only for half lots. (Eg. For lot number 12 ½ , insert Lot_No as 00012 and Lot_suffix (This field) as 01 Z 2 in 4digits by using capital Z) Keep blank if not a half lot number.
pcl_id_con			Completes later.
pcl_id_Fabri			Completes later.
st_area			Completes later.
St_length			Completes later.

17.35. Naming of Digitized data files

When digitizing cadastral survey plans where digital data do not exist, the shape file of the digitized parcel data shall be named as Plan_type + Plan ref + lot.shp and the shape file of other survey plan digitized lots shall be named as District code + Plan_ref + lot.shp

eg; Old Non Cadastral Survey Plans

1. 52 pplanco3234lot.shp
- OR
2. 81 FvpMAHA432sup3lot.shp

Cadastral Survey Plans

1. 12520001B12sh1lot.shp

17.36. All data sheets should be filed in the order of their serial numbers and name as “Parcel Fabric” on the top of the file. After collecting all the data of one DS Division, the Snr SS shall give sanction to destroy those data sheets.

Preparing parcel fabric diagram

17.37. Plotting of the stored GPS data of co-ordinates could be done using QGIS/ArcGIS software. The parcel boundary data and the boundary/turning points should be stored in separate data layers such as boundary layer and point layers. The digitized symbols and the lot numbers should also be stored in a separate layer as annotation layer.

- 17.38.** Closed polygons should be created using points in the point layer. A lot number should be assigned for each closed polygon. Finally a lot is identified by a unique twelve digit number. When all the lots are drawn, assign the lot numbers for roads, reservations etc, even if the data sheets are not available. Such details should be entered in the old TL System accordingly.

QGIS/ArcGIS software shall be used to generate the closed polygons and all data files should be numbered as CMIndex Number_D01.shp, CMIndex Number_D02.shpetc and upload those shape files to the LIS branch through SRIMS. In recording the requisition details in the SRIMS, the data field Project must be entered as "Parcel Fabric Surveys". The details of the files that have to be included in the shape file format is given in paragraph 17.34.

- 17.39.** The following note should be given in the hard copy of the Parcel Fabric Diagram. " This is a diagram prepared at the preliminary stage and should not be used for any legal action or as supporting document for any legal decision. The methodology used for collection of data.... " (Eg. Satellite images and HHGPS)

Paragraph 17.26

Annexure I



Serial No

CMI Index

Block Code

Lot No

**Survey Department of Sri Lanka
Data Collection Sheet for National Parcel Fabric**

District	:	DS Division	:
GN Division	:	Village:	:

01. Name of the land owner/occupant (Rev/Mr./Mrs/Miss)

02. Address.....

.....

03. :Assessment No.and Street NIC No

04. Telephone No Home Mobile

05. Name of the Land:

06. Ownership of the Land : State Private Other

6.1 If State

Grant Permit State Corporation

6.1.1 If Grant:

Jayaboomo Swarnaboomi Rathnaboomi Other

6.1.2 If Permit

LDO. CLO. LRC Other

6.1.3 If State Organizatio

MC UC PS LRC RDA

CGR JEDB UJEDB Health Forest Dept

Wildlife Dept. Education Dept. Encroached

Grant /Permit /Deed Number :.....

Extent in Deed: A.....R.....P..... (Ha.....)

Plan No (If have): Date:

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

Any Other Remarks :
.....

6.2 If Private :

Plan No(If have) Date:

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

Extent in the plan: A.....R.....P..... (Ha:.....)

Name of Registered Licensed Surveyor

Deed Number : Date :

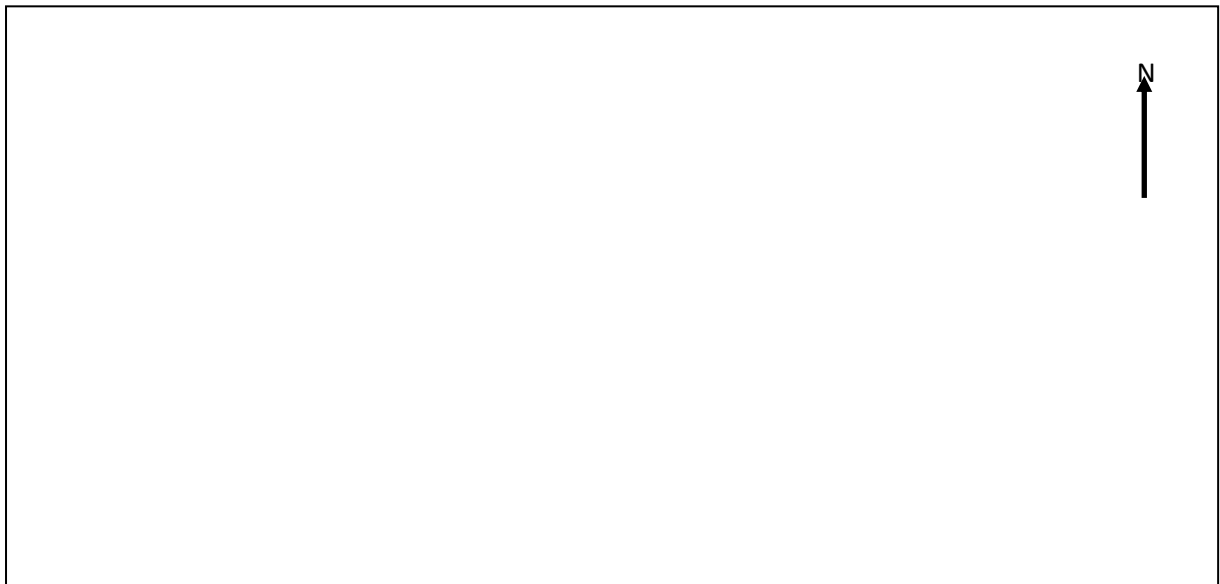
D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

Extent in the Deed: A.....R.....P..... (Ha:.....)

Name of Notary public :.....

Name of the Land Registry :

Sketch of the Land Parcel



07. Land Use:

7.1 Type 01

High Land

Paddy

Water

7.2 Type 02

Coconut Garden (< 50 Acres)

Coconut Garden (> 50 Acres)

Forest

Paddy field

Rubber

Tea

Garden

Other

(Special).....

08. Signature of Land owner :

Date:

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

09. Name of Data Collector :

Date:

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

Designation of Data Collector (Govt Syr. / MTO/ DO.)

Time:

Signature Of Grama Niladhari

Date:

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

Data Structure for Lines

DSR_IX_AE	DSR_IX_AS	DSR_IX_ID
B	ඉ	101
BUND	වැක	102
BW	මාතා	103
DF	ඉවැ	104
Dt	අගල	105
EDn	කකා	106
Hg	බවැ	107
IF	යවැ	108
LF	පැවැ	109
MDn	සීකා	110
RW	ආතා	111
SF	ගවැ	112
WLF	කපැවැ	113
WF	කවැ	114
WNF	කදැවැ	115
U	අවී	116
W	බී	117
TE	තාගැ	118
Cu	ගැබැ	119
Rg	නී	120
RI	මාදු	121

Paragraph 17.33Annexure IIIData Structure for Points

DSR_IX_AE	DSR_IX_AS	DSR_IX_ID
L	ග	201
RL	පිග	202
St	ලී	203
N	අ	204
IR	යක	205
?	සික	206
?	මාක	207
?	සිස	208
?	ල	209
EP	වික	210
?	දුක	211
Road(H)	මාර්ග (ම)	301
Road(PS)	මාර්ග (ප්‍රාස)	302
Road(ID)	මාර්ග (වා)	303
Road(LD)	මාර්ග (ඉ)	304
Road(RDA)	මාර්ග (මාසංආ)	305
Road(MC)	මාර්ග (නස)	306
FP	අපා	307
SM	මපාල	401
LB	තැපෙ	402
M	කාක	403
Cul	බෝ	404
FL	කැග	405
AL	පුග	406
T	අ	407
Ty	තා	408
P	ස්	409
C	ඡ	410
?	ස	212
?	ලීක	213

[Paragraph 17.34](#)[Annexure IV](#)**District Codes**

District	Code
Anuradhapura	11
Polonnaruwa	12
Trincomalee	26
Batticaloa	27
Ampara	28
Matale	31
Kandy	32
Nuwara Eliya	33
Puttalam	41
Kurunegala	42
Gampaha	51
Colombo	52
Kalutara	53
Kegalle	61
Ratnapura	62
Badulla	71
Monaragala	72
Galle	81
Matara	82
Hambantota	83
Jaffna	91
Killinochchi	92
Mullattivu	93
Mannar	94
Vavuniya	95

[Paragraph 17.34](#)[Annexure V](#)**Block Codes**

Methodology	Code
Geo-referencing using Google Image coordinates	86
Geo-referencing using Mobile GPS coordinates	87
Geo-referencing using Old Map sheet Reference coordinates	88
Geo-referencing using Plan Grid coordinates	89

[Paragraph 17.34](#)[Annexure VI](#)**Codes for Plan type**

Survey Plan Type: Plan Type is defined with digit-Code		
Plan Type	Code	Abbreviations
Preliminary Plan	11	PP
Cadastral Map	12	CM
Topo.PP	13	TopoPP
Final Topo Plan	14	FTP
Village Plan	15	VP
Final Village Plan	16	FVP
Colony Plan	17	CP
Final Colony Plan	18	FCP
Forest Survey Plan	19	FSP
Forest Survey Preliminary Plan	20	FSPP
Irrigation Survey Preliminary Plan	21	ISPP
Final Urban Plan	22	FUP
Court Commission Surveys	23	
ES Sheets	24	ESS
Tracings	25	
Title Plan	26	TP
Crown Title Plan	27	CTP
Temple Title Plan	28	TTP
Town Plan	30	TWNP
Town Survey Plan	31	TSP
Town Survey Preliminary Plan	32	TSPP
Miscellaneous Survey Preliminary Plan	33	MSPP
Condominium Plan	34	
Chena Survey Preliminary Plan	35	CSPP
Cadastral Map Digitizing	36	CMD
Block Survey Village Plan	37	BSVP
Block Survey Preliminary Plan	38	BSPP
Crown Land Plan	39	CLP
Urban Plan	40	UP
Standard Preliminary Plan	41	PPS
Preliminary Plans with suffix	42	PPA
Final Settled Plans	43	FSP
	44	FSPP

CORRECTION SLIPS

Not Finalized yet

CHAPTER XVIII

CONDOMINIUM PROPERTY SURVEYS

INDEX

D.S.R. Reference	Description	Page
	<u>Condominium Property and matters connected</u>	
18.1.	Condominium property surveys for registering the legal interest in condominium properties	1
18.2.	Categorization of condominium properties	1
18.3.	Aspects included in above said relevant law	1
	<u>Parts of Condominium Plan</u>	
18.4.	Components to be included in a condominium plan	2
18.5.	Preparation of Condominium Plan	2
	<u>Ground Plan</u>	
18.6.	Preparation of ground plan	2
18.7.	Special requirement to be included in ground plan	2
	<u>Vertical Section Plan</u>	
18.8.	Preparation of vertical section plan of each building/s	2
	<u>Condominium Parcels</u>	
18.9.	Numbering system for parcels	3
18.10.	Numbering system for parcels which consists of parts in different floors	3
18.11.	Preparing TL of individual parcels	3
	<u>Accessory Parcel</u>	
18.12.	Preparing Tenement List for accessory parcels	4
18.13.	Numbering system of parcels	4
18.14.	Indicate an undivided share value in the common elements for accessory parcels	4
18.15.	Bounds in TL for accessory parcels	4
	<u>Comment Elements</u>	
18.16.	Definition of common elements	4
18.17.	Defining common elements on condominium plan	4
18.18.	Numbering system for common elements	4
18.19.	Preparing Tenement List for common elements	4
18.20.	Special features to be included in common element	4
	<u>Proposed Buildings</u>	
18.21.	Preparation of condominium plans for proposed buildings	5
18.22.	Preparation of plan of a new building or an extension to a building	5
18.23.	Referencing, when the plan being prepared refers to a new building or	5

D.S.R. Reference	Description	Page
	an extension to a building	
18.24.	Lot numbering for proposed building land	5
18.25.	Numbering system for proposed buildings	5
18.26.	TL for new or proposed building parcels	5
	<u>Re-division and amalgamation of parcels</u>	
18.27.	Fresh plan prepared for re-division or amalgamation parcels	5
18.28.	Numbering system for new plan	5
18.29.	Requirements to be compiled for referencing purpose with new sub division or amalgamation	6
18.30.	Maintaining the previous extent after subdivision and amalgamation	6
18.31.	Subdivision or amalgamation, which are not involved the amendments to ground plan or common elements	6
	<u>Allocation of a part of Common Element for the exclusive use of an owner of a particular parcel</u>	
18.32.	Procedures when delineating parts of common elements for the exclusive use of a particular parcel	6
	<u>Condominium Property Surveys inside Cadastral Surveys</u>	
18.33.	Condominium Property Surveys inside Cadastral Surveys	6
18.34.	Surveys and Plan work of Condominium survey in a Bim Saviya parcel	6
	List of Annexures	
<u>Annexure I</u>	Extracts from the Apartment ownership Law, No. 11 of 1973 as amended by the Apartment Ownership (Amendment) Act No. 39 of 2003.	7
<u>Annexure II</u>	Specimen of Condominium plans	16
<u>Annexure III</u>	Specimen of Condominium Tenement Lists	19

CHAPTER XVIII

CONDOMINIUM PROPERTY SURVEYS

Condominium Property and matters connected

18.1. Condominium Properties are those where multiple ownership arises due to the construction of storeyed building with several independent parcels for individual occupation. Condominium Property Surveys are carried out for registering the legal interests in Condominium property under the provisions of the Apartment Ownership Law No. 11 of 1973 and its some para as amended by the Apartment Ownership (Amendment) Act. No. 45 of 1982. Again it's some as amended by the Apartment Ownership (Amendment) Act. No. 39 of 2003. In additionally various amendment have done for above Act but they are not direct involve for survey activity.

([Annexure I](#))

18.2. Property can be categorized as follows under the condominium Law.

Condominium Property -

Any building erected on alienated land held as one land parcel & capable of being subdivided into parcels fit for human habitation is referred to as "Condominium Property"

Provisional Condominium Property -

Any building proposed to be erected on alienated land held as one land parcel & capable of being subdivided into parcels is referred to as "Provisional Condominium Property"

Semi Condominium Property -

Any building partly erected on alienated land held as one land parcel, on which there are more than one completed condominium parcel fit for human habitation is referred to as "Semi Condominium Property"

The Condominium Plan of the above mentioned properties shall be prepared and drawn by under the authority of the Surveyor General or by a registered licensed surveyor.

18.3. This law envisages specially the following among other aspects.

- a) The survey plan prepared for each condominium property to be registered as a Condominium Property.
- b) Ownership of individual condominium parcel (units) by separate owners.
- c) Possibility of allocation of separate sections to such individual parcel as accessory parcel (Eg: - balcony, parking area etc.).
- d) Ownership of common elements such as common areas and common facilities in the Condominium Property to be held in common by all the owners of the individual units.
- e) All the individual Owners to form into a legal body called a management corporation for the proper management of the Condominium Property. Such management corporation to function in terms of the Rules set out in the First Schedule and the owners of the individual parcel (units) to be bound by the Rules in the Second Schedule to act No. 24 of 2003.
- f) Possibility of allocation by the management corporation of common elements for the exclusive use of particulars owners of parcel.

- g) Registration of Condominium Property has to be done in a separate Register called a “Register of Condominium Property” (for the registration of a proposed multi storied building which is divided into separate parcel for separate occupation)

Parts of Condominium Plan

18.4. The following are the components that should be included in a Condominium Plan.

- a) Ground Plan - This is a normal survey plan showing the boundaries of the land, positions of the buildings there in and other details normally shown on a survey plan.
- b) Vertical section of the condominium building.
- c) A separate plan for each floor indicating the condominium parcel (units) into which the buildings are sub-divided, any accessory units and common elements.
It is best to use different colors to distinguish these designs one by one. For example, condominium sections should be drawn in green, additional sections in brown, and common elements in purple.
- d) In preparing the land Tenement lists of the condominium property, four (4) Tenement Lists should be prepared separately for the ground plan, for parcels, accessory units and for common accessory properties.

18.5. Condominium Plans should be prepared on A3 size drawing sheets for the issue of Preliminary Plans, Extracts of Block Survey, and Supplements to FVP, etc. ~~Senior Superintendent of Surveys will certify two printed copies; one marked the 'Original' and the other the 'Duplicate' for issue to the client organization.~~ When issuing copies of these plans to other institutions, three copies should be obtained and marked the ‘original copy’, ‘second copy’ and ‘Third copy’ of the plan and approved by the relevant District Senior Superintendent of Surveys.

Ground Plan

18.6. This is the normal survey plan that should be prepared according to the specification. The plan should be named as Condominium Property Plan and may be drawn to any convenient scale. The plan should be lot as a normal survey plan.

18.7. The following special requirements should be noted.

- a) Prior registration reference pertaining to the property should be verified from the relevant Land Registry and the Volume and Folio numbers should be indicated by a note on the plan. (When requested by an application, the payment will be made for inspection without any delay.)
- b) The Government Surveyor/Registered Licensed Surveyor should insert a special certificate on the plan according to the apartment ownership act and its amendment act “all buildings and all parcels shown in the Condominium Plan in relation to the external surface boundaries of the Condominium Property are within the Condominium Property and are in compliance with building plans (if any) and subdivision plans issued by the authority for the time being responsible for the approval of such plans”
- c) The bounds should be described in the remarks column of the Tenement List as shown in Annexure II.

Vertical Section Plan

- 18.8.** A vertical section should be drawn for each building. **The horizontal and vertical measurements required for this purpose should be obtained from the approved building plan only in measurable locations and included in the plan.** All such measurements should be recorded in field books. Height of floors and thickness of floors and ceilings should be shown on plan. A fairly large scale such as 1:100 or 1:200 will be needed to show the floors and ceilings of each story.

Condominium Parcels

- 18.9.** Each floor of the sub-divided buildings should be shown separately and the individual parcels shown therein. Measurements pertaining to each such parcel should be clearly recorded in the field books and linear measurements shown on plan. Sufficient linear measurements should be taken for the separation of the individual parcels.

The number assigned to a parcel should consist of the following components for the purposes of clarity.

- a) Parcel number of the survey plan to indicate the location of the land.
- b) Alphabetical letter distinguishing the particular building, the buildings being identified as A, B, C,..... etc.
- c) Reference to the floor in which the parcel is located, here floor defined as "F"

Basement	-	FB
Ground Floor	-	F0
Mezzanine	-	FM
First Floor	-	F1
Second Floor	-	F2

- d) Designate the individual parcel as U1, U2,etc. in each floor.

Parcel number 1 in the Ground Floor in the building A in Lot 1 is defined as 1A-F0-U1 .
Accordingly the second unit as 1A-F0-U2 as so on.

- 18.10.** If a particular parcel consists of parts in different floors, the following procedure should be adopted.
- a) The part of parcel in each floor will be shown in the plan of the particular floor with a reference to the section showing the floor in which the balance part of the parcel is shown.
 - b) In order to identify such parcel following designation should be given. Thus, parcel No.2A/FOF1/U1 will refer to a parcel consisting of two parts in the ground and first floors of building A in lot 2.
- 18.11.** Specimen Tenement List of Annexure III indicates how the details pertaining to the individual parcels should be shown in the Tenement List. The following special requirements should be noted:
- a) The headings of the Tenement List pages should be shown to conform to those given in the specimen.
 - b) Share value allocation for each individual parcel and accessory parcel (if any) should be calculated and shown against the parcel. The following equation describes the share value of the calculation;

$$SV = \frac{U+A}{\Sigma(U+A)} * 100 = \frac{\text{Total Square meters of the parcel and accessory parcels of relevant}}{\Sigma \text{Total square meters of all the parcels and accessory parcels}} * 100$$

SV – Share Value

U – Extent of condominium units shown in square meters

A – Extent of accessory unit which relevant shown in square meters

- c) Any accessory parcels should be referred to in the remarks column.
- d) Bounds of condominium parcels should be indicated in the remarks column, taking into account the following.
 - i. Bounds should be given for North, South, East, West, Zenith and Nadir.
 - ii. The bounding line on each of these directions will be the center of the wall, floor or ceiling as the case may be.

Accessory Parcel

- 18.12. Individual parcels may or may not have Accessory units made appurtenant to them. The plan and Tenement list should be prepared according to the specimen.
- 18.13. The number assigned to an accessory parcel should indicate the parcel to which such accessory parcel is made appurtenant. Example 1A/FO/U1/A1 refers to an accessory parcel A1 appurtenant to parcel No. 1A/FO/U1. The accessory parcels are numbered as A1, A2, A3..... etc.
- 18.14. The share value of the accessory parcel in the common elements should not be separately shown in the Tenement List as it has been already indicate with the main parcel.
- 18.15. Bounds should be indicated in the remarks column. Any accessory unit situated outside a sub-divided building may not have bounds on the Zenith and Nadir.

Common Elements

- 18.16. Common Elements are those that are owned in common by the owners of all the parcels in a Condominium Plan.
- 18.17. All the common elements should be defined for easy identification.
- 18.18. Common elements should be numbered as shown in the specimen. Example ICE 1 refers to Common Element 1 in lot 1
- 18.19. The details (location & usage) pertaining to common elements should be shown as indicated in specimen Tenement List
- 18.20. The following special features relevant to common elements are appended below.
 - a) Common Element No. ICE 1 includes some that are shown on plan such as roads and car parks and some that are not shown on plan but referred to only in the Tenement List,

e.g. foundations, columns, concrete beams, etc. All these should be mentioned in the description column of the Tenement List.

- b) The Common Elements are owned in common by the owners of all the parcels. This fact should be mentioned in the Tenement List as shown in the specimen.
- c) It is not necessary to indicate the floor area, undivided share value or bounds for Common Elements.

Proposed Buildings

- 18.21.** The Condominium Plan is being prepared to show existing buildings and proposed buildings and extensions, the proposed positions should be indicated on plan by broken lines and the existing positions by firm lines. A reference should be given in the reference column to indicate that the broken lines represent proposed buildings/ proposed extensions. The aggregate share value should be indicated in the Tenement List taking into account the total floor area of all the parcels together with the extensions/ new parcels. In other respects the plan and tenement lists should conform to the requirements mentioned above.
- 18.22.** If the plan being prepared refers to a new building or an extension to a building in an already registered Condominium property, plans should be prepared taking in to account the Condominium Plan, which is already registered. The new plan and tenement list will be required only for indicating the new buildings/extensions to existing buildings.
- 18.23.** The following procedure should be adopted for purposes of referencing, when the plan being prepared refers to a new building or an extension to a building in an already registered Condominium property.
- (a) Make the following entry on Section 1 below the number of the plan:
“ For the amendment of Condominium Plan No. dated”
 - (b) Outer boundary of the part of new survey plan should be amended and hatched by pencil in previous Condominium Plan /s.
 - (c) The features of the ground Plan of the previous Condominium Plan /s should be transferred and shown in dotted lines to form the Ground Plan of the present Condominium Plan.

New buildings completed should be shown in continuous lines and proposed building should be shown in broken lines. The dotted lines, broken lines and continuous lines should be detailed in the reference column of the plan.

- 18.24.** The land will continue to retain the lot number assigned in the previous condominium plan. Such lot number will be indicated on plans in position along with the relevant Plan number.
- 18.25.** Any new/ proposed buildings and new/ proposed parcels will be numbered according to the following guide lines indicated above taking care to avoid repetition of letters assigned to individual buildings. Abutting parcels/ lots will retain the previous numbers and should be shown accordingly with relevant plan reference.
- 18.26.** Tenement Lists will be prepared to indicate details of the new/proposed parcels buildings.

Re-division and amalgamation of parcels

- 18.27.** In instances where plans have to be prepared for the re-division or amalgamation of parcels that are already registered under this law, fresh plans should be prepared for the sections affected by such re-division or amalgamation.
- 18.28.** Numbering of the plan and new parcels should follow the same guide lines indicated above.
- 18.29.** The following requirements should be complied with for purposes of referencing:
- (a) Make an entry at the top of Section 1 of Plan as ‘Condominium Plan of re-division/amalgamation.’ Make an entry in the same section of the plan below the number of the plan as:
“(For the amendment of Condominium Plan No dated)”
 - (b) Abutting parcels and /or lots may be described on plan giving reference to parcels, etc. appearing on the previous Condominium Plan.
 - (c) In the remarks column of the Tenement List indicate reference to the parcels affected by the re-division or amalgamation. “Part of unitof Condominium Plan No”
- 18.30.** The original area of the condominium parcel should be maintained after the re-division or amalgamation.
- 18.31.** If these re-divisions and/or amalgamations of parcels do not involve amendments to the ground plan shown in the original Condominium Plan, or any common elements shown thereon, it is not necessary to prepare a fresh ground plan. In such instances, the following note on Section 1 of the new plan will suffice;
- ‘Ground Plan: Same as the ground plan shown on Condominium Plan No.
of.....’

Allocation of a part of Common Element for the exclusive use of an owner of a particular parcel

- 18.32.** Amendments to a registered Condominium Plan may also be needed for the purpose of delineating any part of the common elements on which the management corporation has decided to grant exclusive use to a particular owner of a parcel in terms of the By-laws shown in the Second Schedule. In such instances, too, the procedure mentioned above may be followed in preparing a plan to indicate the part of the common element thus affected.

Condominium Property Surveys inside Cadastral Surveys

- 18.33.** Condominium Property Surveys inside Title Registration areas are carried out for registering the legal interests in Condominium Properties under the Apartment Ownership and Registration of Title Act. More details in this regard can be found in [paragraph 21.54 - 21.59](#).
- 18.34.** The following procedure has to be adopted.
- (a) Check the original copy of the title certificate issued for the land and obtain a copy.
 - (b) Using the original digital data of the land.

- (c) Re-establish the Bim Saviya parcel on ground.
- (d) Survey the building and the individual parcels.
- (e) Submitting the completed plan and Tenement list to the District Senior Superintendent of Surveys with final details issued by the District Senior Superintendent of Surveys.
- (f) If the amendments given by the District Senior Superintendent of Survey are mentioned or there are no amendments thereafter, submit the final 5 copies of the plan to the District Senior Superintendent of Survey for approval.

Paragraph 18.1

Annexure 1

Extracts from the Apartment Ownership Law, No. 11 of 1973, as amended by the Apartment ownership (Amendment) Act. No. 39 of 2003.

Act. No. 11 of 1973- section 2

1. This Law shall apply to property comprising land with a building or buildings of more than one story and having more than one independent parcel of residential or non-residential accommodation, hereinafter referred to as "Condominium Property".

Act. No. 39 of 2003 – section 5(1)

5. (1) The Condominium Plan shall comprise of a survey plan or plans which shall be prepared and drawn by a licensed surveyor or by or under the authority of the Surveyor-General and shall -
 - (a) delineate the external surface boundaries and boundary marks of the Condominium Property and the position of each subdivided building thereon fixed in relation to the surface boundaries;
 - (b) specify the division, volume and folio in which the Condominium Property is registered and the surveyed area thereof;
 - (c) include a vertical section of each subdivided building showing
 - (i). the floors and ceilings of each storey; and
 - (ii). the height of each storey
 - (d) include a description, as well as the vertical section and dimensions, of each building or parts thereof proposed to be erected within the Condominium Property as a separate tenement or as an extension of any completed subdivided building, in accordance with building plans and subdivision plans approved by the authority for the time being responsible for the approval of such plans;
 - (e) delineate, subject to the provisions of subsections (2) and (3), each condominium parcel and define the boundaries thereof by reference to floors and walls showing the horizontal dimensions, without it being necessary to show any bearing;
 - (f) identify the parcels into which each building is divided and distinguish such parcels by assessment numbers, numbers or other symbols;

- (g) distinguish each storey by an index letter in relation to the survey lot number of the Condominium Property and specify the parcels in each storey in relation to the number of the storey;
- (h) show the approximate floor area of each parcel;
- (i) delineate the external boundaries and show the horizontal dimensions without it being necessary to show any bearing of each building or parts thereof proposed to be erected within the Condominium Property as a separate element or an extension of any completed subdivided building or buildings in accordance with building plans (if any) and subdivided plans approved by the authority for the time being responsible for the approval of such plans;
- (j) define the common elements of the Condominium Property;
- (k) bear an endorsement by the person preparing it to the effect that the building shown in the Condominium Plan is within the external horizontal boundaries of the Condominium property;
- (l) to it a certificate from a registered architect or a registered professional civil or structural engineer to the effect that the condominium parcels shown therein are the same as those existing on the Condominium Property;
- (m) enter the share value of each condominium parcel in the plan in compliance with the provisions of section 20A;
- (n) bear an endorsement with a certificate of a licensed surveyor that all buildings and all Condominium parcels shown in the Condominium Plan in relation to the external surface boundaries of the Condominium Property are within the Condominium Property and are in compliance with the building plan, and the subdivision plans issued by the authority for the time being responsible for the approval of such plans;
- (o) show the share values in whole numbers of each condominium parcel and number equal to the aggregate share value entitlement of all the condominium parcels;
- (p) have endorsed upon it the address at which documents may be served on the management corporation in accordance with section 20N;
- (q) Contain such other particulars as may be prescribed.

Act. No. 39 of 2003 – section 2

- (2) Where an accessory parcel consists of a building and is bounded by external walls, floors and ceilings, the dimensions and boundaries of such accessory parcel shall be shown in the Condominium Plan in accordance with the requirements of subsection (1).

Act. No. 39 of 2003 – section 3

- (3) Where an accessory parcel does not consist of a building-
 - (a) The external boundaries of the accessory parcel shall be ascertained from the building plans and subdivision plans approved by the authority for the time being responsible for the approval of

such plans and the accessory parcel shall be unlimited in its vertical dimension except to the extent of any projection above, or encroachment below ground level by another part of the condominium property ; and

- (b) The Condominium Plan shall show a diagram of the accessory parcel with similar dimensions as those shown on the approved plans referred to in paragraph (a).

Act. No. 39 of 2003 – section 4

- (4) Unless otherwise stipulated in the Condominium Plan , the common boundary on any condominium parcel with another condominium parcel or with the common elements shall be the center of the floor, wall or ceiling as the case may be."

Act. No. 39 of 2003 – section 5(A)

- (5A) The Provisional Condominium Plan shall be prepared and drawn by a licensed surveyor or by or under the authority of the Surveyor General and shall:-
- (a) delineate the external surface boundaries and boundary marks of the proposed Condominium Property and the position of each subdivided building proposed to be recited thereon fixed in relation to the surface boundaries;
 - (b) specify the division, volume and folio in which the land parcel is registered and the surveyed area thereof;
 - (c) include a vertical section of each subdivided building showing
 - (i). the floors and ceilings of each storey; and
 - (ii). the height of each storey
 - (d) include a description, as well as the vertical section and dimensions, of each building or parts thereof proposed to be erected within the land parcel in accordance with building plan approved by the authority for the time being responsible for the approval of such plans;
 - (e) delineate, subject to the provisions of subsections (2) and (3) of section 5, each proposed condominium parcel and define the boundaries thereof by reference to floors and walls showing the horizontal dimensions, without it being necessary to show any bearing;
 - (f) identify the proposed condominium parcels into which each proposed building is to be divided and distinguish such parcels by assessment numbers, numbers or other symbols;
 - (g) distinguish each proposed story by an index letter in relation to the land parcel number of the cadastral map and specify the proposed condominium parcels in each story in relation to the number of the story;.
 - (h) Specify the approximate floor area of each proposed parcel;

- (i) delineate the external boundaries and show the horizontal dimensions without it being necessary to show any bearing of each building proposed to be erected within the land parcel in accordance with building plan approved by the authority for the time being responsible for the approval of such plans;
- (j) define the provisional common elements of the provisional Condominium Property;
- (k) show the provisional share values in whole numbers of each proposed condominium parcel and a number equal to the aggregate provisional share value entitlement of all the proposed condominium parcels;
- (l) bear an endorsement by the person preparing such plan to the effect that the building proposed to be erected show in the Provisional Condominium Plan is in accordance with the building plan approved by the authority for the in the time being responsible for the approval of such plan.

Act. No. 39 of 2003 – section 5B

- (5B) The Semi Condominium Plan shall be prepared and drawn by a licensed surveyor or by or under the authority of the Surveyor-General and shall-
- (a) delineate the external surface boundaries and boundary marks, of the Semi Condominium Property and the position of each partly completed subdivided building thereon fixed in relation to the surface boundaries and the position of the balance portion of the building yet to be completed in accordance with the building plan approved by the authority for the time being thereon in relation to the surface boundaries ;
 - (b) specify the division, volume and folio in which the land parcel is registered and the surveyed area thereof;
 - (c) include a vertical section of each partly completed subdivided building showing
 - (i). the floors and ceilings of each storey; and
 - (ii). the height of each storey
 - (d) include a description, as well as the vertical section and dimensions, of partly completed building erected, and vertical section and dimensions of balance portion of the building yet to be completed within the land parcel in accordance with building plan approved by the authority for the time being responsible for the approval of such plans;
 - (e) delineate, subject to the provisions of subsections (2) and (3) of section 5, each condominium parcels of the partly completed building, and define the boundaries thereof by reference to floors and walls showing the horizontal dimensions, without it being necessary to show any bearing;
 - (f) identify the condominium parcels of the partly completed building, into which each building is to be divided and distinguish such parcels by assessment numbers, numbers or other symbols;
 - (g) distinguish each storey by an index letter in relation to the land parcel number of the cadastral map and specify the condominium parcels of the partly completed building in each story in relation to the number of such story;.

- (h) Specify the approximate floor area of each parcel;
- (i) delineate the external boundaries and show the horizontal dimensions without it being necessary to show any bearing of each partly completed building erected within the land parcel in accordance with building plan approved by the authority for the time being responsible for the approval of such plans;
- (j) define the common elements of the semi Condominium Property;
- (k) show the share values in whole numbers of each condominium parcel of the partly completed building and each provisional condominium parcel of the balance portion of the building yet to be completed and a number equal to the aggregate share value entitlement of all such provisional condominium parcels;
- (l) bear an endorsement by the person preparing such plan to the effect that the partly completed building erected shown in the semi Condominium Plan is in accordance with the building plan approved by the authority for the in the time being responsible for the approval of such plan.

Act. No. 39 of 2003 – section 6(1)

- 6(1) Upon receipt of any application for the registration of a Condominium Plan, "Provisional Condominium or a Semi Condominium Plan" or any application under section 8 for the registration of a "Plan of amendment or any application under section 8B for the registration of a Plan of amendment or any application under section 12 for the registration of a Plan of re-division or a Plan of amalgamation or any application under section 8A for registration of a Plan of addition the Registrar shall refer such application together with the Condominium Plan, or the Provisional Condominium Plan, or the Semi Condominium Plan, or the Plan of amendment, or the Plan of re-division or the Plan of amalgamation or the Plan of additions, as the case may be. and the cadastral map to the Superintendent of Survey for certification

Act. No. 39 of 2003 – section 6(2)

- (2) Where the Superintendent of Surveys is satisfied, that the Condominium Plan or Provisional Condominium Plan, or Semi Condominium Plan, or the Plan of amendment or the Plan of re-division or the Plan of amalgamation or the Plan of additions, as the case may be. Conforms to the provision of the Registration of Title Act, No. 21 of 1998. He shall certify such plan on behalf of the Surveyor General -
- (a) file the original of the Condominium Plan or the Provisional Condominium Plan, or the Semi Condominium Plan or the Plan of amendment or the Plan of re-division, or the Plan of amalgamation or the Plan of additions, as the case may be after making suitable references and after making necessary amendments or alterations, or subdivisions or amalgamation or incorporations, on the cadastral map used for registration of title ; and
 - (b) Forward the duplicate of such plan and the application to appropriate Registrar along with the cadastral map after making necessary references or amendments, or subdivisions or amalgamation as the case may be.

Act. No. 39 of 2003 – section 6(3)

- (3) Upon receipt of a cadastral map duly certified from the Superintendent of Surveys, the Registrar shall, if he is satisfied that such application conforms to the provisions of the Registration of Title Act, No. 21 of 1998, and-
- (a) where the application is for the registration of a Condominium Plan"
- (i) File the duplicate of the Condominium Plan in the condominium parcel file;
 - (ii) Open a new title file register in respect of each condominium parcel shown in the Condominium Plan and make suitable cross references to such register and, in the register in which the land parcel has been registered and in the register
 - (iii) Record in the property section, in the register pertaining to the land parcel, that the land comprised therein consists only of common property;
 - (iv) Record in the encumbrances section in the register in respect of each condominium parcels shown in the condominium plan, on the existence of mortgages and the amount secured against each such condominium parcel, and particulars of every encumbrances, such as leases, agreements for sale, lispendance seizure order or decree & affecting the condominium parcel if any;
 - (v) Inform the applicant that such condominium plan has been registered (hereinafter referred to as "registered Condominium Plan") and notify him, of the reference, with a notification to the Condominium Management Authority;
 - (vi) Issue a certificate of "condominium title", in respect of the individual condominium parcel on receipt of the prescribed fee.
- (b) Where the application is for the registration of a Provisional Condominium Plan"
- (i) File the duplicate of the Provisional Condominium plan in the provisional condominium parcels file;
 - (ii) Open a new provisional title file register in the register in respect of each provisional condominium parcel shown in the provisional condominium plan and make suitable cross references to such register in the register in the register in which the land parcel has been registered :
 - (iii) Record in the property section in the register pertaining to the land parcel that the land comprised therein consists only of provisional common property
 - (iv) record in the encumbrances section in the register in respect of each provisional condominium parcels on the existence of mortgages and the amount secured against each such condominium parcels and particulars of every encumbrances such as leases agreements for sale lispendance seizure order, or decree & Effecting the condominium parcel, if any
 - (v) Inform the applicant that such provisional condominium plan has been registered (hereinafter referred to as "registered provisional condominium plan") and notify him of the reference numbers of the relevant registers with a notification to the Condominium Management Authority

- (vi) Issue a certificate of Provisional Condominium title , in respect of individual provisional condominium parcels on receipt of the prescribed fees,
- (C) Where the application is for the registration of the Semi condominium Plan
- (i) File the duplicate of the Semi Condominium Plan in the semi condominium parcel file
 - (ii) Open a new title file register in the register in respect of each condominium parcel shown in the Semi Condominium Plan and make suitable cross references to such register and in the register in which the land parcel has been registered and in the register on which provisional Condominium plan has been registered if there are previously registered if there are previously registered provisional Condominium plan
 - (iii) Record in the property section in the register pertaining to the land parcel that the land comprised therein consists only of common property
 - (iv) Record in the encumbrances section in the register in respect of each condominium parcels shown in the semi condominium plan on the existence of mortgages and the amount secured against each such condominium parcel, and particulars of every encumbrances such as leases, agreements for sale, lispendens seizure order or decree & etc. Affecting the condominium parcel, if any
 - (v) Issue a certificate of Semi Condominium Title, in respect of the individual condominium parcels, on receipt of the prescribed fees.
- (vi) Issue a certificate of Semi Condominium Title, in respect of the individual condominium parcels on receipt of the prescribed fees.
- (c) Where the application is for , the registration of any plan of amendment of the registered condominium plan or of the registered Semi Condominium Plan or any Plan of re – division or any Plan of amalgamation of the registered Condominium Plan or of the registered Semi condominium Plan
- (i) file the duplicate of the plan of amendment , or plan of re division or plan of amalgamation in the relevant condominium parcel file
 - (ii) make necessary references in the condominium title register in respect of each condominium parcels shown in the registered Condominium plan or in the registered Semi Condominium Plan , and make necessary cross references to original registered Condominium plan or original registered Semi condominium Plan
 - (iii) Inform the applicant that such amendment or re division or amalgamation of the registered Condominium plan or of the registered Semi Condominium Plan has been registered and notify him of the reference numbers of the relevant register with a notification to the Condominium Management Authority
- (iv) Issue a fresh ‘ ‘ certificate of Condominium Title ‘ ‘ in respect of individual condominium parcels, on receipt of the prescribed fee.

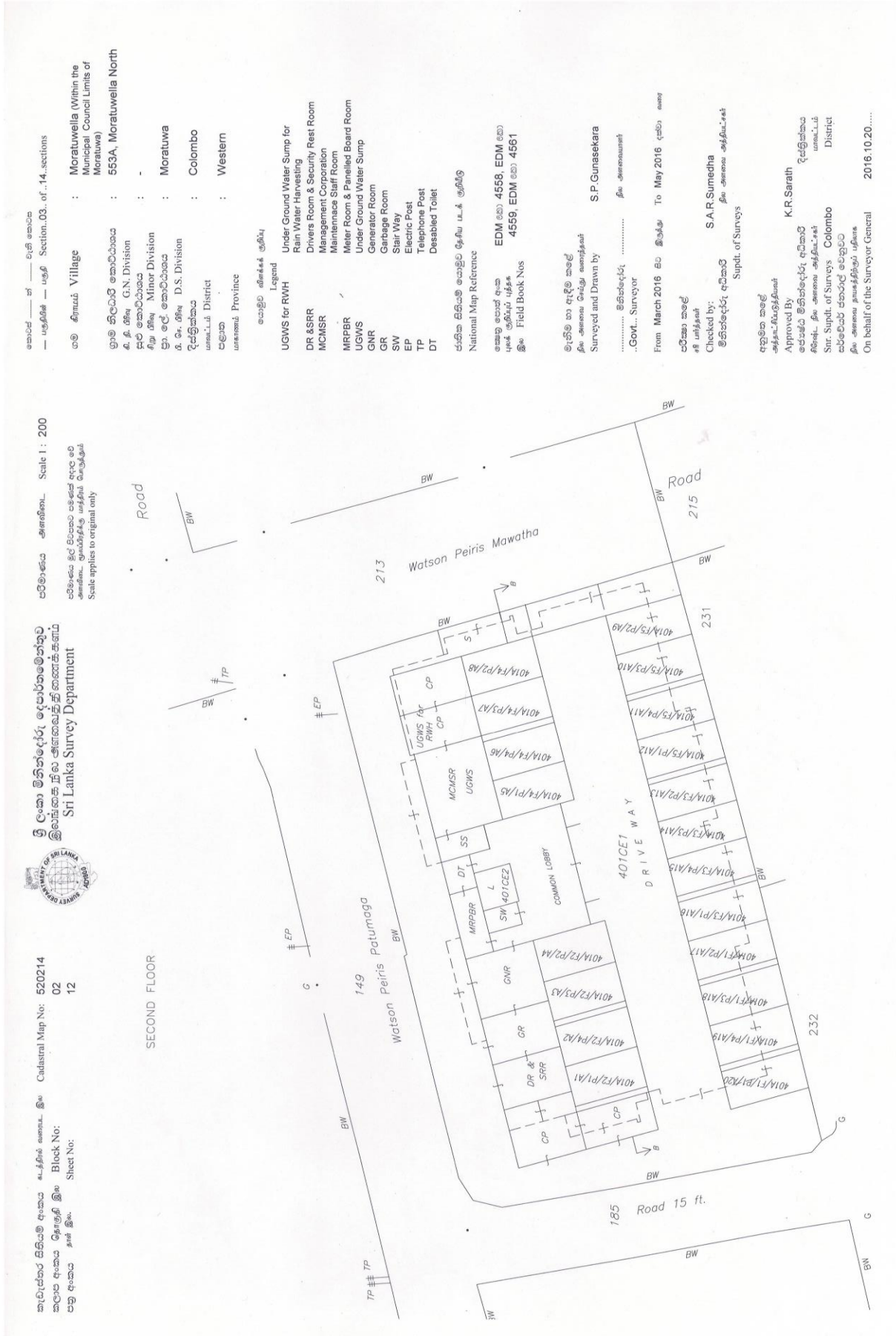
- (d) Where the application is for the registration of any plan of amendment of the registered provisional Condominium Plan
- (i) file the duplicate of the plan of amendment of the registered Provisional Condominium Plan in the relevant provisional condominium parcel file
 - (ii) make necessary reference in the provisional condominium title register in respect of each provisional condominium parcels shown in the registered Provisional Condominium plan and make necessary cross references to original registered Provisional condominium Plan
 - (iii) record in the encumbrances section in the register in respect of each amended provisional condominium parcels on the existence of mortgages and the amount secured against each such condominium parcels , and particulars of every agreements for sale , lispendens seizure order or decree & etc. affecting the condominium parcel , if any
 - (iv) Inform the applicant that such amendment of the registered provisional condominium plan has been registered and notify him of the reference numbers of the relevant register with a notification to the Condominium Management Authority
- (v) issue a fresh ‘‘ certificate of condominium Title ‘‘ in respect of individual condominium parcels, on receipt of the prescribed fee
- (e) Where the application is for the registration of any plan of additions of the registered Semi Condominium Plan
- (i) file the duplicate of the plan of additions , of the registered Semi Condominium Plan in the relevant condominium parcel file
 - (ii) make necessary references in the condominium title register in respect of each condominium parcels assed subsequently shown in the plan of additions of the registered Semi Condominium Plan , and make necessary cross references in the register in which the land parcel has been registered and in the register on which Semi condominium Plan or Provisional Condominium Plan has been registered
 - (iii) record in the encumbrances section in the register in respect of each condominium parcels added subsequently shown in the plan of additions of the registered Semi Condominium Plan , on the existence of mortgages and the amount secured against each such Condominium parcel and particulars of every encumbrances, Such as leases , agreements for sale, lispendens Seizure order or decree & etc. affecting such condominium parcel, if any
 - (i) inform the applicant with copy to the condominium Management Authority that such Condominium parcels has been registered in the registered semi condominium plan
- (v) issue of ‘‘ certificate of condominium Title ‘‘ in respect of such condominium parcels on receipt of the prescribed fee

Act. No. 39 of 2003 – section 6(4)

- (4) Sections 34, 35 and 37 of the Registration of Title Act, No. 21 of 1998, shall, mutatis mutandis, apply to the inspection of the title register and the cadastral map, issue of certified copies of documents and extracts of cadastral maps and obtaining of certificate of ownership or interest of the condominium parcel or parcels.

Act. No. 39 of 2003 – section 6(5)

- (5) Where the Registrar refuses to register the Condominium Plan or the Provisional Condominium Plan or the Semi Condominium Plan or the Plan of amendment, or the plan of redivision or the Plan of amalgamation or the Plan of additions as the case may be, he shall make an order of refusal and record his reasons for such order in the prescribed register and shall endorse the words "Registration of condominium title refused" or "Registration of provisional condominium title refused" or "Registration of semi condominium title refused" , as the case may be, on the instruments and on the application made by the person who presented the application for such registration and shall, without payment or unnecessary delay issue to the applicant a copy of the reasons so recorded.
- (6) An appeal shall lie from every order made by the Registrar refusing to register the Condominium Plan or the Provisional Condominium Plan, or the Semi Condominium Plan, or the Plan of amendment, or the Plan of re-division or the Plan of amalgamation or the Plan of additions and the provisions in section 38 of the Registration of Documents Ordinance shall, mutatis mutandis apply in relation to such appeal.



කැමැත්තට පිටවූ අංකය : 520214
 කලාප අංකය : 02
 පත් අංකය : 12
 කැමැත්තට පිටවූ අංකය : 520214
 කලාප අංකය : 02
 පත් අංකය : 12

මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North

මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North

මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North

මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North

මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North
 මහලය : 553A, Moratuwella North

අංකය : 520214
 කලාප අංකය : 02
 පත්‍ර අංකය : 12

කැඩැඳවූ පිටිවලී අංකය : 520214
 කලාප අංකය : 02
 පත්‍ර අංකය : 12

පරිමාණය : 1:200
 පරිමාණය මුල පිටපතට පමණක් අදාළ වේ.
 Scale applies to original only

ශ්‍රී ලංකා මිනිවෙදුරු, දොරවලමොවුරු
 இலங்கை நில அளவைத் திணைக்களம்
 Sri Lanka Survey Department



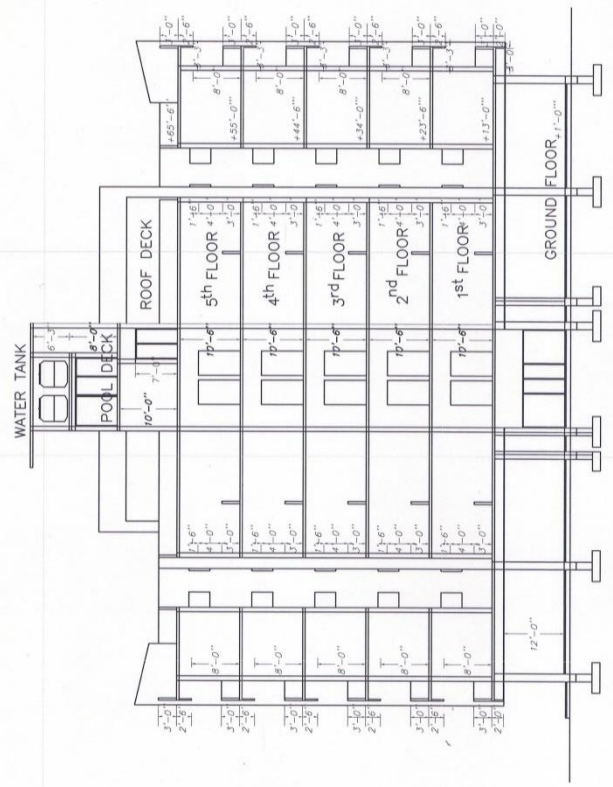
කැඩැඳවූ පිටිවලී අංකය : 520214
 කලාප අංකය : 02
 පත්‍ර අංකය : 12

මහලය : Moratuwella (Within the Municipal Council Limits of Moratuwa)
 553A, Moratuwella North

මහලය : Moratuwa
 කොටු : Colombo
 පළාත : Western



VERTICAL SECTION



Legend

ජාතික පිටිවලී මාපැයුම මේපියා රැස් කිරීමේදී
 National Map Reference

මාපැයුම මෙහෙයුම : EDM (වට) 4558, EDM (වට) 4559, EDM (වට) 4561
 මේපියා රැස් කිරීමේදී මේපියා රැස් කිරීමේදී

මිනිවෙදුරු හා මිනිවෙදුරු කළු
 මේපියා රැස් කිරීමේදී මේපියා රැස් කිරීමේදී
 Surveyed and Drawn by S.P.Gunasekara

මේපියා රැස් කිරීමේදී මේපියා රැස් කිරීමේදී
 From March 2016 මා මාසයට මාසයට
 To May 2016 මාසයට මාසයට

මේපියා රැස් කිරීමේදී මේපියා රැස් කිරීමේදී
 Checked by: S.A.R.Sumedha
 මේපියා රැස් කිරීමේදී මේපියා රැස් කිරීමේදී

මේපියා රැස් කිරීමේදී මේපියා රැස් කිරීමේදී
 Approved By: K.R.Sarath
 මේපියා රැස් කිරීමේදී මේපියා රැස් කිරීමේදී

මේපියා රැස් කිරීමේදී මේපියා රැස් කිරීමේදී
 On behalf of the Surveyor General 2016.10.20.....

**Paragraph 18.11
III**

Annexure

520214
02
12
38

මාලුමුල්ල පිහිටි අංක 401 නැංවුම් සටහනේ
සටහනේ අංක 401 කොටස
Sri Lanka Survey Department

520214
02
12
38

මාලුමුල්ල පිහිටි අංක 401 නැංවුම් සටහනේ
සටහනේ අංක 401 කොටස
Sri Lanka Survey Department

S.G's No. CO/Acq/2009/005-Date: 16-10-2016
Survey Requisition No

Minor Division: - Moratuwa
District: Colombo
Province: Western

කොටස අංකය Lot No	විස්තීර්ණය Extent (Hectare)	මාලුමුල්ල පිහිටි අංකය Name of Land	මාලුමුල්ල පිහිටි අංකය Land use	මාලුමුල්ල පිහිටි අංකය Claimant	මාලුමුල්ල පිහිටි අංකයේ මාලුමුල්ල පිහිටි අංකය				මාලුමුල්ල පිහිටි අංකයේ මාලුමුල්ල පිහිටි අංකය Remarks
					North	East	South	West	
401	0.0856	Madangahawatta, Peiris Mawatha	Residential Property containing Six storied building marked A subdivided into 20 parcels.	Sunchy Property Developers (Pvt) Ltd.	Lot 149 in CM No. 520214 (Watson Peiris Patumaga) and Lot 213 in CM No. 520214 (Watson Peiris Mawatha)	Lot 213 in CM No. 520214 (Watson Peiris Mawatha) and Lot 214 in CM No. 520214	Lot 214 in CM No. 520214 and Lot 185 520214 (Road 15ft wide) in CM No. 520214 (Road 15ft wide)	Lot 185 in CM No. 520214 (Road 15ft wide) and Lot 149 in CM No. 520214 (Watson Peiris Patumaga)	Lot No. 184 (A. O. R. P. 33.8)
Grand total	0.0856	Lot No. 184							

අනුමත කළේ
K.R.Sarath
Colombo
District

SA.R.Sumedha
Supt. of Surveys
On behalf of the Surveyor General

From March 2019 To April 2019
S.P.Gunasekara
Supt. of Surveys

H.M.B.Hitimbahu, Grama
Niadhari of Division No.
555A, Moratuwella North

CORRECTION SLIPS

CORRECTION SLIPS

CHAPTER XIX**MAPPING****INDEX**

D.S.R. Reference	Description	Page
	<u>Topographical Map Series- 1: 50,000</u>	
19.1.	Digital data and field verification for 1:50,000 map series	1
	<u>Role of a Surveyor conducting a field review</u>	
19.2.	Using field guide sheets for field review	1
19.3.	Updating information on the printed map	1
	<u>Updating of Water Features</u>	
19.4.	Description of water features	2
19.5.	Completion of non-observable data	2
19.6.	Completing a waterway that runs underground	2
19.7.	Naming water related information	2
	<u>Updating of Roads information</u>	
19.8.	Roads classification	3
19.9.	Features associated with Roads	3
19.10.	Naming River and Ferry	3
19.11.	Distance to important Places	3
19.12.	Show the Expressways, the main roads and interconnected roads	3
	<u>Updating of Railways information</u>	
19.13.	Railways classification	3
19.14.	Relevant information for railways	4
19.15.	Name of Railway Station and Distance from sheet edge to Railway Station	4
	<u>Updating of Land use information</u>	
19.16.	Land use classification	4
19.17.	The boundaries of mixed cropping and cultivation	4
19.18.	Boundaries in sanctuaries, Mahaweli zones, national parks and forest reserves	4
	<u>Updating of Buildings information</u>	
19.19.	Important buildings in Town/ Rural areas	5
19.20.	Naming Buildings	5
19.21.	Abbreviations for buildings	5
19.22.	When buildings are close together	5
19.23.	Historical sites	5
19.24.	Buildings to be named	5
	<u>Updating of Administrative Boundaries & Names</u>	

D.S.R. Reference	Description	Page
19.25.	Administrative boundaries & name	6
19.26.	Village name	6
19.27.	Other important places like junctions, cities	6
19.28.	All estate names	6
19.29.	All names be written in English	6
19.30.	Unable to mention information	6
19.31.	Sheet edge comparison tracings	6
19.32.	Record special information	6
19.33.	Handing over of completed field guide sheets	6
<u>Duties of Superintendent of Surveys</u>		
19.34.	Ensure that the work has been done in accordance with the instructions in the Guidelines	6
19.35.	Comparison of all guide sheets to adjacent sheets	6
19.36.	Investigation of digital data	6
19.37.	Signing of all documents	6
<u>Roles of Senior Superintendent of Surveys</u>		
19.38.	Sending approved documents	7
<u>Topographical Maps Series -1: 10,000</u>		
19.39.	The documents send to the field	7
<u>Roles of Surveyors</u>		
19.40.	Instructions under Field Investigation	7
19.41.	When unconnected road or canals are connected	7
19.42.	Including non-positional accuracy information	7
19.43.	Information gathered from field investigation	7
19.44.	Features or details not included in the guide sheet	7
19.45.	When a feature of the guide sheet is observed actually	7
19.46.	Description of lines, names and marks	7
<u>Description of water ways and water features</u>		
19.47.	Accuracy of water related information	8
19.48.	Classification of Water Related Information	8
19.49.	When one water line crosses another waterway	8
<u>Updating Roads information</u>		
19.50.	Roads identified by satellite imagery	8
19.51.	Roads not connected to each other	8
19.52.	Roads under construction	8
19.53.	Road classification	9
19.54.	Distance to important places	9
19.55.	Information to be described separately	9
<u>Updating Railways information</u>		
19.56.	Positional accuracy of railway lines specified in the reference sheet	9
19.57.	Information to be noted on Railways	9
<u>Updating Land use information</u>		

D.S.R. Reference	Description	Page
19.58.	Accuracy of land use information	9
19.59.	Details of Playgrounds, Parks, Cemeteries	10
19.60.	Boundaries and Names of Reserved Areas	10
19.61.	Industrial zones, Trade Zones, Farms and Parking places	10
	<u>Updating Buildings information</u>	
19.62.	Buildings to be identified in the field	10
19.63.	Other buildings not included in guide sheet A	10
19.64.	Naming of buildings	10
	<u>High Tension Electric Lines</u>	
19.65.	Displaying High Tension power lines	11
	<u>Administrative boundaries and names</u>	
19.66.	Administrative boundaries and names	11
19.67.	Name of the Estate	11
19.68.	Comparison of adjacent sheet edges	11
	<u>Computer Related Activities</u>	
19.69.	Used several names for parts of a lake or two-line waterway	11
19.70.	When you need to remove any features that are not in the field	11
19.71.	When several parts of a lake or two-line waterway are used	11
19.72.	Documents to be submitted to the Superintendent of Survey	12
	<u>Roles of Superintendent of Surveys and Senior Superintendent of Surveys</u>	
19.73.	Act in accordance with the points in 19.34 to 19.38 paragraph	12
	<u>Establishment of Ground Control points for Air Surveys</u>	
19.74.	Selection of geodetic control points	12
19.75.	Drawing of positional diagrams with the required accuracy	12
19.76.	Requirements for geodetic control points	12
19.77.	Images for horizontal and vertical control points	12
19.78.	Ideal locations for horizontal control points	12
19.79.	Ideal locations for vertical control points	13
19.80.	When it is difficult to find suitable points	13
19.81.	Preparation of sketches for selected points	13
19.82.	All points should be interconnected	13
19.83.	Sending completed documents	13
	<u>Annexures</u>	
<u>Annexure I</u>	Ground control point- Data sheet	14

CHAPTER XIX

MAPPING

Topographical Map Series-1:50,000

19.1. 1:50,000 map series is produced in head office by the Topographical Mapping Branch with the use of digital data extracted from satellite images by the Remote Sensing Branch. Remote Sensing Branch sends following data and documents of these maps series to field for verification.

- (i) CD with digital data
- (ii) Field Guide Sheet 'A' (Printed Map)
- (iii) Field Guide Sheet 'B' (Printed Map)
- (iv) Field Guide Sheet 'C1' (Printed Map)
- (v) Field Guide Sheet 'C2' (Printed Map)
- (vi) Tracing showing edges of field verified adjoining sheets which have been finalised in the field verification. (Data is included in the CD)

Role of a Surveyor conducting a field review

19.2. The field guide sheets mentioned in paragraph 19.1 should be used for the functions as follows:-

- (i) Field Guide Sheet 'A' – Information required to report after field verification should be recorded on this guide sheet in pencil.
- (ii) Field Guide Sheet 'B'- This can be used to copy down names of Provinces, Districts, Divisional Secretary Divisions, Grama Niladari Divisions, Villages, Municipal & Urban Councils and other place names along with boundary issues. However, Field Guide 'A' can be used to copy down boundary disputes within Municipalities and Urban Councils.
- (iii) Field Guide Sheet 'C1' – Roads and Railways should be verified with field investigation and if any discrepancy is identified, it should be shown in this guide. Relevant details can be copied down from Field Guide 'A'.
- (iv) Field Guide Sheet 'C2' – If any other information except details reported in (ii) & (iii) above is revealed, it may be inserted on this guide. Relevant details can be copied down from Field Guide 'A'.
- (v) Data mentioned in above (ii), (iii) and (iv) along with coordinates written in a CD should be sent to Remote Sensing Branch.

19.3. The following steps should be taken when updating the information on the printed map.

- (i) If any information shown on map cannot be found in field, such information should be deleted.
- (ii) When it is required to amend part of certain information, § sign should be used to depict from which place to what place is relevant to such amendment.
- (iii) If new details of roads and water features are added using GNSS, those details should be sent to the Head Office, recording in the relevant guide sheets.

- (iv) 'Legend' should be prepared giving reference to lines, colours & symbols used by the Surveyor to show the amendments. As this is very important your special attention is needed for this. Furthermore, Legend should be prepared with the help of digital data and written on a CD.
- (v). English names used for buildings, villages and other description should be obtained from the relevant organizations. A list of these names should be made with reference numbers and handed over. Special attention should be paid for character configuration in assigning these names.

Updating of Water Features

- 19.4.** These features should be shown on Field Guide Sheet C2 and should be described as given below to differentiate each other:
- (i) Double line stream. (50m width and above)
 - (ii) Single line stream. (below 50m width)
 - (iii) Double line Irrigation Channel. (50m width and above)
 - (iv) Single line Irrigation Channel. (below 50m width)
 - (v) Bund along a Channel
 - (vi) Stream crossing one over the other. (illustrate clearly)
 - (vii) Tank / Reservoir (F.S.L. and its value should be given)
 - (viii) Tank Bund
 - (ix) Tank abandoned
 - (x) Bund abandoned
 - (xi) Anicut
 - (xii) Spill
 - (xiii) Sluice
 - (xiv) Waterfall
 - (xv) Underground Water Tunnel
 - (xvi) Waterway Bridge
 - (xvii) Water hole
 - (xviii) Springs / Hot water springs
 - (xix) Saltern
 - (xx) Prawn / Fish Cultivation
 - (xxi) Lagoon
- 19.5.** When observing non-availability of sufficient information to complete a water course, water courses/tributaries partially depicted should be connected and shown to a main water course up on field verification.
- 19.6.** A water course or its part runs underground and its connectivity is not visible, it should be labelled appropriately. From the beginning to the end of the waterway, the waterway bridge must be named.
- 19.7.** Names of entities relevant to water should be written in a legible manner. When labelling water courses, position of start and end of such name should be clearly depicted.

Updating of Roads information

19.8. All information relevant to roads should be written on a CD. All roads should be classified in accordance with section 19.53.

19.9. Characteristics associated with Roads.

- (i) Bridge
- (ii) Culvert
- (iii) Protected Railway Crossing
- (iv) Unprotected Railway Crossing
- (v) Over Pass/ **Roads below the road**
- (vi) Over Head Bridge
- (vii) Suspension Bridge
- (viii) Tunnel
- (ix) Foot Bridge
- (x) Cutting along the road (more than 3 metres)
- (xi) Filling of low land along the road (more than 3 meters)
- (xii) Causeway
- (xiii) Ford
- (xiv) Ferry
- (xv) Bus Stand
- (xvi) Bus Depot
- (xvii) Km posts with their values (Only for AA, AB AC & B Roads). If there are no km posts or any issues in in numbering are found, those should be reported.
- (xviii) Places of entry and departure in expressways
- (xix) All interchanges of expressways should be mentioned.
- (xx) How other roads are connected (e.g. overpass/ underpass) to expressways should be clearly depicted.
- (xxi) Road Numbers should be depicted according to assignment by the Road Development Authority.
- (xxii) Other important details

19.10. Ferry and Ford should be shown properly and labelled accordingly

19.11. When names of important places, junctions, bazaars or towns appearing on the adjoining sheet along roads A, B and C, distances for these entities from the edge of the sheet should be given.

19.12. Roads connecting two areas to join expressways with main roads or connecting A, B, C, & D roads each other should be shown.

Updating of Railways

19.13. Details pertaining to railway lines should also be stored in a CD. Similarly, railways should be shown on Field Guide 'C1' and should be classified as mentioned below.

- (i) Triple Railway Line
- (ii) Double Railway Line
- (iii) Single Railway Line

19.14. The following descriptions relevant to the railways if available should be given.

- (i) Railway Station
- (ii) Train Halt
- (iii) Bridge
- (iv) Culvert
- (v) Overhead Bridge
- (vi) Tunnel
- (vii) Cutting
- (viii) Filling/Embankment
- (ix) Railway Yard

19.15. The name of the first railway station found on the adjoining sheet along a railway track and the distance (in kms) to it from the edge of the sheet should be given.

Updating of Land use information

19.16. Land use should be shown on Field Guide 'C2' and classified as follows.

(i)	Paddy	-	P
(ii)	Tea	-	T
(iii)	Rubber	-	R
(iv)	Coconut	-	C
(v)	Marsh	-	Msh
(vi)	Sand	-	Snd
(vii)	Mangrove	-	Mngr
(viii)	Scrub (Low jungle)	-	Scr
(ix)	Forest (High Jungle)	-	F
(x)	Chena	-	Ch
(xi)	Grassland	-	Gr
(xii)	Park	-	Park
(xiii)	Playground	-	PG
(xiv)	Garden	-	G
(xv)	Rock	-	Rk
(xvi)	Cemetery	-	Cem
(xvii)	Clearings	-	Cl
(xviii)	Barren Land	-	BL

19.17. Vegetation which are not categorized under the above, should be shown as OP (Other Plantation) with the nature of vegetation type. When there is mixed vegetation, only the main cultivation should be mentioned. Vegetation boundaries should be shown clearly to differentiate each vegetation type.

19.18. The boundaries and names of Sanctuaries, Mahaweli Zones, National Parks and Forest Reservations should be mentioned.

Updating of Building information

- 19.19.** Buildings should be shown on Field Guide 'C2'. All important buildings which are shown in built up areas in a town/a village (schools, religious places, hospitals, institutions of Govt./Co-op/Board) should be named to identify them clearly.
- 19.20.** When naming buildings, the official name used should be given in English. Only if there is a problem to find out the name in English, it could be given in Sinhalese. If sufficient space is not available to write the name of a building, place them in the outer margins of the sheet and reference made accordingly.
- 19.21.** If their abbreviations for buildings, they should be indicated. Ex. Cooperative Wholesale Establishment (C.W.E.)
- 19.22.** When buildings are in clusters, name the important set of building with an arrow.
- 19.23.** Historical sites should be shown with their names. In case of Ruins, it should be mentioned.
- 19.24.** The following building should be shown & labelled.

- (i) Post Office
- (ii) Sub Post Office
- (iii) Bank
- (iv) Govt. Hospital
- (v) Private Hospital
- (vi) Dispensary
- (vii) Rest House
- (viii) Tourist Hotel
- (ix) Restaurant
- (x) Police Station
- (xi) Temple
- (xii) Church
- (xiii) Mosque
- (xiv) Kovil
- (xv) Filling Station
- (xvi) School
- (xvii) University
- (xviii) Factory
- (xix) Agrarian Service Centres
- (xx) District / Divisional Secretariats
- (xxi) Courts
- (xxii) Pradeshiya Sabhas
- (xxiii) All other government buildings

Updating of Administrative Boundaries & Names

- 19.25.** Administrative boundaries & name should be shown on Field Guide Sheet 'B'. Amendments to the boundaries and their names of provinces, districts, DS divisions, M.C., U.C. & G.N. Divisions should be shown clearly.

- 19.26. When the administrative boundary is amended and thereby forming smaller division, such division should also be named. (Eg. GN divisions) If village names are newly added they should be underlined in black.
- 19.27. Other important places especially towns, junctions etc. should be labelled.
- 19.28. All estate names should be indicated. The division names of estates need not be written.
- 19.29. All names should be written in English. Always give the official name used by the respective institutions and ensure correct character configuration. Deleted all irrelevant names, should always be shown on the guide. If the placement is not proper amend them suitably.
- 19.30. If any other information which is not mentioned under para 19.13 to 19.29 above should be shown in legible and sensible manner.
- 19.31. Edges of the field sheet where amendments have shown should be compared with the edge of the adjoining sheet using the tracings of all sheets edges already supplied to you and if there is any discrepancy it should be noted down.
- 19.32. If there is any special information to be mentioned in addition to information on guide sheets, a report to that effect has to be made. All guide sheets, reports, etc., should be signed by the Surveyor.
- 19.33. All four field guides completed, all data and all relevant documents should be certified by the surveyor and hand over to Superintendent of Surveys for checking.

Duties of Superintendent of Surveys

- 19.34. Before assigning the tasks to the Surveyor, ensure that all the required documents have been received by the Superintendent of Surveys. When the surveyor has completed the tasks, it is required to verify as to whether the surveyor has carried out all instructions mentioned in this guideline. If there are any omissions or mistakes, please get them corrected by the surveyor.
- 19.35. All completed Guide Sheets should not only be checked and compared with adjoining sheet but also with the supplied tracings and also with those of adjoining sheets which have already been sent to the field. If there is any discrepancy identified, the surveyor should be instructed to verify again to ascertain the accuracy. If the details in adjoining sheets need to be amended, they should also be reported.
- 19.36. Digital data should be certified after verification.
- 19.37. If the surveyor has carried out his duties to satisfaction, the relevant documents with the certification of Superintendent of Surveys should be handed over to the Senior Superintendent of Surveys. Name of the Superintendent of Surveys, signature and date should be recorded in all documents.

Duties of Senior Superintendent of Surveys

- 19.38. Originals of all the documents that are to be sent to the Head Office should be thoroughly checked and forwarded with his/her certification to the Senior Superintendent of Surveys

(Remote Sensing) immediately along with a copy of the covering letter to the Provincial Surveyor General.

Topographical Map series- 1:10,000

19.39. The documents sent to the field: -

This database is established covering the whole country and has been reserved to 1841 sheets to facilitate the updating and publishing of maps. Ground data updated by remote sensing method or photogrammetric methods are printed as guide sheets for field verification and sent to the field with the following documents.

- (a) Field Guide sheet
The information in the database is prepared. It can be used to record information viewed in the field.
- (b) Questionnaire to the field
In addition, any amendments observed in the field should be reported by the Surveyor.)
- (c) Digital data should be provided in dxf./dwg format.

Roles of Surveyors

- 19.40.** Special attention should be paid to the instructions given under the “Field Verification” in these guidelines when obtaining information from the field and inserting them. In addition to them any other special features that are observed should also be reported.
- 19.41.** If unconnected roads or streams are connected or if a new feature is added - the GNSS method can be used and information can be obtained from the existing plans. That information should also be reported.
- 19.42.** When inserting features without positional accuracy (i.e. without surveying or extracting from existing plans) those cases should be reported.
- 19.43.** Information gathered after field verification should be inserted in guide sheet. Ensure to maintain the same scale of the map when inserting the details.
- 19.44.** If any feature or details observed which are not in the guide sheet, they should be marked. If any feature in the guide sheet is not observed in the field, it should also be reported.
- 19.45.** If any feature in the guide sheet differs from what is actually observed in the field, it should be corrected and reported. When reporting only a section of any linear feature, please indicate the relevant section by marking “□” symbol at the starting point as well as at the end point.
- 19.46.** An appropriate legend should be used in the same guide sheet to describe lines, symbols and names.

Description of water ways and water features

19.47. Nnnn

19.48. The Water Features should be classified as follows.

- (i) Double line canal (10 meters and more)
- (ii) Single Line Canal (less than 10 meters in width)
- (iii) Double Line Irrigation Canal (10 meters wide and more)
- (iv) Single Line Irrigation Canal (less than 10 meters in width)
- (v) Canals
- (vi) Canals that run across each other
- (vii) Tank (should be mentioned maximum water level and its value)
- (viii) Tank Bund
- (ix) Abandoned tank
- (x) Abandoned tank bund
- (xi) Nn
- (xii) Nn
- (xiii) Nn
- (xiv) Water Fall
- (xv) Nn
- (xvi) Nn
- (xvii) Water Hole
- (xviii) Springs / Hot water springs
- (xix) Salt Pan
- (xx) Aquatic Farm (prawn / fish)
- (xxi) Pond
- (xxii) Water Tunnel
- (xxiii) Pipeline
- (xxiv) Well
- (xxv) Tube Well
- (xxvi) Lagoon
- (xxvii) Harbour
- (xxviii) Fishery Harbour
- (xxix) Marsh
- (xxx) Islands

19.49. If a water feature crosses another water feature, explain the position of its crossing point. Eg. Aqueduct, Tube, Tunnel.

Updating Roads information

19.50. Roads identified by satellite images are included in purple colour. It should be verified in correctness by field verification.

19.51. If there are any hanging road segments, show their connection with the road network. Insert the roads that are not in the Guide Sheet.

19.52. When inserting the roads under construction should be mentioned the estimated duration for the completion of such roads. When marking the proposed roads, indicate as to whether the required lands have been acquired.

- 19.53.** The accuracy of the road classification should be verified and at the same time the unidentified roads and shown in purple colour should also be classified. Only the roads maintained by Road development Authority (RDA) are considered as main roads. They should be shown along with the Route Nos. on the km posts. Travelling distance, places connected to the road, description of cultivation and buildings on either side of the road, availability/ unavailability of public transport facilities should be taken into consideration to classify C and D roads. Foot paths should be indicated as “E” roads. When in doubt with regard to the classification indicate the starting point and end point and give a description (eg. 2.5-metre wide tar road, gravel road, etc.)
- 19.54.** Along A, B, & C roads, mention the distance from the sheet edge to the nearest town, bazaar, junction or important place of the next sheet with the name.
- 19.55.** Indicate the details of any of the following features related to the road.
- A. Bridge
 - B. Culverts (Mention the No.)
 - C. Flyover, Over Pass, under pass, Passenger flyover
 - D. Tunnel
 - E. Foot Bridge
 - F. Main bus stand
 - G. Bus Depot
 - H. km posts with their values
 - I. Entrance and exit points on highways

It should be mentioned these places name.

Updating Railways information

- 19.56.** The positional accuracy of railway tracks mentioned in the guide sheet should be verified and if there are any amendments to be made, they should also be reported. The name used for the immediate railway station / train halt which is in the adjoining sheet should be mentioned along with the distance in Kms to one decimal point at the sheet edge.
- 19.57.** Indicate any of the following features related to the railway tracks.
- (a). Railway Station - Name and all buildings
 - (b). Train halt - Name and all buildings
 - (c). Railway yard - Name and all buildings
 - (d). Bridge
 - (e). Culvert
 - (f). Tunnel - their height, length (in meters) and numbers
 - (g). Railway crossings and filling stations and their starting and ending locations

Updating land use information

19.58. The accuracy of the land use information in purple colour indicated in field guide sheet should be verified and if amendments need to be made, they should also be reported.

- 19.59.** The description of playground, parks, cemeteries (if available, include names) quarries and gravel pit etc should be mentioned.

19.60. The names and boundaries of reserved areas (Such as sanctuaries, forest reserves, archaeological reserves etc.) should be indicated.

19.61. The industrial zones, trade zones, farms and car parks should be marked with their names and the land belonging to them.

Updating Building information

19.62. The following buildings among other buildings in field guide sheet “A” should be identified in the field and named while inserting all relevant buildings in the sheet. All buildings that belong to it must be shown when entering some building names.

- (i) Buddhist Viharaya and Temples
- (ii) Churches
- (iii) Mosques
- (iv) Hindu Kovils
- (v) Schools
- (vi) Technical Colleges
- (vii) Higher Educational Institutions
- (viii) Hospitals
- (ix) Government Establishments
- (x) Banks, Corporations and Statutory Bodies
- (xi) Police stations/ Police check points
- (xii) Courts
- (xiii) Tourist Hotels, Holiday Houses and Rest Houses
- (xiv) Filling Stations
- (xv) Factories (indicate together with the names as “Tea Factory, Rubber Factory, Garment Factory” etc.)
- (xvi) Places of Historical importance (indicate if these remain as ruins)
- (xvii) Airport, Helicopter Pad
- (xviii) Post Offices, Sub post offices, Agency post offices
- (xix) Housing Schemes and their names, belong to areas
- (xx) Libraries
- (xxi) Community Halls
- (xxii) Agrarian Services Centres
- (xxiii) Power Stations, Sub power stations, main transformers, Wind Power station, Towers and Turbines.
- (xxiv) Television, Radio, Telephone Transmission Towers, Buildings located in cold rooms,
- (xxiv) Light House
- (xxv) Any other important building (depending on the importance in the area concerned)

19.63. Insert any other buildings which come under above classification but have not been shown in Guide Sheet “A”

19.64. When naming the buildings, their official names used by the respective organizations should be indicated. If there is no space to indicate any name in the appropriate place, indicate such a place by a number, while giving the relevant details in the margin of the sheet with the same number. When there are several named buildings in proximity, indicate a few important buildings, selecting only prominent ones according to the height.

High Tension Electric Lines

- 19.65.** Only the lines with voltage 33,000 V or more should be indicated along with the transformers. The voltage of all high power cables shown should be specified.

Administrative boundaries and names

- 19.66.** Boundaries and names of Provinces, Districts, D.S Divisions, G.N Divisions should be mentioned. In addition, the names of villages and other places (Areas smaller than villages, Bazaars, Junctions, Towns etc.) should also be mentioned at the most appropriate place while indicating 'GN' at the end of the names of G.N Divisions and underlining the village names. The boundaries and names of Municipal Councils, Urban Councils, and Mahaweli Zones should also be inserted.
If the Administrative Boundaries have changed, the copies of relevant Gazette Notifications should also be forwarded.

- 19.67.** The names of estates should be mentioned at appropriate places. When indicating the names of Estates, the Division name of the Estate should be mentioned under the name of the main Estate.

- 19.68.** After inserting the relevant details in the Guide Sheet, comparison should be made with the adjoining sheet edges of the sheet or with the adjoining sheet edges provided by separate tracings and also with the adjoining sheets which have already been sent to the field. If any discrepancy is found, it should be checked again. Ensure the accuracy of the Guide sheet and report to amend the adjoining sheet wherever necessary. Besides, correct the features and other details in the adjoining sheet edge, and send that also.

Computer Related Activities

- 19.69.** Use the 'Layer Management Guide' to insert the details collected at the Field verification into the digital file. The necessary layers should be created in order to insert the details which are not mentioned therein. Layers should be named in such a way to clearly identify the layers used to enter new streams and new roads found at the field verification.

Eg:- For new water features – STRMF
 For new main roads – MNRDF

- 19.70.** The features which are to be removed that are not in the field should be inserted in relevant layer.

Eg. :- If any water feature to be removed – STRMD
 If any path to be removed – FTPHD

- 19.71.** If several names are used for the sections of a tank or a double line water feature such sections should be separated clearly. The lines used for such separations should be included in the STRMV / TANKV layer.

- 19.72.** After completing tasks assigned above, the following documents should be forwarded to the Superintendent of Surveys.

- (a) Field Guide sheet
- (b) Digital Data
- (c) Information sheets of Reservation areas
- (d) List of Village name and List of Village name from the filed
- (e) Referred questionnaire
- (f) Answers to the referred questions and Report containing the Surveyor's observations
- (g) The list of names in English language used for buildings, villages and other features.

Roles of Superintendent of Surveys and Senior Superintendent of Surveys

19.73. It should be act in accordance with the points in 19.34 to 19.38 paragraph.

Establishment of Ground Control points for Air Surveys

19.74. The establishment of good ground control is an extremely important aspect of any overall Photogrammetric mapping operation. The accuracy of a finished map can be no better than the ground control upon which it is based.

After studying of the photos carefully, the geodetic control points should be selected. For this purpose, a pair of clearly visible 3D stereo images should be used.

19.75. As soon as Senior Superintendent of Surveys (Geodetic) identifies the required basic geographical coordinates, the location diagrams of these points with required accuracy will be sent to the District Senior Superintendent of Surveys in order to carry out the survey.

Location diagram: Location of the GCP marked on the tracing paper sketched from the 1 inch to 16 ch RD or 1:50,000 scale topographic map.

19.76. Acceptable ground control points must satisfy two requirements:

- (i) They must be sharp, well defined, and positively identified on all photos.
- (ii) These points must lie in favourable locations in the photographs.

19.77. Images for horizontal control have slightly different requirements than images for vertical control. The images of horizontal control points must be very sharp and well defined horizontally while images for vertical control need not be as sharp and well defined horizontally. However, the selected vertical points should be well defined vertically.

19.78. The selected features should be within the circle marked on the photograph. It is advisable to use symmetrical features. Some features commonly satisfactory for horizontal control are Intersections of Roads, Small lone Bushes, Corner of Buildings, Fence Corners, Intersections of Rail Roads or Watercourses, etc. These control points should not be placed in shaded areas or covered areas. In particular, the photographs taken on two adjacent dates must be selected to match these points.

- 19.79.** Best vertical control points are small flat or slightly crowned areas. The small areas should have some natural features nearby, such as trees or rocks, which help to strengthen stereoscopic depth perception. Large open areas such as the tops of grassy hills or open fields should be avoided, if possible, because of the difficulties they cause in stereoscopic depth perception. Intersections of roads, small patches of grass, small bare spots, etc., make excellent vertical control points.
- 19.80.** Sometimes it is difficult to find features equally suitable for horizontal and vertical control points. Horizontal control points should have proper size and contrast with background, while vertical control points should be located on a flat area with good photographic texture. Consequently, two points may be selected next to each other, one for horizontal and other for vertical.
- 19.81.** To avoid any uncertainty regarding the identification of the selected control points by Photogrammetric technicians a large-scale sketch (Photogrammetric Sketch) should be made. The exact location of the point with the surrounding details should be marked as seen on the photograph. The location of the sketch relative to the photograph should be given. In addition, it is essential to prick a selected point on the photograph. Surveyor's sketch should also be prepared in order to use when the need arises for re-measurement of the selected points. (see [Annexure I](#))
- 19.82.** All points must be interconnected. Ground control points (GCP) should also be used with the assistance of the Superintendent of Surveys (Geodetic).
- 19.83.** After completing the work, the District Senior Superintendent of Surveys should forward computed coordinates, pricked photographs, photogrammetric sketch and surveyor's sketch to Senior Superintendent of Surveys (Air Surveys).

Paragraph 19.81Annexure 1**GROUND CONTROL POINT - DATA FORM**

1.Point No. : 81/F/A

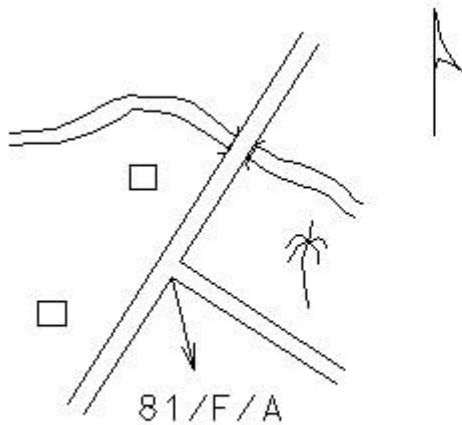
4.Division : Homagama

2.1:50,000 sheet No. : 66

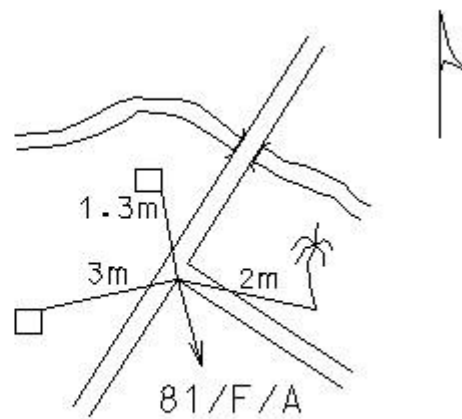
5.District : Colombo

3.Pricked photo No. : 99 .1/23

6.Name of the Surveyor : M.D.Silva



Photogrammetric Sketch



Surveyor's Sketch

7.Coordinates: i. North(m) :125452.000

ii. East(m) :476234.00

iii.Height (m) :54.78

8.Description of Point: Intersection of Road and Path

9. i. Method of Surveys : Theodolite Traversing

ii. F.B. No. :FLD 100

iii. Date of Survey :2000.05.05

10.i. Method of heighting : Sprit Leveling

ii. L.B. No. :FLD/L/200

iii.Date of heighting :2000.05.08

Govt. Surveyor:

Date:

Checked by:

Name:

Superintendent of Surveys

Date:

Approved by:

Name:

Senior Superintendent of Surveys

District:

CORRECTION SLIP

CORRECTION SLIP

CHAPTER 20**STATUTORY LAWS APPLYING FOR LAND SURVEY****INDEX**

D.S.R. Reference	Description	Page
	<u>State Land Encroachment Ordinance</u>	
20.1.	State Lands Encroachments Ordinance Nos. (12 of 1840, 22 of 1931, 8 of 1947 Act No. 8 of 1954)	1
	<u>Definition of Boundary Ordinance</u>	
20.2.	Definition of Boundaries Ordinances (Nos. 1 of 1844, 13 of 1905, 28 of 1919, 27 of 1933, 8 of 1947 ordinances and Act No. 22 of 1955).	1
20.3.	Action when it is impossible to make survey of boundary of a land	1
20.4.	Surveyor General shall certify cost of such survey	1
20.5.	Payment of cost of such survey	1
	<u>Land Surveys Ordinance</u>	
20.6.	Land Surveys Ordinance (Nos. 4 of 1866, 2 of 1917)	2
	<u>Land Resumption Ordinance</u>	
20.7.	Land Resumption Ordinances (No. 4 of 1887, 2 of 1934, 57 of 1942, Act No. 22 of 1955)	2
	<u>Land Settlement Ordinance</u>	
20.8.	Land Settlement Ordinances (Ordinance nos. 20 of 1931, 22 of 1932, 31 of 1933 and Act No. 22 of 1955)	2
20.9.	Investigation of claims of all interested parties (Order no.278)	2
20.10.	Description of the land in the settlement notice (Order no. 285)	2
20.11.	Referring the settlement orders to the courts for approval (order no.287)	3
20.12.	Simplest Method is to use (order no. 288)	3
20.13.	Registration with the Settlement Order and Issuing Title Plans for Settlement Orders (order no. 289)	3
20.14.	Provide settlement order to the Surveyor General (order no. 290)	3
20.15.	Close the village for Settlement by Settlement Department (Order no. 291)	4
	<u>State Land (Title Claims) Ordinance</u>	
20.16.	State Land (Title Claims) Ordinance (No. 21 of 1931)	4
	<u>State Landmarks Ordinance</u>	
20.17.	State Landmarks Ordinance (No. 7 of 1909).	4
	<u>Land Development ordinance</u>	
20.18.	Land Development Ordinances (Nos. 19 of 1935, 3 of 1946, Acts Nos. 49 of 1953, 22 of 1955, 16 of 1969, and 21 of 1971, Law No. 43 of 1973)	4
20.19.	Land Regulations 4	5
20.20.	Mapping out state lands	5
20.21.	Alienation of State Lands	6
20.22.	Diagram to be attached to grant	6
20.23.	Copy of plan to be supplied on payment of prescribed fee	6

D.S.R. Reference	Description	Page
	<u>State Land Ordinance</u>	
20.24.	State Lands Ordinance (Nos. 8 of 1947, 9 of 1947, Act No. 13 of 1949)	6
20.25.	Grants, Leases, And Other Dispositions of State Land	6
20.26.	Survey of land to precede issue of grant or long term lease	7
	<u>Temple Lands (Compensation) Ordinance</u>	
20.27.	Temple Lands (Compensation) Ordinance (No. 28 of 1949, Act No. 9 of 1950)	7
	<u>Land Acquisition Act</u>	
20.28.	Land Acquisition Acts Nos. 9 of 1950, 39 of 1954, 22 of 1955, 28 of 1964, 20 of 1969, 48 of 1971, 8 of 1979	7
20.29.	Investigation for selecting land for public purpose	7
20.30.	Declaration that a land or servilities is required for a public purpose	8
20.31.	Survey and plan of the land	8
20.32.	Possession and disposal order for taking possession of a land or subjecting a land to servitude	8
	<u>Nindagama Lands Act</u>	
20.33.	Nindagama Lands Act (No. 30 of 1968)	9
	<u>Land Reform Laws</u>	
20.34.	Land Reform Laws Nos. 1 of 1972 39 of 1975	9
	<u>State Land (Recovery of Possession) Act</u>	
20.35.	State Lands (Recovery of Possession) Act (No. 7 of 1979)	9
	<u>Land Grant (Special Provisions) Act</u>	
20.36.	Land Grants (Special Provisions) Act No. 43 of 1979	9
20.37.	President may transfer free of charge lands vested in the State under this Act	10
20.38.	Survey of land to precede transfer	10
	<u>Registration of Title Act</u>	
20.39.	Registration of Title Act: No. 21 of 1998	10
20.40.	Preparation of Cadastral Maps	10
	<u>Survey Act</u>	
20.41.	Survey Act: No. 17 of 2002	10
20.42.	The powers and functions of the surveyor General	10
20.43.	Surveyor General, of any person authorized may demand production of deed	11
20.44.	Proof of certain plans signed by the Surveyor General	11
	<u>Evidence Ordinance</u>	
20.45.	Evidence Ordinance (No. 14 of 1895, 15 of 1904, 16 of 1925, 25 of 1927, 18 of 1928, 1 of 1946 and Act No. 3 of 1961)	12
	<u>Urban Development Authority Law</u>	
20.46.	Urban Development Authority Law (No. 41 of 1978, Act No. 70 of 1979)	12
	<u>Town and Country Planning ordinance</u>	
20.47.	Town and Country Planning ordinance (No. 13 of 1946, Act Nos. 9 of 1950, 29 of 1953, 10 of 1955, 22 of 1955)	12

D.S.R. Reference	Description	Page
	<u>Apartment Ownership (Amendment) Act</u>	
20.48.	Apartment Ownership (Amendment) - No. 39 of 2003	12

CHAPTER 20**STATUTORY LAWS APPLYING FOR LAND SURVEY****State Lands Encroachments Ordinance****20.1. State lands Encroachments Ordinance (Nos. 12 of 1840, 22 of 1931, 8 of 1947 Act No. 8 of 1954)**

An Ordinance to make provision for the prevention of encroachments upon state lands.

Definition of Boundaries Ordinance**20.2. Definition of Boundaries Ordinances (Nos. 1 of 1844, 13 of 1905, 28 of 1919, 27 of 1933, 8 of 1947 ordinances and Act No. 22 of 1955)**

An ordinance to make provision for the more easily ascertaining the boundaries of lands in Sri Lanka. This Ordinance can be cited as the definition of the Boundaries Ordinance.

If the boundaries of state land are to be renewed partially or completely, the procedures stated below shall be followed as per section 8 of the said ordinance by the District Secretary or Divisional Secretary to deal with renewal of such boundary.

20.3. Action when it is impossible to make survey of boundary of a land

Divisional Secretary or Assistant Divisional Secretary, if he is of opinion, after consultation with the Surveyor General, that the work of making or renewing a boundary cannot be satisfactorily carried out by such person or any surveyor employed by him, may call upon the Surveyor General to make or renew such boundary in whole or in part. Thereupon Surveyor General shall make or renew such boundary, as the case may be.

20.4. Surveyor General shall certify cost of such survey

The Survey General shall certify the amount of the cost of the survey to such Divisional Secretary or Assistant Divisional Secretary, and such certificate shall be final and conclusive.

20.5. Payment of such cost of survey

Such person as aforesaid shall pay the amount so certified to such Divisional Secretary or Assistant Divisional Secretary, and in the event of such person refusing or neglecting to pay such amount, a summons shall be served upon him requiring him to show cause before a Magistrate. If he fails to show cause, or if he fails to appear, the Magistrate, on proof of service of the summons and on reading the Surveyor General's certificate as aforesaid, may make an order for payment of the amount.

[Land Surveys Ordinance](#)

20.6. Land Surveys Ordinance (Nos. 4 of 1866, 2 of 1917)

An Ordinance to enlarge the power of the Surveyor General to demand the production of deeds and make surveys of lands, and to facilitate the proof of surveys.

This ordinance was superseded by Survey Act No. 17 of 2002.

[Land Resumption Ordinance](#)

20.7. Land Resumption Ordinances (No. 4 of 1887, 2 of 1934, 57 of 1942, Act No. 22 of 1955)

An ordinance relating to lands alienated by the state, which are abandoned by the owners thereof.

[Land Settlement Ordinance](#)

20.8. Land Settlement Ordinances (Ordinance nos. 20 of 1931, 22 of 1932, 31 of 1933 and Act No. 22 of 1955)

An Ordinance to amend and consolidate the law relating to Land Settlement. Followings are some of the orders issued under the Land Settlement Ordinance:

20.9. Investigation of claims of all interested parties (Order no.278)

Persons claim or interest to the land or part of land, which the settlement notice described, is considered as a interested party of the land or part of land. When the settlement officer is decided to issue settlement notice, necessary steps should be taken to find the names and address of all interested parties.

20.10. Description of the land in the settlement notice (Order no. 285)

A full description of the land shall give in the schedule of the Settlement Notice.

- a) District, Divisional Secretariat Division and Grama Niladhari Division where the land is located.
- b) Plan Number and lot numbers, Names & extents of all land parcels
- c) Boundaries of the land
- d) Village boundary where the land is located.

It is not necessary to submit the claimants, when there may be additional land parcels in the village but not in the settlement notice.

20.11. Referring the settlement orders to the courts for approval (order no.287)

As soon as all claims have been completed, the Settlement Officer shall prepare a report containing all information relating to the Settlement and Claim, which is intended to be referred to the Court, and submit the report to the Attorney General.

Once the Attorney General's advice is received, action should be taken to obtain the approval of the Minister of Lands to refer the matter to the Court

The District Judge may order a fresh survey to be carried out whenever the District Judge considers that any reference made under this Ordinance requires a new survey for the purposes of the hearing.

20.12. Simplest Method is to use (order no. 288)

When it not required referring the courts, the Settlement Officer shall have the power to approve the settlement by himself, if the total extent of land in the settlement notice, should not exceeds ten acres.

20.13. Registration with the Settlement Order and Issuing Title Plans for Settlement Orders (order no. 289)

- (i) When the settlement officer approved the settlement for more than one claimant under the section 5(4) c of the ordinance, the settlement officer shall request title plans for each claimant. The duly completed form අං අ 140 shall submit for the Surveyor General pertaining to such requests.
- (ii) After receiving the Title Plans the Settlement Officer shall, prepare the settlement order and send a copy of such order relating to registration district to the Registrar of Lands of that district under section 9 of the ordinance. The Registrar of Lands shall, upon receipt thereof, enter in the books prescribed by the Registration of Documents Ordinance for the registration of instruments affecting land the particulars prescribed by that Ordinance of every settlement to which such copy relates as though such copy were an instrument affecting land presented for registration under that Ordinance, and shall note upon the copy in the proper column the reference to the volume and folio in which each such entry has been made and return the copy to the Settlement Officer;
- (iii) Any settlement order is published, send a copy thereof to the Registrar of Lands of the registration district within which the lands in respect of which such order has been made are situated and send a copy to the claimant. In case if there are two or more claimants, send copies to each individual claimant.

20.14. Provide settlement order to the Surveyor General (order no. 290)

No sooner any settlement order is published, send a copy thereof to the Surveyor General, to include the notes in respective documents.

20.15. Close the village for Settlement by Settlement Department (Order no. 291)

The Settlement officer shall thereupon communicate the close of the village for settlement with the District Secretariat, Divisional Secretary and the Surveyor General.

There is no provision for Surveyor General to carry out any surveys in the closed village other than the request made by Settlement Officer. No Sale or divesting or alienation of any public

land situated in such a village without the approval of the Settlement Officer. Such villages are called as “Closed Villages”

No sooner the proceedings in respect of settlement is over for Closed Village, shall communicate with the District Secretariat, Divisional Secretary and the Surveyor General

State Land (Title Claims) Ordinance

20.16. State Land (Title Claims) Ordinance (No. 21 of 1931)

An Ordinance to provide for the consideration and decision of applications in respect of claims to lands at the disposal of the state.

State Landmarks Ordinance

20.17. State Landmarks Ordinance (No. 7 of 1909)

An ordinance to provide for the erection and maintenance of permanent landmarks to define the boundaries of land alienated by the state.

It is stated herein that the owner of the land is responsible for keeping the state Landmark well and it is the responsibility of the owner of the land to maintain the cultivation without affecting the boundaries which defined by the Landmarks. .

If there is any dispute over a place where a Landmark, it must be re-installed by the Surveyor General. The cost for those surveys should be borne by the landowner.

Land Development Ordinance

20.18. Land Development Ordinance (Nos. 19 of 1935, 3 of 1946 Acts Nos. 49 of 1953, 22 of 1955, 16 of 1969, and 21 of 1971, Law No. 43 of 1973)

An Ordinance to provide for the systematic Development and alienation of State Land in Sri Lanka.

20.19. Land Regulations 4

Before the implementation of this ordinance, the process of surveying the lands of villages has been completed and the Surveyor General has been recorded after the approval of the Commissioner General of Land. If decide to change the survey of such a village, should re-examine the village and re-consider the procedure given under Land Regulations 4 of this act and work for the preparation of survey plans under the provisions of the Ordinance. Attention should draw at the article 8 of this Ordinance.

If a land has not been surveyed for any work, but it has been made available for someone, then it considered for land alienation for the same class of people under the Ordinance.

The lands declared as state under the Waste Land Ordinance and the Land Settlement ordinances and the lands acquired under the Land Acquisition act, and that are already surveyed also covered under Section 168 of the Ordinance. In such circumstances, it is recommended to act under the provision of State Lands (Recovery of Possession) Act No. 7 of 1979 other than the Section 168 of the Ordinance.

20.20. Mapping out state lands

Subject to the general or special directions of the Land Commissioner General, state land may be

Mapped out by the Divisional Secretariat for any one or more of the following purposes :

- (a) village expansion
- (b) village forest
- (c) village pasture
- (d) Village purposes not herein specified
- (e) colonization
- (f) protection of the sources or courses of streams
- (g) prevention of the erosion of the soil
- (h) forest reserves
- (i) Government purposes, including Government buildings, roads or works
- (j) preservation of objects of archaeological or historical interest
- (k) the requirements of local authorities
- (l) the development of towns
- (m) alienation to middle-class Ceylonese (Sri Lankans)
- (n) alienation to any persons whomsoever irrespective of the class or race to which they belong
- (p) Any other activity that may be prescribed, with due regard to the safety, conservation and development of the area

20.21. Alienation of State Lands

The land alienated on any grant shall be surveyed and described by or under the authority of the Surveyor General. It shall be included the boundaries of the land surveyed, the extent and description in the permit. After including the details as such in the permit by the District Secretariat /Divisional Secretary, it shall be registered in the land registry.

20.22. Diagram to be attached to grant

The land alienated on any grant shall be described with reference to a plan prepared by or under the authority of the Surveyor General and kept in his charge. There shall be attached to each grant a diagram of the land alienated on that grant. This diagram shall be prepared under the

authority of the Surveyor General but it shall not be necessary for the diagram to bear on the face thereof a certificate to the effect that it was so prepared.

20.23. Copy of plan to be supplied on payment of prescribed fee

The Surveyor General shall cause to be issued to any applicant a copy of any plan or of any part thereof on payment of the prescribed fee.

State Lands Ordinance

20.24. State Lands Ordinance (Nos. 8 of 1947, 9 of 1947, Act No. 13 of 1949)

An Ordinance to make provision for the grant and disposition of state lands in Sri Lanka; for the management and control of such lands and the foreshore; for the regulation of the use of the water of lakes and public streams; and for other matters incidental to or connected with the matters aforesaid.

20.25. Grants, Leases, And Other Dispositions of State Land

Under the prevailing provisions in the ordinances and the orders prepared on behalf of the Democratic Socialist Republic of Sri Lanka:-

Subject to the provisions of this Ordinance and of the regulations made thereunder, the President may in the name and on behalf of the Republic of Sri Lanka:

- (1) Make absolute or provisional grants of State land;
- (2) Sell, lease or otherwise dispose of State land;
- (3) enter into agreements for the sale, lease or other disposition of State land;
- (4) Issue permits for the occupation of State land;
- (5) Issue licenses to take or obtain any substance or thing found in State land;
- (6) Sell or lease the right to mine or gem in any State land or in any land which has been disposed of by the State with a reservation of mining rights in favour of the State.

20.26. Survey of land to precede issue of grant or long-term lease

No State grant and no instrument of disposition whereby State land is leased for any term exceeding such period as may be prescribed shall be issued under this Ordinance unless and until that land has been surveyed and demarcated to the satisfaction of the Land Commissioner (section 9).

Temple Lands (Compensation) Ordinance

20.27. Temple Lands (Compensation) Ordinance (No. 28 of 1949, Act No. 9 of 1950)

An Ordinance to make provision for the payment to the public trustee of moneys payable as compensation under the Land Acquisition Act in respect of lands Belonging to temples; for the

application of such moneys to certain purposes; and for matters connected therewith or incidental thereto.

Land Acquisition Act

20.28. Land Acquisition Acts Nos. 9 of 1950, 39 of 1954, 22 of 1955, 28 of 1964, 20 of 1969, 48 of 1971, 8 of 1979.

An Act to make provision for the Acquisition of Lands and servitudes for public purposes and to provide for matters connected with or incidental to such provision.

20.29. Investigations for selecting land for public purpose

Preliminary Investigation and Declaration of intended acquisition.

- (1) Where the Minister decides that land in any area is needed for any public purpose, he may direct the acquiring officer of the district in which that area lies to cause a notice in accordance with subsection (2) to be exhibited in some conspicuous places in that area.
- (2) The notice referred to in subsection (1) shall be in the Sinhala, Tamil and English language and shall state that land in the area specified in the notice is required for a public purpose and that all or any of the acts authorized by subsection (3) may be done on any land in that area in order to investigate the suitability of that land for that public purpose.
- (03) After a notice under subsection (2) is exhibited for the first time in any area, any officer authorized by the acquiring officer who has caused the exhibition of that notice, or any officer acting under the written direction of the officer authorized as aforesaid, may enter any land in that area, together with such persons, implements, materials, vehicles and animals as may be necessary, and
 - survey and take levels of that land,
 - dig or bore into the subsoil of that land,
 - set out the boundaries of that land and the intended line of any work proposed to be done on that land.
 - mark such levels, boundaries and line by placing marks and cutting trenches.
 - where otherwise the survey of that land cannot be completed and such levels taken and such boundaries and line marked, cut down and clear away any part of any standing crop, fence or jungle on that land and
 - do all other acts necessary to ascertain whether that land is suitable for the public purpose for which land in that area is required.

Provided that no officer, in the exercise of the powers conferred on him by the preceding provisions of this subsection, shall enter any occupied building or any enclosed court or garden attached thereto unless he has given the occupier of that building at least seven days written notice of his intention to do so.

20.30. Declaration that a land or servitude is required for a public purpose

- (01) Where the Minister decides under subsection (5) of section 4 that a particular land or servitude should be acquired under this Act, he shall make a written declaration that such land or servitude is needed for a public purpose and will be acquired under this Act, and shall direct the acquiring officer of the district in which the land which is to be acquired or over which the servitude is to be acquired is situated to cause such declaration in the Sinhala, Tamil and English languages to be published in the Gazette and exhibited in some conspicuous places on or near that land.
- (02) A declaration made under subsection (1) in respect of any land or servitude shall be conclusive evidence of the fact that such declaration was duly made.
- (03) The publication of a declaration under subsection (1) in the Gazette shall be conclusive evidence of the fact that such declaration was duly made.

20.31. Survey and plan of the land

When a declaration under section 5 that a particular land is needed for a public purpose has been published in the Gazette, the acquiring officer of the district in which that land is situated may, if there is no plan of that land made by the Survey Department of the Government, or no such plan which is suitable for use for the purposes of proceedings under this Act, cause a survey and a plan of that land to be made by a surveyor of that department, or by a licensed surveyor acting under the directions of the Surveyor General.

20.32. Possession and Disposal Order for taking possession of a land or subjecting a land to servitude

At any time after an award is made under section 17, the Minister may by Order published in the Gazette.

- where the award relates to the acquisition of any land, direct the acquiring officer of the district in which that land is situated, or any other officer authorized in that behalf by such acquiring officer, to take possession of that land for and on behalf of the State, or
- where the award relates to the acquisition of any servitude, declare that the land over which that servitude is to be acquired shall be subject to that servitude;

Provided that the Minister may make an Order under the preceding provisions of this section;-

- where it becomes necessary to take immediate possession of any land on the ground of any urgency, at any time after a notice under section 2 is exhibited for the first time in the area in which that land is situated or at any time after a notice under section 4 is exhibited for the first time on or near that land, an
- where it becomes necessary immediately to acquire any servitude on the ground of any urgency, at any time after a notice under section 4 is exhibited for the first time on or near the land over which that servitude is to be acquired.

[Nindagama Lands Act](#)

20.33. Nindagama Lands Act (No. 30 of 1968)

An act to abolish the services due from the tenants and holders of Nindagama lands to the proprietors thereof, to make such tenants and holders the absolute owners of such lands. To provide for the registration of such tenants and holders as absolute owners thereof and to provide for matters connected therewith or incidental thereto.

[Land Reform Laws](#)

20.34. Land Reform Laws Nos. 1 of 1972 39 of 1975

A Law to establish a Land Reform Commission to fix a ceiling on the extent of agricultural land that may be owned by persons, to provide for the vesting of lands owned in excess of such ceiling in the land reform commission and for such land to be held by the former owners on a statutory lease from the commission, to prescribe the purposes and the manner of disposition by the commission of agricultural lands vested in the commission so as to increase productivity and employment, to provide for the payment of compensation to persons deprived of their lands under this law and for matters connected therewith or incidental thereto.

[State Lands \(Recovery of Possession\) Act](#)

20.35. State Lands (Recovery of Possession) Act (No. 7 of 1979)

An Act to make provision for the recovery of possession of State Lands from persons in unauthorized possession or occupation thereof and for matters connected therewith or incidental thereto.

[Land Grants \(Special Provisions\) Act](#)

20.36. Land Grants (Special Provisions) Act No. 43 of 1979

An act to provide for the vesting in the state, of agricultural or estate land which is vested in the Land Reform Commission under the Land Reform Law; to enable the transfer, free of charge, to the landless, of the lands so vested in the state; and to provide for matters connected therewith or incidental thereto.

20.37. President may transfer free of charge lands vested in the State under this Act

The President may by an instrument of disposition substantially in the Form set out in the Schedule here to, transfer, free of charge, any portion of any land vested in the State by virtue of an Order made under section 2, to any citizen of Sri Lanka over (18) eighteen years of age.

In transferring any State land under this section; the President shall have regard to;

- the fact that the prospective transferee does not own any land;
- the level of income of the family of the prospective transferee; and
- the capacity of the prospective transferee to develop such land.

20.38. Survey of land to precede transfer

No State land shall be transferred under section 3 until after such land has been surveyed and demarcated to the satisfaction of the Land Commissioner.

Registration of Title Act

20.39. Registration of Title Act: No. 21 of 1998

An act to make provision for the investigation and Registration of Title to a Land parcel ; For the Regulation of transaction relating to a Land parcel so registered ; And for matters connected therewith or incidental thereto.

20.40. Preparation of Cadastral Maps

On the publication of an order under section 1 of this act the commissioner of Title Settlement shall request the surveyor-General to prepare Cadastral Maps for the area specified in such order and upon such request the Surveyor-General shall cause such cadastral map to be prepared and certified copies of the same to be issued to the commissioner of Title settlement.

Survey Act

20.41. Survey Act: No. 17 of 2002

An act to provide the powers and functions of the Surveyor – General; To regulate the carrying out of Land Surveys ; To provide for the establishment of a Land Survey Council to regulate the professional conduct of surveyors ; To repeal the Land Survey Ordinance and the Surveyors Ordinance ; And to provide for matters connected therewith or incidental thereto.

20.42. The powers and functions of the Surveyor General shall include following.

- (a) To regulate all land survey activities in Sri Lanka;
- (b) To establish and administer the National Geodetic Control Network;
- (c) To specify the standards of accuracy for cadastral, geodetic and topographic surveys;
- (d) To set standards for mapping;
- (e) To establish and administer a system of accreditation for registered surveyors seeking to conduct surveys seeking to conduct surveys under the Registration of Title Act, 21 of 1998 and to maintain a register of the surveyors issued with Certificates of Accreditation ;
- (f) To establish and make available to all Surveyors base lines for the calibration of survey bands and electronic distance measuring equipment;
- (g) To receive, approve and maintain, cadastral surveying recodes so as to facilitate the production of cadastral survey plans and maps and to serve as a comprehensive base for integration of land information;
- (h) To produce and maintain records of topographic, thematic and special purpose maps;
- (i) To be the principal authority responsible for receiving, storing and exchanging in any form all data for the purpose of promoting the integration of surveying and mapping, geographically based information and land related information with land information system requirements ;
- (j) To provide land surveying land information and related services;
- (k) To receive, store , reproduce and distribute, topographic, cadastral and derived maps, remote sensed data, aerial photographs and other survey and mapping documents ;
- (l) To authorize where appropriate the use or reproduction of survey and land information recorded by the department and to levy a fee for the use or reproduction of information;

- (m) To co – ordinate where necessary, with foreign agencies for the exchange of surveying, mapping and land information technology;
- (n) To render advice to any Government Department, public Corporation or other institution on surveying, mapping and land information activities and related matters and to levy a fee from such corporation or such institution for the advice so rendered;
- (o) To conduct such research as may be necessary in respect of matters relating to surveying;
- (p) To issue a certificate authorizing any person, to function as a draughtsman where such person, is competent to prepare a survey plan using surveyor's field notes and to computer the area of a survey plan for the use of any registered surveyor, after satisfying himself of the competence of such person by conducting examination ;
- (q) To ensure the maintenance of high professional standards among persons engaged in land survey activities in the Department;

20.43. Surveyor General, of any person authorized may demand production of deed

The deed, document, or other instrument demanded under section 14 shall be produced on the premises to which such deed, document or instrument may relate or at such other place as the person demanding the same may require, and the power of demanding the production thereof, under section 14 shall be deemed to include the power of making such examination of such deed, document, or other instrument, as shall be necessary for the purpose of land survey; and every person refusing or failing without cause to permit such examination of any such deed, document or other instrument, to any person referred to in section 14, shall be guilty of an offence under this Act and shall be conviction after summary trial before a Magistrate to fine not exceeding ten thousand rupees.

20.44. Proof of certain plans signed by the Surveyor General

Any cadastral map, plan or any other plan or map prepared in accordance with the provisions of this Act or any written Law, purported to be signed by the surveyor-General or officer acting on his behalf, and offered in evidence in any suit shall be received in evidence, and shall be taken to be prima fascia proof of the facts stated therein; and it shall not be necessary to prove that it was in fact signed by the Surveyor General or an officer acting on his behalf, nor that it was made by his authority, nor that the same is accurate, until evidence to the contrary shall have first been given.

Evidence Ordinance

20.45. Evidence Ordinance No. (14 of 1895, 15 of 1904, 16 of 1925, 25 of 1927, 18 of 1928, 1 of 1946 and 3 of 1961)

An Ordinance to consolidate defines and amends the law of Evidence. This Ordinance shall apply to all judicial proceedings in or before any court other than courts, martial, but not to proceeding before arbitration.

[Urban Development Authority Law](#)

20.46. Urban Development Authority Law (No. 41 of 1978, Act No. 70 of 1979)

A law to provide for the establishment of an Urban Development Authority to promote integrated planning and implementation of economic, Social and Physical Development of Certain areas as may be declared by the Minister of be Urban development areas and for matters connected therewith or incidental thereto.

[Town and Country Planning ordinance](#)

20.47. Town and Country Planning ordinance (No. 13 of 1946, Act Nos. 9 of 1950, 29 of 1953, 10 of 1955, 22 of 1955)

An Ordinance to authorize the making of schemes with respect to Planning and Development of Land in Sri Lanka, to provide for the protection of Natural amenities and the Preservation of Buildings and objects of interest of giving effect to such schemes and to provide for matters incidental to or connected with the matters aforesaid.

[Apartment Ownership \(Amendment\) Act](#)

20.48. Apartment Ownership (Amendment) Act No. 39 of 2003

This act superseded the previous apartment laws, i.e., Apartment Ownership Law No. 11 of 1973 and Act No. 25 of 1982. Condominium property surveys are carried out for registering the legal interests in condominium properties under the provisions of the above act. Condominium properties are those where multiple ownership arises due to the construction of storied buildings with several independent units for separate occupation.

More information in this regard can be found in DSR Chapter 18.

See Annexure 01 of Chapter 18 for more information on the acts.

D.S.R.

STATUTORY LAWS APPLYING FOR LAND SURVEY

CORRECTION SLIPS

D.S.R.

STATUTORY LAWS APPLYING FOR LAND SURVEY

CORRECTION SLIPS

CHAPTER XXI**CADASTRAL SURVEYS****INDEX**

D.S.R. Reference	Description	Page
	<u>Definitions for Cadastral Surveys</u>	
21.1.	Some of the definitions of the Survey Act	1
	<u>Land Title Registration Process</u>	
21.2.	Surveying at Grama Niladhari Division level	5
21.3.	Taking action according to the Title Registration Act	5
21.4.	Deciding on the area by the Land Minister and publishing it in the government gazette	5
21.5.	Preparing cadastral maps and deciding on legal rights	6
21.6.	Main steps in Title Registration	6
21.7.	Amend the Cadastral Map, after deciding additional surveys accordingly under Section 23 of the Act,	6
	<u>Public awareness and collection of field information on land parcels</u>	
21.8.	Basic awareness	6
21.9.	Preliminary information to be collected by the Commissioner of Land Settlement	7
	<u>Preparation of Base Diagrams and office work</u>	
21.10.	Application of Cadastral Map Numbers for each Grama Niladhari Division	7
21.11.	Preparation of a block diagram for the Grama Niladhari Division	7
21.12.	Engage in surveying under section 10(2) (a) and(b) of the Survey Act No. 17 of 2002	7
21.13.	Preparation of clear prospection diagram by surveyor	8
	<u>Collection of Field Information</u>	
21.14.	Joint investigations for the disputed land	8
21.15.	Investigation of documents and Demarcation of Boundaries	8
21.16.	Taking action when disagreements to the common boundaries	8
21.17.	Demarcation boundaries, taking details and signs of boundaries point out	8
	<u>Survey work</u>	
21.18.	Connecting all Cadastral surveys to the National Survey Control System (SLD 99).	9
21.19.	Surveyed according to the claims	9
21.20.	Surveying of disputed lands	9
21.21.	Taking action when boundary disputes cannot be resolved	9
21.22.	When Statutory Survey Plans prepared for the issue of grants and any plans prepared for the allocation of lands to State Institutions / Semi- state Institutions	9

D.S.R. Reference	Description	Page
21.23.	Using Field books	10
21.24.	Surveyor is personally responsible for all the work connected to the field survey	10
21.25.	Action to be taken when there are state lands, roads, tanks etc.	10
21.26.	Taking action when one land parcel covered by several deeds	10
	<u>Plan Work</u>	
21.27.	Numbering Cadastral map	10
21.28.	Numbering land parcel of block	11
21.29.	Lotting for remaining portion of adjoining lots like foot paths, roads, water courses etc. falling with in the adjoining zones	11
21.30.	Preparing Cadastral map in F.T.P and T.P.P.	11
21.31.	Action to be taken including old plan into Block (Zone)	11
21.32.	Scale of Cadastral map	11
21.33.	Area Computation	11
21.34.	Printing Cadastral Plan and T.L.	11
	<u>Other Statutory surveys conducted in the area during the time of preparation of the cadastral map</u>	
21.35.	Other statutory surveys	11
	<u>Incorporation of existing Statutory Survey Plans in to Cadastral Maps</u>	
21.36.	Incorporation of old statutory plans into the new cadastral map	11
21.37.	Selecting the area covered by the old statutory plan as a zone or sheet on the new Cadastral Map	12
21.38.	Giving parcels numbers for converted cadastral plan and keep the seal	12
21.39.	Converted cadastral plan numbers register	12
21.40.	When the old statutory plans without lot numbers	12
21.41.	When the half lot numbers in the old statutory plans	12
21.42.	When the Stream or foot path shown by single lines in old statutory plans	13
21.43.	When the new statutory plan prepared after resurvey of a part of old statutory plan	13
21.44.	Part of several villages covered by an old statutory plan	13
21.45.	Sending converted statutory plan copies	13
21.46.	In statutory plan areas, subsequent surveys should be done as cadastral surveys	13
21.47.	Facts to be included in the amendment tracing	13
21.48.	When the Landmark surveyed and grants have been issued	13
	<u>Acquisition Surveys within Cadastral Map areas</u>	
21.49.	When the land parcel completely acquired under the Section 38(a)	13
21.50.	When a part of land parcel acquired under the Section 38(a)	14
21.51.	When the land parcel completely acquired under the Section 2	14
21.52.	When a part of land parcel acquired under the Section 2	14

D.S.R. Reference	Description	Page
21.53.	Preparing Tenement List	14
	<u>Survey of Condominium properties within Cadastral Map areas</u>	
21.54.	When the condominium property included in cadastral map	14
21.55.	Preparing for proposed condominium properties which are not constructed on ground	14
21.56.	Numbering of condominium parcels	14
21.57.	Preparing tenement List	14
21.58.	Dealing with old condominium plan	14
21.59.	Condominium Cadastral Plans should be prepared in English	14
	<u>Important points in the completion of the Cadastral Maps</u>	
21.60.	Application of National Map Reference	15
21.61.	Printing coordinate values	15
21.62.	Survey lines and Grid lines should be in digital copy	15
21.63.	Printing adjoining Grama Niladhari division name and C.M. No.	15
21.64.	Surface control points and coordinates shown in the Cadastral Map	15
21.65.	The state land grants numbers should be entered in tenement list	15
21.66.	Maintaining a 1: 10,000 index map of all cadastral maps	15
21.67.	An amendment tracing and a digital copy of the zonal boundary should be prepared	15
21.68.	Surveyor's report	15
21.69.	Preparing cadastral map within abutting detail for all Title registers land parcels	15
21.70.	Bim Saviya reports preparing SRIMS data base	16
	<u>Amendment of old Documents</u>	
21.71.	Endorsement after preparing cadastral map of relevant area	16
21.72.	Amendment of 16 ch RD and index sheet	16
21.73.	Preparing tracing for document amendments	16
21.74.	Revised name in T.L according to the gazette notification	16
21.75.	Entering issued title certificate numbers in T.L.	16
	<u>Plan Checking and Approving</u>	
21.76.	Check list for plan checking by S.S. and Snr.S.S.	17
21.77.	Sending approved plan copies	17
	<u>Filing of Digital copies</u>	
21.78.	Filing digital copies	17
	<u>Survey Requisition Files and other Documents</u>	
21.79.	Documents to be included in the survey requisition file	18
21.80.	Documents to be stored in the District Survey Office	18
	<u>Subsequent surveys conducted in Cadastral Map areas</u>	
21.81.	The legal background to which subsequent surveys can be carried out	18
21.82.	Using relevant forms	18

D.S.R. Reference	Description	Page
21.83.	Opportunities of subsequent surveys	18
21.84.	Instruction for subsequent surveys	19
21.85.	Surveys of lands on which title certificates have been issued	19
21.86.	Taking action when there is no compliance with the conditions of the local authority	19
21.87.	Survey requisition for lands which have exclusive rights but have not issued title certificates	19
21.88.	Survey requisition for lands which have been consolidated and not issued title deeds so far as there are no joint ownership settlements	19
21.89.	Handling of digital data for the original survey	19
21.90.	Lands where title certificates have been issued should not be merged with another class of land with title certificates	20
21.91.	When the relevant land owner encroached part of abutting land	20
21.92.	When the adjoining land owner encroached part of the relevant land	20
21.93.	Action to be taken when request for the allocation of a small land from a surveyed land	20
21.94.	Accuracy of the newly demarcated boundaries for subdivision/ amalgamation	20
21.95.	Mistake in the original extent	20
21.96.	Final Information Application Form for the Plan work	20
21.97.	Issuing last detail information by District Snr.S.S.	20
21.98.	Inspection fees for subsequent surveys	21
21.99.	Sheets for printing plan and T.L.	21
21.100.	Amending original plan and T.L. of statutory surveys	21
21.101.	Storing digital data of statutory surveys	21
21.102.	Dealing to hand over plan within two weeks after obtaining final details	21
21.103.	Dealing not to hand over plan within two weeks after obtaining final details	21
21.104.	Submit document to District Snr.S.S by Reg.Licd. Surveyor	21
21.105.	Plan checking and Field check	22
21.106.	Seal on the plan and T.L. by Snr.S.S.	22
21.107.	Plan checking under 21.82(2)(ii)	22
21.108.	Responsible for accuracy of the survey and content in the plan by Reg. Licd. Surveyor	22
	<u>Issuing Plan copies and Maintenance of files</u>	
21.109.	Sealing one copy as "applicant's copy"	22
21.110.	Issuing certified copies for subsequent surveys	23
21.111.	Updating documents after title certificate numbers for land	23
21.112.	Updating the Original Cadastral Map	23
	<u>Preparing diagrams with converted Cadastral map</u>	
21.113.	Endorsement of preparing diagrams using converted cadastral map	23

D.S.R. Reference	Description	Page
Annexures		
<u>Annexure I</u>	Register for the issue of numbers for Cadastral Maps	24
<u>Annexure II</u>	Register to show how the boundary disputes are resolved	25
<u>Annexure III</u>	Register to indicate details of Pointing out boundaries, Survey of land, acceptance of surveyed boundaries	26
<u>Annexure IV</u>	District numbers for Cadastral Maps	27
<u>Annexure V</u>	Register of converted Cadastral Map Parcel numbers	28
<u>Annexure VI</u>	Surveyor's report for Cadastral Survey	29
<u>Annexure VII</u>	Check list for Superintendent of Surveys and District Senior Superintendent of Surveys	31
<u>Annexure VIII</u>	Requisitions for surveys to subdivide / amalgamate lands for which title certificates are issued	32
<u>Annexure IX</u>	Requisitions for surveys to subdivide / amalgamate lands for which title certificates are not issued	34
<u>Annexure X</u>	Requisitions for surveys to subdivide / amalgamate jointly owned lands which have been surveyed together because of no settlement	36
<u>Annexure XI</u>	Requests for Digital Data	38
<u>Annexure XII</u>	Issue of last Tenement List / Parcel Number details	40
<u>Annexure XIII</u>	Register for the issue of plan details in Cadastral Maps	41
<u>Annexure XIV</u>	Specimen Plan for Subsequent Surveys	42
<u>Annexure XV</u>	Surveyor's Report for Subsequent Cadastral Surveys	43
<u>Annexure XVI</u>	Surveys for subdivisions / amalgamations in Cadastral Maps – Examination notes in the Survey Department	45
<u>Annexure XVII</u>	Requests for amalgamation /subdivision of lands – Form No. 7	47

CHAPTER XXI

CADASTRAL SURVEYS

Definitions for Cadastral Surveys

21.1. Definitions

Survey Act :	This is an Act to provide the powers and functions of the Surveyor General, to regulate the land surveys, to establish a Land Survey Council to regulate the professional conduct of Surveyors, to repeal the Land Survey Ordinance and the Surveyors ordinance and to provide for matters connected therewith and to provide for.
Registration of Title Act :	This is an Act to make provision for the investigation and registration of Title to a land parcel; for the regulation of transactions relating to a land parcel so registered and for matters connected therewith.
Registered Licensed Surveyor with Accreditation Certificate:	Registered Licensed Surveyor accredited by the Surveyor General to undertake Cadastral Surveys to define boundaries of land parcels as defined in section 11 of Survey Act No. 17 of 2002.
Administrative boundaries:	This means the boundaries of administrative territorial units of Sri Lanka as gazetted by the government from time to time.
Beneficiary rights:	This means the right of one of the parties of legal relationship to get a benefit as the result of signing of legal civil transaction or based on decision of the authorized state organization or local government.
Beneficiary unit or person:	This means the land parcel or person enjoying benefits of material or non-material character as a result of encumbering by the appropriate obligations of other person or land parcel.
Burdened Land Parcel:	This means Land Parcel, which has a right or interest thereon, which provides a benefit to another Land Parcel.

Cadastral Map:	This is as defined in Survey Act No.17 of 2002. A Cadastral Map includes any Condominium plan prepared under the Apartment Ownership Law No. 11 of 1973.
Cadastral Plan:	<p>This means a plan for a land parcel resulting from a Cadastral Survey as defined under Survey Act No. 17 of 2002.</p> <p>A Cadastral Plan of a land parcel will show the boundaries and extent resulting from a Cadastral Survey of that land parcel.</p> <p>Cadastral Plan includes Condominium Plan prepared under the Apartment Ownership Law No. 11 of 1973.</p>
Base Diagram:	This means a sketch showing existing statutory plans, existing and proposed control surveys, village boundaries, and adjoining village boundaries, prominent topographical features, boundaries of land parcel etc. which are considered as necessary.
Cadastral Survey:	This as defined in the Survey Act No. 17 of 2002. Cadastral Survey is a survey for the purpose of delineating, determining, or defining the boundaries of any parcel of land. It also includes determination of extent of the land parcel.
Cadastre:	Inventory of Cadastre in Sri Lanka is a methodically arranged inventory of all land parcels / properties regardless of ownership details each with a unique identification number based on survey of boundaries. Thus Cadastre of Sri Lanka is essentially a systematic description of Land Parcels / Properties.
Certificate of Title:	An extract from the Title Register for a single land parcel and shall show all of the existing registered information to that land parcel as registered by the Registrar General of Titles.
Interests in Land Parcel:	This means an interest less than ownership of the land parcel and includes servitude or encumbrance over such land parcel.
Land:	Includes land covered with water, and any benefits arising out of land, all things attached to the earth or permanently fastened thereto.

Land Information System:	System of capturing, storing, checking, integrating, manipulating, analyzing, and displaying data about land and its use, ownership and development. Read about Geographical Information System. Cadastral maps may be used to create a foundation for a land parcel based Land Information System which is to be established for the administration of land parcels in Sri Lanka.
Land Parcel:	This means an area separately delineated on a Cadastral Map.
Local Authority:	This means any Municipal Council, Urban Council and Pradeshiya Sabha.
Mortgage:	This is as defined in the Mortgage Act.
Owner:	(a) In relation to land parcel, the person or organization named in the Title Register and (b) In relation to other interests in a land parcel, the person or organization named in the Title Register as the person or organization in whose favour the interests are registered in the land parcel register.
Private land:	This means any land not belongs to the state.
Registered land:	This is the land, the title to which is registered under the Registration of Title Act No. 21 of 1998.
Registered Surveyor:	This is as defined in the Survey Act No. 17 of 2002.
Claims:	This means a documented application to identify existing rights to land parcel and providing the names of the potential owner or owners at present.
Claimant:	This means a person / organization making a claim.
Commissioner of Title Settlement:	A person duly appointed under the provisions of the Registration of Titles Act No. 21 of 1998. This also includes Additional, Deputy, or Assistant Commissioner with delegation of powers, duties and activities of the Commissioner of Title Settlements.

Assistant Commissioner of

Title Settlements:

A person duly appointed in writing by the Commissioner of Title Settlement to carry out the activities related to Registration of Titles.

Deeds Register:

This means a Register maintained by the Registrar of Lands under any other law other than this Act to carry out activities related to Registration of Titles.

Encumbrances:

Interests, rights and / or claims which can or may be made or set upon in respect of a land parcel, and such dealing that can be registered under the Registration of Title Act No. 21 of 1998.

Geographic Information

System:

This means a system for capturing, storing, checking, integrating, manipulating, analyzing and displaying data related to positions on the earth's surface. (Read about Land Information System). Cadastral Maps can be used as a base for Land administration and land development and land use planning which usually required the establishment of the proposed Geographical Information System.

Instrument:

This means a document having the effect of conveying title to and interest in any land parcel in the prescribed form.

Registrar General of Titles:

A person duly appointed under the provisions of the Registration of Titles Act and also includes Additional, Deputy and Assistant Registrar Generals, with delegated powers, duties, and activities of the Registrar General.

Preliminary Schedule of Title /

Final Schedule of Title:

Preliminary Schedule of Title means a list of all interests, rights and information associated with the land parcel. It includes all ownerships details, addresses and data pertaining to ownerships. There is one schedule of titles for each Cadastral Map.

The Field Investigator and Field Surveyor initially create it after the field visit to each land parcel. It is updated by the Commissioner of Title Settlement after completion of investigations in the state offices and then after the receipts of claims. This is generally maintained as digital computer data.

Servitude:	Means the rights of land parcel equivalent to the rights enjoyed by another person over another.
State Land:	This is as defined in the State Lands Ordinance.
Senior Superintendent of Surveys:	This is a person duly appointed with delegated powers to the position of District Superintendent of Surveys by the Surveyor General.
Surveyor General:	This is as defined in the Survey Act No. 17 of 2002. Any officer duly appointed to act on his behalf under the Survey Act with powers to carry out duties and delegated work.
Systematic registration of lands:	Means the government sponsored program to convert the registered land parcels to the system of Title Registration and / or to carry out the first registration of land parcels.
Title Register:	Means the Title Register mentioned under the Act No. 21 of 1998.
Office of Title Registration:	This is the office maintaining the Register of Titles to Land Parcels.
Voluntary sporadic land title Registration:	This means an unsolicited request from a owner of a land parcel to convert the registration of land parcel to the method of Title Registration.
Village:	This is an area identified as Village by the Divisional Secretary.

Land Title Registration Process

- 21.2.** Title Registration of Land Parcel is the registration of land after surveying all the land in Grama Niladhari Division wise / Village wise giving a unique identification number to each land parcel and after finding the actual owners to the land parcel in Sri Lanka.
- 21.3.** Preparation of Cadastral maps for the registration of title for a land parcel is a requirement under Section 11 of Title Registration Act No. 21 of 1998. According to Title Registration Act referred above, the Title Registration to every land shall be in accordance with the cadastral maps prepared for that purpose by the Surveyor General. The relevant Sections of the Title Registration Act to attend these surveys are Sections 4, 10, 11, 23, 25, 36, 50, 51 and 58.

- 21.4.** The Registration of Titles to lands is done after an area is decided in a Province, District or Divisions or other administrative units by the Minister in charge of the land subject and published in the government gazette. The Surveyor General should make arrangement to prepare cadastral maps to cover areas under Section 11 of the Title Registration Act.
- 21.5.** Once the preparation of Cadastral Maps for a Grama Niladhari Division or part of it is completed in such declared area, the District Senior Superintendent of Surveys should handover its certified copies to Commissioner of Title Settlements. Thereafter the Commissioner of Title Settlement will decide on the title to every land parcel, other legal rights and legal rights to individual person after calling claims for every land parcel.
- 21.6.** Main steps in Title Registration
- i. Public awareness and submission of information on land parcels.
 - ii. Basic investigation and preparing Cadastral Maps after land surveys.
 - iii. Legal investigations.
 - iv. Calling ownerships / claims and recommending titles.
 - v. Publishing final notification of title under Section 14 of the Title Registration Act.
 - vi. Registration of Titles and issue of Title Certificates.

Except the above step 2 above others are handled by the Department of Title Settlement, Grama Niladhari and the Department of Registrar General and therefore, these steps are not discussed in this chapter.

- 21.7.** The Commissioner of Title Settlements should request the Surveyor General to do additional surveys and amend the Cadastral Map under Section 23 of the Act if decided after investigation under steps 4 above. When such requests are received, the Senior Superintendent of Surveys should include the amendments and submit the amended and certified copies of relevant sheets of the Cadastral Map to the Commissioner of Title Settlement.

[Public awareness and collection of field information on land parcels](#)

- 21.8.** The Commissioner of Title Settlements will arrange the divisional level awareness programs and the Senior Superintendent of Surveys / Superintendent of Surveys / Surveyors should participate in such awareness programs. The Ministry of Lands and Land Development will arrange the National / Provincial / District level awareness programs for the groups (a) to (d) mentioned below.

The target groups for awareness programs are

- (a) Political and community leaders.
- (b) Public media organizations.
- (c) Professional organization (Notaries, Bankers, Chambers of Commerce, Industrialists, Lawyers and Surveyor etc.)
- (d) Non-governmental organizations

- (e) Officers of the district level government institutions and local government institutions.
 - (f) Field staff and the staff of the relevant institutions.
 - (g) The community of the selected area.
- 21.9.** The Commissioner of Title Settlement will collect the preliminary information of the land parcels in the area selected for the registration of titles. The information thus collected will be categorized and entered in sub – schedules by the Commissioner of Title Settlement and send by a survey requisition to District Senior Superintendent of Surveys along with the relevant lists of names. Also Names of the investigation officers of the block should be sent.

Preparation of Base Diagrams and Office Work

- 21.10.** The Grama Niladhari Division is considered as a unit for the preparation of Cadastral Maps and once the cadastral mapping area is declared, the District Senior Superintendent of Surveys should make arrangement to assign cadastral map numbers to each Grama Niladhari Division after getting a digital map of the Divisional Secretary area indicating the Grama Niladhari divisions from the branch of the Land Information System. A copy of this digital map should be given to relevant Superintendent of Surveys. In addition to this, the register of issuing Cadastral Map Number should be maintained as shown in [Annexure I](#). Priority list of the Grama Niladhari divisions for proposed cadaster area should be prepared by relevant Superintendent of surveys, together with Divisional Secretary, and the Assistant Commissioner of Title Settlement.
- 21.11.** The Superintendent of Surveys should collect the required registers, maps and other required information, to prepare a work plan for the Grama Niladhari Division which is selected to prepare the Cadastral Map. In order to guarantee the preparation of Cadastral Maps for all the Grama Niladhari Divisions, it will be the responsibility of the Superintendent of Surveys to correctly identify the boundaries of Grama Niladhari Divisions and considering the size of the area, the Grama Niladhari Division may be sub-divide in to two or more blocks to prepare the Cadastral Maps. The boundaries of the blocks should be decided by the Superintendent of Surveys not to include several villages in the blocks. It is suitable to select one block not exceeding 50 hectares or 100 land parcels. When taking decisions regarding the boundaries of each block, the Commissioner of Title Settlement and Grama Niladhari should be contacted and it is more desirable to use natural features (Rivers, Streams etc.) or well defined man made features (Main roads, Railway lines etc.) as block boundaries. When the village boundary is not clearly defined and need to readjust slightly (When a plot of land is partitioned by a village boundary) it should be decided after discussion with the Divisional Secretary. The blocks in a Cadastral Map should be numbered from No. 1. After dividing the Grama Niladhari Division in to Blocks, the Superintendent of Surveys should take action to send a copy of it to the Commissioner of Title Settlement / Grama Niladhari. Also, a numbered copy must be sent to District Senior Superintendent of Surveys. The detail information of Cadastral Map numbers, Block numbers, Sheet numbers, and parcel numbers must be maintain in a register in the District Survey Office.
- 21.12.** In terms of Section 10 (2) (a) and (b) of the Survey Act No. 17 of 2002, the Cadastral Surveys should be carried out by a Government Surveyor or an Annual Licensed /

Registered Licensed Surveyor of the Survey Council. It is compulsory to have the Certificate of Accreditation issued by the Surveyor General to prove competency.

- 21.13.** The Superintendent of Surveys should act to inform the Commissioner of Title Settlement and the Grama Niladhari, the name and telephone number of the Surveyor who forwarded the survey requisition from the Assistant Commissioner of Title Settlement. One Surveyor should be assigned to one block and he should prepare a clear prospection diagram for the block assigned to him incorporating existing Statutory Surveys, Survey plans prepared by Licensed Surveyors, Control Surveys and other details including parcel boundaries. The existing and proposed Survey Monuments, EDM traverses etc. should also include in to this prospection diagram.

Collection of Field Information

- 21.14.** The Surveyor and Field Investigator may work as a team but, it is not required that they are always in the field together as a team. Joint investigations should be done together with the Field Investigator and Grama Niladhari for the disputed land mentioned in the classified Register of Land Investigation sent by the Commissioner of Title Settlement. If there are more disputes in these lands, the Surveyor should report to the Commissioner of Title Settlement through the Superintendent of Surveys to solve these problems. When there are state lands, a nominee of the Authority of the land / Grama Niladhari should participate in the process. Survey Field Assistants should not be employed to the field alone for identifying the boundaries of land owners.

- 21.15.** The Survey Field Assistants Team should not enter any land without giving prior notice on the relevant form to the personnel claiming rights to the land. Only the documents submitted by the claimant to the land or his authorized representative should be examined and note down the title after verification.

The Surveyor should find out from the owner of the land / claimant whether there is an earlier surveyed plan or a Court Partitioned plan is available and, if there are no big differences in boundaries in the field and this plan, the Surveyor can proceed after explaining to the Land Owner / Claimant only if he agrees. If there is a plan prepared beforehand it is advisable to obtain a copy of the plan with the concurrence of the owner.

- 21.16.** The Surveyor should demarcate the boundaries of the land pointed out by the claimant or his authorized representative with the agreement of the claimants to the adjoining lands. When there are disagreements to the common boundaries, should work as a mediator to get an agreement. Still if they are not agreeing to the common boundary, should try to mediate to reach an agreement along with Field Investigator/Grama Niladhari. The collective agreement must be obtained as in the form “Procedure to follow for boundary disputes” ([Annexure II](#)) if still there are no agreements, it should be conveyed to the Commissioner of Title Settlement through the Superintendent of Surveys to refer to the Conciliation Board. The work on this land parcel should be postponed until the boundary disputes are resolved and survey the land parcels as one allotment.

- 21.17.** The Surveyor should ensure that the boundaries of all land parcels are properly defined with permanent features or landmarks as in [paragraph 9.25-9.38](#).

After demarcation of boundaries, the Surveyor should enter the existing boundaries and the names of the owners of adjoining land parcels in to the demarcation sketch. The signature of the claimant of the land or the person authorized by him and other details should be obtained as per “Register of pointing out boundaries, survey of land, observation of surveyed boundaries” ([Annexure III](#)). A responsible person (Field Investigator, Grama Niladhari or a nominee of the Divisional Secretary or representative of the Conciliation Board) should sign as a witness for the land owners or his nominee's signature. When ownership of the Land is unidentified it should be certified by Grama Niladhari and Investigation officer and it should be included in the survey requisition file.

Survey Work

- 21.18.** All Cadastral Surveys should be connected to the National Survey Control System (SLD 99). The Superintendent of Surveys should decide about the additional control points in addition to the use of existing, sufficiently accurate control points considering the size of the Grama Niladhari Division / Block at the time of dividing the blocks for the preparation of cadastral maps. The Control Surveys should be done by using G.P.S. or E.D.M. Instruments. The numbering of control surveys inside cadastral area should be connected to the Cadastral Map number. (Ex – Mapala 110001/01, 02, 03.... etc.) In addition to normal underground control points in a village at least 4 surface monuments should be established at suitable places in a block. These types of control points should be established as prescribed in Chapter II and with relevant accuracy. The outer boundary control traverses running with the use of these control points should be of class three types mentioned in Chapter II.
- 21.19.** The land parcels in a Grama Niladhari Division /Block should be shown on Cadastral Maps after the survey of boundary demarcations commonly agreed by the land owners and adjoining claimants. If any land parcel is claimed by more than one individual or if boundaries of individual ownerships are not defined on the ground, they should only be surveyed according to the claims after obtaining the letter of consent from individual owners. Without permanent boundaries for lands identified for surveying, relevant owners should be given instructions to establish common boundaries with the participation of adjacent land owners.
- 21.20.** If the claimants of the disputed lands resolved the disputes through Conciliation Boards or Courts during the time of survey in the Grama Niladhari Division / Block, such land parcels should be surveyed and include in the Cadastral Map.
- 21.21.** When boundary disputes cannot be resolved as mentioned in paragraph 21.16 above, survey only the outer boundary of such land parcels and show them on the Cadastral Map as one allotment assigning one cadastral parcel number. The objective of this cadastral survey process is to cover the whole zone. The names of the disputed claimants should be entered in the tenement list and remarks should be made in order to identify that as a disputed land parcel.
- 21.22.** If there are Statutory Survey Plans prepared for the issue of grants and any plans prepared for the allocation of lands to State Institutions / Semi- state Institutions within the block of survey, such plans should be converted to Cadastral Maps under paragraph 21.36 below for the registration of titles. However, when the boundaries shown in these plans largely differ from the boundaries used by the occupants, re-survey or conversion should be done with the advice of the relevant Land Authority.

- 21.23.** One Field Book should be used only for one block. However, that field book could be used for any subsequent surveys in the same block. The cadastral map number, block number Sheet number and the name of the Grama Niladhari Division should be printed by hand clearly on the outer cover of all the field books.

The field book keeping for cadastral surveys must be as per guidelines given in Chapter XI and XXII. It is important to note that such field notes could be used in Court proceedings. Therefore, the names of Claimants / Occupants / Names of Informants, Name of land, use of land, boundary details, landmarks and dates of survey etc. should be clearly entered in the field books.

- 21.24.** All details must be surveyed as mentioned in Chapter IX The Superintendent of Surveys should be satisfied with the work done by the Surveyor on field surveys, field book keeping, calculation of co-ordinates of boundary points, and calculation of extents of parcels and that are accurate enough under the relevant Departmental Survey Regulations. However, the Surveyor is personally responsible for all the work connected to the field survey. Verifications should be done by thoroughly with land owners and identified correct boundaries, only established or setout boundaries should be surveyed.

- 21.25.** When there are state lands within the area of survey, the Surveyor should satisfy himself that the boundaries of state lands are clearly shown in the Cadastral Map. The reservation inside state lands should be as specified in Chapter X. The land parcels claimed by different state agencies should be shown separately. The foot paths, roads, village tanks etc. shown on departmental plans, but not in use now should be shown in cadastral maps with new lot numbers if the State Land Authority decides to continue with them. Pay special attention to specifications of Local Authorities such as road with, Turning point, and the drains and this information should be confirmed by written document.

- 21.26.** When a land is covered by several Deeds, it should be surveyed as one land after a written from the claimant. Common written agreement should be taken if there are problems arising for common roads, and turning circles. If it is failed Whole area should be surveyed together and it should be mentioned as “unsettle land” in Tenement List.

Plan Work

- 21.27.** The Cadastral Maps must be prepared using a computer according to the specifications and guidelines given in Chapters XII and XXII. Cadastral Map should be numbered with 6 digits as follows.

- First two numbers to identify the District. ([Annexure IV](#))
- Next 4 digits to identify the Grama Niladhari Division in the District.

Zone and the lot number should be numbered with 6 digits as follows.

- First two numbers to the Zone
- Next 4 digits allocated for lot

Finally a unique number consisting of 12 digits will be given for Certificate of Title.

- 21.28. All land parcels within a block should be assigned numbers starting from number 1 and fractional numbers or characters should never be used. The newly surveyed parcels and the parcels incorporated in to cadastral map from previous plans must be numbered in the same way.
- 21.29. New lot numbers should not be used when dealing with remaining portion of adjoining lots like foot paths, roads, water courses etc. falling with in the adjoining zones.
- 21.30. In Final Topographical plan and Preliminary Topographical plan areas, insets should be prepared for the outer boundary vide Chapter XII before the preparation of cadastral map.
- 21.31. The Surveyor and the Superintendent of Surveys should ensure that all relevant surveys are included in to the cadastral map at the time of its preparation. For this purpose, the Surveyor should be responsible to verify that there is a complete list of old plans covering the area within the block is available before the commencement of the cadastral survey.
- 21.32. The [scale of a cadastral map](#) is 1: 2,000. However, in areas where this scale is not sufficient to show all the details, a larger scale may be used. Also, if only a part of the map has to be drawn in a larger scale, a sub plan should be prepared only for that part.
- 21.33. Area calculations should be made according to Chapter XIII. However, extents should be given in hectares up to 4 decimal places irrespective of the scale of the map. Extents should be given in acres, roods and perches as additional information in the remarks column of the tenement list within brackets and automatically printing facility should be done by TLDB software.
- 21.34. Cadastral plans will be printed on A3 size paper and Tenement List should be printed on A3 size printed paper using the software provided by the Survey Department. Draughtmanship, Abbreviations, and Conventional Signs etc. on Cadastral Maps will have to be as mentioned in Chapters IV, IX, XII and XXII.

Other Statutory surveys conducted in the area during the time of preparation of the cadastral map

- 21.35. When an area is taken up for cadastral surveys, any requests for statutory surveys within that area should be carried out along with the cadastral surveys. In instances where urgent statutory surveys need to be undertaken before the completion of the cadastral map, separate statutory plan can be prepared for that purpose and such plans should be incorporated into the cadastral map afterward.

Incorporation of existing Statutory Survey Plans in to Cadastral Maps

- 21.36. The existing Statutory Plans prepared for land alienation surveys within cadastral survey areas should be included in the cadastral map only by demarcating the outer boundary of the statutory survey in to the new survey and for that part in the new Cadastral Map (relevant block) a sequential sheet number should be assigned. This sheet number must be written inside the

relevant area of the cadastral map and the number of the original statutory plan number must be written within brackets.

eg. Sheet No. 2
(PP Ku2178)

If the old Statutory Plan falls in to several cadastral maps.

Sheet No. 2
(PP Ku2180 part)

21.37. The inclusion of old statutory plans in to cadastral maps and subsequent surveys within that area should be completed as follows.

Whenever possible actions should always be taken to select the area covered by old statutory plans as a block in the new cadastral map. Considering the extent / number of lots covered by the old statutory plan, the Senior Superintendent of Surveys must take timely decision whether to prepare new blocks or sheets.

21.38. When including the old statutory plan in to the new cadastral map new parcel numbers should be given in the cadastral map for all the lots in the old statutory plan. For this purpose a stamp must be prepared as follows and keep a note in red in all parts of the old statutory plan (including Tenement list)

“This has been converted to Cadastral Map No. . . . , Block No. . . . , Sheet No. . . See the list of converted cadastral parcel numbers annexed to this for cadastral map parcel numbers”

21.39. The relevant cadastral plan parcel number should be printed within brackets in red below the old lot number in the tenement list of the old statutory plan and the relevant cadastral map tenement list number must be printed within brackets in red under the number of the old tenement list clearly. The list of converted cadastral parcel numbers should be prepared as in [Annexure V](#) and attach to the original file of papers of the old statutory plan. This list should be prepared by a Registered Surveyor and after examination by the Superintendent of Surveys, it should be approved by the Senior Superintendent of Surveys.

21.40. If there are allotments within old statutory plans without lot numbers, the cadastral map parcel number must be printed in red as mentioned below without impairing the clarity of the plan.

CM 11002401
256 In here, the cadastral map number is 110024, Block Number is 01
56 is the lot / parcel number relevant to cadastral map.

Also, in the first page of the old statutory plan containing these lots, a note should be kept in red by a stamp prepared as follows.

“Cadastral map parcel numbers have been inserted in red for unnumbered allotments in this plan”

Also, cadastral map tenement list should be prepared for unnumbered allotments after calculating the extents of the allotments.

- 21.41.** If there are fractional lot numbers used in the old statutory plan, next available full numbers should be given to them when assigning parcel numbers in the cadastral map. All amendments should be entered and certified in the field book and plan according to department regulation.
- 21.42.** Stream or foot path shown by single lines in old statutory plans should be taken to cadastral map as it is but, for subsequent surveys boundaries of both sides must be surveyed and prepare new sheet for the cadastral map.
- 21.43.** When there is a new statutory plan prepared after a survey of a part of old statutory plan, it should be converted to cadastral map after giving next available cadastral map sheet number. When it is need subsequent survey after cad conversion new survey should be carried out.
- 21.44.** When there are several villages covered by an old statutory plan, the boundaries of cadastral map should be decided according to the village boundaries in the old statutory plan. The list of converted cadastral map parcel numbers should be prepared separately for each cadastral map and should include in the original file of the old statutory plan.
- 21.45.** The certified copies of such converted old statutory plans, tenement lists, and list of converted cadastral map parcel numbers must be included in the file of the cadastral map and certifies copies of them must be sent to relevant Divisional Secretary, The Commissioner of Title Settlement, Registrar of Titles and the Surveyor General at that instant itself.
- 21.46.** The subsequent surveys in the statutory plan areas where actions have been taken as mentioned above must be completed as cadastral surveys and, the sheet numbers to be used and the parcel numbers, Tenement List page numbers should be obtained from the Senior Superintendent of Surveys according to the relevant cadastral map.
- 21.47.** Cadastral plan numbers, tenement list page numbers etc. used in the sheets taken up within the statutory plans converted as cadastral maps should be indicated in the amendment tracings prepared for the original cadastral map as follows.

Cadastral plan number	Block number	Sheet number	No. of parcels	Tenement list page number
310037	1	1	1-113	1-15
		2	114 -118	16
		3	119 -201	17 – 25

- 21.48.** Outer boundaries of lots which have already been surveyed and grants have been issued should be maintained when doing a new cadastral survey. If the outer boundaries have been altered and if there are difficulties to reinstate them, it should be reported to the State Lands Authority and actions to be taken only after getting his written instructions.

[Acquisition Surveys within Cadastral Map areas](#)

- 21.49.** If a [land parcel shown in a cadastral map](#) is completely acquired under the Section 38(a) of the Land Acquisition Act, it would be sufficient to prepare only a new tenement list after verification of parcel boundaries in the field.

- 21.50.** If a part of a [land parcel in the cadastral map](#) is acquired under the Section 38(a) of the Land Acquisition Act, a plan for the complete land parcel has to be prepared as in the case of preparation of a plan for the registration of titles to separate lands. In such instances, the owner's name of acquired part should be mentioned as "State" and the original registered owner's name should be given in the remarks column. The registered owner's name should be given as the owner of the balance part.
- 21.51.** If a land parcel in the cadastral map has to be acquired completely under the Section 2 of the Land Acquisition Act, an Advanced Tracing should be prepared by taking a tracing from the cadastral map after verification of boundaries in the field. When preparing a plan for land parcel under Section 6, it is sufficient to write only a supplementary tenement list after verification of boundaries in the field.
- 21.52.** If there is a proposal to acquire a part of a land parcel in the cadastral map under the Section 2, an Advance Tracing has to be prepared after a new survey. The preparation of plan under Section 6 should be prepared as for the preparation of a plan for the partitioning the cadastral map land parcels. In here, the name of the registered owner's name should be entered as the owner of the proposed lot to be acquired and for the balance part of the lot as well.
- 21.53.** When entering other details in the tenement list, the instructions given in Chapter VI should be followed.

[Survey of Condominium properties within Cadastral Map areas](#)

- 21.54.** [A condominium property](#) should be a one parcel in a cadastral map. When there are condominium properties in cadastral survey areas, a normal cadastral map should be prepared first for the full parcel containing the condominium property and thereafter condominium plan should be prepared according to Chapter XVIII using new sheets for cadastral map for the parcel containing condominium property.
- 21.55.** Plans need not be prepared for proposed condominium properties which are not constructed on ground. However, if only first floor / several floors have been constructed on ground for a condominium property with several floors, a condominium plan should be prepared for all the units of it. In here, brown colour should be used for units which are not constructed on ground. The prescribed colours should be used for condominium plans and when copies of printed plans are requested by Institutions, same colours must be used on certified copies and issue them.
- 21.56.** The numbering of condominium parcels should be in accordance with [paragraph 18.9](#).
- 21.57.** The tenement list should be prepared according to Chapter XVIII and the specimens shown therein, and also with the software TLDB introduced by the department. Tenement List for Condominium land parcel should be prepared according to Annexure III of Chapter XVIII.
- 21.58.** The Surveyor should prepare digital maps by using conversion methods for old condominium plans in a cadastral survey area under the supervision of Superintendent of Surveys. Separate cadastral maps should be prepared for each parcel and supplementary parcels using these digital maps.

- 21.59. Action should be taken to prepare the condominium cadastral maps in English language because of the complexity in the preparation of maps.

Important points in the completion of the Cadastral Maps

- 21.60. The National Map reference number will be the 1:10,000 Topographic sheet number in which the majority area of the block is located.
- 21.61. The co-ordinate values should be printed in at least at two corners, with the grid cuttings shown in black with two lines of one cm. length and its coordinates should be printed in black that the value can be increased in the readable direction at each section of the Cadastral Map.
- 21.62. All line work on Cadastral Maps should be in accordance with the Departmental Survey Regulations. However survey lines, grid lines must be in the numbered copy but should not be printed in the final printout of the Cadastral Map.
- 21.63. The name/s of adjoining Grama Niladhari Divisions and their C.M. number, Block numbers should be clearly printed.
- 21.64. All surface monuments in the block should be shown on the Cadastral Map. The co-ordinate values of these points up to 3 decimal places of a meter should be printed at a suitable place on the map.
- 21.65. For the convenience of the agencies dealing with the lands for which the state land grants certificates have been issued, the certificate number should be given in the remarks column of the tenement list.
- 21.66. 1:10,000 scale index diagrams showing all the Cadastral Maps should be maintained in paper and digital form at the relevant Divisional Survey office. The Senior Superintendent of Surveys should take actions to maintain copies of this index diagram in paper and in digital form in the District Survey Office as well. For this purpose, a copy of Topographical Map prepared at the scale of 1: 10,000 should be obtained from the Senior Superintendent of Surveys (Mapping). In areas where 1:10,000 topographical sheets are not yet published, a blank 1:10,000 sheet in the same format with the correct number printed should be obtained from Senior Superintendent of Surveys (Mapping).
- 21.67. In order to update the index page mentioned above, an amendment tracing indicating the outer boundary of the cadastral map (Block) at the scale of 1: 10,000 with grids and a numbered copy of the outer boundary of the block should be prepared by the Surveyor. The Senior Superintendent of Surveys should forward a numbered copy of the outer boundary of the block to Surveyor General immediately after the approval of the plan.
- 21.68. After completing the work of all the blocks in a Grama Niladhari Division, an index page at the scale of 1: 10,000 indicating the outer boundary of the blocks and its numbers should be prepared and attach to all the blocks of the cadastral map. The digital map prepared for each block should be sent to the Registrar of Titles for preparing the title certificates. A copy of this index page should also be sent to the Commissioner of Title Settlement. The Surveyor should prepare a report on the relevant form for all the cadastral maps as indicated in [Annexure VI](#).

- 21.69. Cadastral maps should be prepared with abutting details for all the parcels in the cadastral map for which titles can be issued by the Surveyor and forward with the completed cadastral map to the Senior Superintendent of Surveys for approval after examined by the Superintendent of Surveys. The Senior Superintendent of Surveys who approved the plan should submit all the papers and numerical data to District Senior Superintendent of Surveys to register and maintain them in the District Survey Office.
- 21.70. Once the Cadastral Maps have been approved, the "√" mark should be included in the Bim Saviya when updating the SRIMS database according to that information. Bimsaviya records are automatically processed through the SRIMS database so that the records signed by the Senior Superintendent of Surveys should be sent to the Title Registration branch and Land Information Systems branch at the end of each month.

Amendment of old Documents

- 21.71. Once the cadastral map is completed, all statutory plans prepared for the area up to the time of preparation of the cadastral map should be endorsed in pencil thus "covered by cadastral map (number)".
- 21.72. The 16 chain record diagrams should be amended showing the outer boundary of the Cadastral Map in green. In instances where only a part of an old statutory plan is included into the cadastral map, indicate the outer boundary of the cadastral map in that part and keep a note in pencil as mentioned above. In the case of Preliminary Plan areas, 1:4,000 metric key sheets also have to be amended as necessary.
- 21.73. A list of all previous old plans so endorsed and the tracings showing the areas of the partly endorsed plans, and 16 chain amendment tracing prepared as above should be forwarded along with the completed cadastral map to amend the old records in the District Office and also in the Surveyor General Office. District senior Superintendent Surveys should amend his records suitably, and forward the list and tracings to Land Information Systems Branch in SGO to amend the records in S.G.O. 1:10,000 sheets should also to be amended.
- 21.74. The final decision on the Title to [land parcels in a cadastral map](#) will be gazetted by the Commissioner General of Title Settlement and its copies will also be sent to District Senior Superintendent of Surveys. After examination of this gazette, if there are any changes in the tenement list and the names of the claimants relevant to parcel for which decision have been published, the Senior Superintendent of Surveys must take actions to amend the tenement list in red colour and also insert a note to this effect. If a large number of land parcels are amended simultaneously, one certificate is sufficient. A supplementary Tenement List should be prepared only if these amendments are unable to be recorded on the relevant place. Also the Senior Superintendent of Surveys must take action to send the relevant gazette of the cadastral map in which land parcels have been gazetted within two weeks to the Registrar of Titles.
- 21.75. After issuing Title Certificates to parcels shown in the cadastral map, Title Registrar will inform the Senior Superintendent of Surveys at the end of each month in writing, the parcels for which certificates are issued and Title Certificate numbers. The Senior Superintendent of Surveys after receiving this information should take actions to enter these Title Certificate numbers in red in the remarks column of the cadastral tenement list against each parcel. This information will be useful for subsequent surveys in the same parcel.

Plan Checking and Approving

21.76. The Superintendent of Surveys should ensure that all the survey works including control surveys, are in accordance with the Departmental Survey Regulations. Therefore, it is the responsibility of the Superintendent of Surveys to take necessary actions to maintain the standards and accuracies before approving cadastral maps and tenement lists. The check list for checking cadastral maps by Superintendent of Surveys and Senior Superintendent of Surveys is given in [Annexure VII](#).

21.77. It is the responsibility of the Senior Superintendent of Surveys to check and certify the cadastral map on behalf of the Surveyor General soon after he receives them from the Superintendent of Surveys. The Superintendent of Surveys / Senior Superintendent of Surveys should satisfy that old records are amended and registers are updated as required. It is one of a responsibility of a senior Superintendent of Surveys to take over digital data of passed plan and these digital data and the [copies of cadastral maps and tenement lists](#) should be sent (within one week from the date of approval) as follows.

Officer	Original copy of C.M. & T.L.	Certified copies		Uncertified copies		Digital Data	Digital data for C.M.	Sets of Tracing	
		Plan	Tenement List	Plan	Tenement List			Proscribed tracings	Amendment tracings
Asst. Comi. Title Settlement		1	1	3	3				
S.G. (DMPS)		1	1					1	1
D.S.G. (LIS/GIS)						1			
Registrar of Titles		1	1			1	1		
Div. Secretary		1	1	1	1				
District Snr. S.S.	1			1	1	1	1	1	1
D.S.O.				1	1	1			
Reg.Liced. Syr/ Govt. Syr				1	1				
Provincial Land Com.				1	1				
Prov. Agencies				1	1				

Filing of Digital copies

21.78. The digital copies should be filed as follows.

- A properly numbered digital copy of the cadastral map to be filed in the Divisional Survey Office.
- A properly numbered digital copy of the cadastral map to be filed in the District Survey Office.
- Digital data of outer boundaries of each zone should sent to the Title Registration Branch.

Survey Requisition Files and other Documents

- 21.79.** Once a block in a Grama Niladhari division is taken up for cadastral surveys, two requisition files should be opened. One in the District Survey Office and the other in the Field Office, maintaining the details of all the survey works in that block. Once the cadastral map is completed, these two files must be combined and maintained as one file in the District Office. This file should contain the Field Prospection Diagram, Traverse Diagrams, or reference to relevant files, Co-ordinate sheets, Area Computation forms, Surveyor's Report Documents relevant to pointing out / observing surveyed boundaries, Gazette notice under Section 14 of the Land Title Registration Act, Details of all correspondence exchanged and considered to be important in respect of the block, a list of the Block numbers, Land Parcel numbers and Tenement List page numbers used etc. and other important information. Any subsequent correspondence for surveys in this village should be filed in this file.
- 21.80.** Following documents should also be stored in the District Survey Office.
- (a) Original Cadastral Map, printed copy of Tenement list and its Photostat copy should be stored in District Survey Office. However original copy and Senior SS's copy should not be send to the field.
 - (b) The Cadastral Map, Cadastral Plans, Tenement Lists and relevant digital data files should be stored in a computer hard disc and in one compact disc. A duplicate of compact disc should be sent for storing in the Divisional Survey Office.
 - (c) All digital data must be stored according to Grama Niladhari Divisions for easy identification.

Subsequent surveys conducted in Cadastral Map areas

- 21.81.** Only the Licensed Surveyors who are issued with accreditation certificate by the Surveyor General under Section 11 of the Survey Act No. 17 of 2002 can attend to subsequent surveys in a cadastral map area. The Registered Surveyors should carry out the [subsequent surveys](#) fulfilling the requirements of relevant Legislative Enactments, Survey Regulations, and Technological Requirements.
- 21.82.** Prescribed forms should be used for subsequent surveys in cadastral mapping areas. Actions should be taken to issue specimen of all the prescribe forms from the official web site of the Survey Department (www.survey.gov.lk) and from all Survey Offices.
- 21.83.** The cadastral mapping areas are the areas in which cadastral maps have been completed and when resurveying land parcels in these areas, following instructions should be followed. It may be required to resurvey the following types of land parcels in cadastral mapping areas.

- 1) Lands for which cadastral maps have been prepared and Title Certificates have been issued.
- 2) Lands for which cadastral maps have been prepared but still the Title Certificates are not issued.

The lands of this type belong to following two categories.

- (i) Having single ownership but Title Certificates are still not issued.
- (ii) Jointly owned land which have been surveyed together because of no settlement and Title certificates are still not issued.

- 21.84.** The Registered Surveyors should follow the instructions given below when preparing Cadastral Maps after subsequent surveys and maintaining them afterwards under Sections 23 and 36 of Title Registration Act No. 21 of 1998. The cadastral maps prepared by taking action in disagreement with these instructions should never be used to amend the cadastral map by the Senior Superintendent of Surveys.
- 21.85.** All the requests under 21.83(1) above should be prepared by the Land owner/owners according to Form No. 1 ([Annexure VIII](#)) and submit to Registered Licensed Surveyor with a certificate from the Registrar of Titles. The Registered Licensed Surveyor should survey the land related to the request made by the owner of the land according to the Title Certificate issued considering all the encumbrances / restrictions (e.g. : Conditions pertaining to Land Development Ordinance or Provincial Council Agencies or mortgages or other encumbrances for ownerships)
- 21.86.** If the request for subsequent survey is in disagreement with the conditions of the relevant Provincial Council Authority, the Registered Surveyor should notify the Land Owner / Applicant about it and should obtain a letter from the Owner / Applicant to this effect.
- 21.87.** The land owner should prepare all requests under 21.83(2) (i) above according to Form No. 2 ([Annexure IX](#)) and handover to Registered Licensed Surveyor or the District Senior Superintendent of Surveys with a certificate from the Commissioner of Title Settlement.
- 21.88.** The land owner should prepare all requests under 21.83(2) (ii) above according to Form No.3 ([Annexure X](#)) and submit to District Survey Office with a certificate from the Commissioner of Title Settlement. Request for subsequent surveys under form 02 ([Annexure IX](#)) and form 03 related ([Annexure X](#)), unsettled, or multiple ownership land should send to the Commissioner of settlement and after getting his view processed the survey.
- 21.89.** When there are no digital data or digital data relevant to original survey, the required copies of old plans / field notes should be obtained from the District Survey Office. The Senior Superintendent of Surveys of the relevant district must take actions to provide these data to Registered licensed Surveyors. When requesting these data by a Registered Licensed Surveyor Form No. 4 ([Annexure XI](#)) must be submitted along with the relevant Forms 1 or 2 or 3 completed by the applicant. Fax messages or electronic media can be used for these requests.
- 21.90.** The lands for which cadastral maps have been completed, Title Certificates have been issued should not be amalgamated or amalgamate and subdivide with the land/s for which another

types of title certificates are issued or land/s for which title certificates are still not issued.

- 21.91.** The Registered Surveyor should correctly and clearly identify the relevant land parcel on ground and carry out the survey. When the owner of the land relevant to survey has encroached the adjoining land/s, survey only the portion covered by the original outer boundary, leaving out the encroached part. If the applicant does not agree to do so, proceedings should not be taken.
- 21.92.** If the adjoining owner has encroached the land under survey, it should be explained to the adjoining owner after re-establishing the original boundaries. If the encroacher is not willing to correct the boundaries, survey the encroached parts and prepare the cadastral map by assigning separate parcel numbers to them. If the applicant is not agreeable to do so, further work on this should be stopped.
- 21.93.** When there is a request to separate a small portion of a land parcel in a cadastral map, only that small portion should be surveyed and incorporate the balance part of the parcel in to the cadastral map by using digital data and complete the work. In such instances it should be mentioned in the Surveyor's report.
- 21.94.** The boundary monuments established at the time of subdivision / amalgamation must be permanent boundary monuments and it should be surveyed with at least 5cm accuracy. These permanent boundary monuments should be shown to the applicant/s, obtain a letter to the effect that they have seen them with their signature on it and include this letter with their signature in the file of papers.
- 21.95.** The cadastral maps for new parcels should be prepared only after confirmation of the total area of new parcels obtained after subdivision and amalgamation and the relevant total area of the old Title Certificates are equal. If there is an error in the old extent, it must be reported to Senior Superintendent of Surveys after recheck. If there is a mistake in the original survey, the Senior Superintendent of Surveys must take immediate actions to correct them.
- 21.96.** Prepare a copy of an index plan after completing the field work and decide the actual number of parcels and the number of tenement list pages required for the new cadastral map and make a request to District Senior Superintendent of Surveys through the Superintendent of Surveys for the new sheet numbers, parcel numbers, TL page numbers etc. When a Registered Licensed Surveyor is requesting these last plan details Form No. 5 ([Annexure XII](#)) should be used. This information should be sent by email to minimize the delays.
- 21.97.** New sheets should be taken up for subsequent surveys inside cadastral maps. Supplementary plan numbers should never be issued for cadastral maps. Field sheet number, parcel/lot number and tenement list page number should be sequentially numbered from the last used number in a block. The last sheet number, lot number and the tenement list number should be issued by the District Senior Superintendent of Surveys. A register must be maintained by the District Senior Superintendent of Surveys to record the issue of Cadastral Map number, Block number, Sheet number, Tenement List page number and Parcel / Lot number. One page of this register should be used for one Block, ([Annexure XIII](#))
- 21.98.** The applicant should pay the examination fee for more than 10 lots decided by the Surveyor General to District Senior Superintendent of Surveys when Registered Licensed Surveyors are doing the subsequent surveys. Once the Registered Licensed

Surveyor requested the Last Plan details, the Senior Superintendent of Surveys should inform the applicant with a copy to Registered Licensed Surveyor to pay the relevant fee.

- 21.99.** When doing a subsequent survey by a Registered Licensed Surveyor under 21.83(1) and 21.83 (2) (i) above, considering the size of the area, use high standard A4 / A3 size paper and thickness not less than GSM 110 and GSM 80 to prepare the survey plans and tenement lists. (see [Annexure XIV](#) for specific plan) Department TLDB must be used for preparing Tenement List.
- 21.100.** Cadastral Maps and connected Tenement Lists should be amended when doing subsequent surveys in Cadastral Map areas, similar to the case of F.V.P. areas as given in [paragraph 12.62 – 12.65](#).
- 21.101.** Same data layers containing digital data issued by the Senior Superintendent of Surveys should be used to enter the new digital data of subsequent survey plans by .dxf extension files and, Tenement List must be prepared using TLDB software. Subsequent Survey Digital Data should be prepared in District office as old cadastral surveys data accordingly paragraph 22.25 and should be sent to the L.I.S. branch through SRIMS database.
- 21.102.** The Registered Licensed Surveyors must submit the copies of plans and connected digital data to the District Senior Superintendent of Surveys or to the closest Divisional Survey Office in the district where the land is situated within two weeks after receiving the final plan details. The Superintendent of Surveys of the Divisional Survey office must number the plans so received consecutively, organize the other duties and take actions to send to Senior Superintendent of Surveys within two working days.
- 21.103.** If the plan cannot be submitted within two weeks after getting the Last Plan details due to an unavoidable reason, the Registered Licensed Surveyor should notify the District Senior Superintendent of Surveys before the expiry of the allotted time and get an extension.
- 21.104.** The Registered Licensed Surveyor should submit the following documents to District Senior Superintendent of Surveys and must maintain an additional file containing copies of these documents safely with him.
- Requests from applicants (Form No. 1 or 2 or 3, respectively from **Annexure VIII** or **Annexure IX** or **Annexure X**).
 - Plan and tenement list with signature on all pages (Form No. 8 – 2 copies / Form No. 9 - 1 copy). Annexure XIV
 - Field Notes (certified copy).
 - Complete plan for the new survey, tenements lists, and compact disc containing digital data for the plans of every parcel.
 - Letter in which final details received (Form No. 5 **Annexure XII**).
 - Amendment tracings - 2 copies

- Computation papers.
- Letter obtained from the applicant when the subdivision is not in agreement with the conditions of the Provincial Council Agency.
- Co-ordinate sheets.
- Letter from applicants for seeing / acceptance of the boundaries.
- Surveyor's Report (Form No. 6- [Annexure XV](#))

21.105. The Superintendent of Surveys (Head Quarters) must register the subsequent survey plans received at the District Survey Office consecutively according to the receipts and, should check mentioned paragraph 21.104 whether the plans are completed according to the relevant specifications. ([Annexure XVI](#)) If the Senior Superintendent of Surveys decided to do a field check at the time of his examinations of plans, the Superintendent of Surveys (Head Quarters) must do a field check and submit a report.

21.106. The Senior Superintendent of Surveys should make arrangement to show the subsequent surveys under 21.83 (1) and 21.83 (2) (i) in the original cadastral map and attend to the necessary amendments under paragraph 21.112. A certificate to this effect should be made in all parts (Form No.8 & 9) of the cadastral map and the tenement list by a stamp (of the size 6 cm X 6 cm) prepared as follows and places the signature.

1. Used parcel No., Sheet No., and tenement list No's are correct.
2. Original Cadastral map amended.

21.107. The methods of examination and certification of plans adopted by the Surveyor General must be used for subsequent surveys under 21.83 (2) (ii) above.

21.108. The Registered Licensed Surveyor is fully responsible for all activities connected to subsequent surveys, accuracy of the survey and content in the plan.

[Issuing Plan copies and Maintenance of files](#)

21.109. One copy of the subsequent survey plan prepared according to Form No,8 ([Annexure XIV](#)) to be given to the Registered Surveyor after entering “Applicants Copy” by a stamp. Only the field notes and surveyor's report submitted by the Registered Licensed Surveyor should be scanned and include in a compact disc along with the digital data relevant to the map. This compact disc to be numbered as CM Number / Block number / Sheet Number / Parcel numbers . . . to . . . and file along with compact disc of the original cadastral map.

21.110. The Senior Superintendent of Surveys should take actions to send the certified copies of subsequent survey plans prepared by Registered Licensed Surveyors under 21.83 (1), 21.83 (2)(i) and 21.83 (2)(ii) to the relevant District Registrar of Titles, and in addition the certified copies of subsequent survey plans prepared under 21.83(2)(i) and 21.83(2)(ii) to the Commissioner General of Title Settlements. Also, the Senior

Superintendent of Surveys should send the certified copies of subsequent survey plans to the Branch of Document Management & Professional Standard and the digital copies to the Branch of Land Information Systems through SRIMS database to update the data system of original survey data.

21.111. The District Senior Superintendent of Surveys should update the registers in the District office once he gets the Title Certificates numbers from the Registrar of Titles after registering these new land parcels under the orders of the Title Registration Act No.21 of 1998 published by a special gazette of the Democratic Socialist Republic of Sri Lanka on 1998-10-21.

21.112. Original Cadastral map should be updated in subsequent surveys according to the following procedure.

(1).Non digital data

- i. Surveyor should be done amendments in the office for the original copy and Snr . S.S. copy of cadastral map.
- ii. Hatch the boundaries of subsequent sheets with original cadaster map and reference should be given to original sheet with shaded.
- iii. Follow the DSR when doing any subsequent survey of the tenement list or Copy of Snr. S.S. and Cadastral map.
- iv. All subsequent survey sheets should be filed with the original cadaster map zone. Copy of it should be filed with Snr. S.S. copy.
- v. Data base should be maintained for all subsequent surveys after signing by Snr. S.S.

(2). Digital data

- i. A copy of the Cadastral Map should be shown in a separate data layer and all new sheets will be included in the new boundary red and original cadastral lot No/ Nos are removed and new lot No/ Nos should be entered in red.

Preparing diagrams with converted Cadastral map

21.113. When the preparation of diagram with using conversion of cadaster map cross relevant abutting lot numbers and write new cadaster lot number in red. Boundary schedule should be prepared according to the cadaster map. It should be noted “This plan has converted into cadaster map” in covering letter or diagram.

Paragraph 21.10Annexure I**Register for the issue of numbers for Cadastral Maps**

District:

Cadastral Map Number	D.S. Division	Village / Grama Niladhari Division	Number of Blocks	Requisition Number	Remarks

[Paragraph 21.27](#)[Para. 2.8](#)[Annexure IV](#)**District numbers for Cadastral Maps**

Province	District	Number
North Central	Anuradhapura	11
	Polonnaruwa	12
Eastern	Trincomalee	26
	Batticaloa	27
	Ampara	28
Central	Matale	31
	Kandy	32
	Nuwara Eliya	33
North Western	Puttlam	41
	Kurunegala	42
Western	Gampaha	51
	Colombo	52
	Kalutara	53
Sabaragamuwa	Kegalle	61
	Ratnapura	62
Uva	Badulla	71
	Monaragala	72
Southern	Galle	81
	Matara	82
	Hambantota	83
Northern	Jaffna	91
	Kilinochchi	92
	Mullaittivu	93
	Mannar	94
	Vavunia	95

Paragraph 21.39Annexure VRegister to show converted cadastral plan parcel numbers

Statutory Plan number	:	Cadastral Plan Number	:
Village	:	Block Number	:
D. S. Division	:	Sheet Number	:
District	:	Village	:
Province	:	D. S. Division	:
		G. N. Division	:

Old parcel number	Cadastral Plan Parcel Number
1	251
2	252
3	253
4	254
5 $\frac{1}{2}$	255
5 $\frac{2}{2}$	256
6	257
7	258
8	259
9	260
10	261
Unnumbered Foot path	262
Unnumbered Canal	263

Prepared by:-

Name
Registered Surveyor
Date

Examined by:-

Name
Superintendent of Surveys
Date

Approved by:-

Name
Senior Superintendent of Surveys (. . . . District)
Name
For Surveyor General
Date

Paragraph 21.68Annexure VI**Surveyor's Report on Cadastral Surveys**

1. Cadastral Plan number :
2. Block No. from Blocks
3. Sheet number:
4. Number of allotments:
5. Number of parcels State: Private: Total:
6. Extent State: Private: Total:
7. Number of pages in Tenement List:
8. Village:
9. Divisional Secretary Division:
10. District:
11. Province:
12. Name of the Surveyor:
13. Date of commencement of survey:
14. Number of days engaged on field work:
15. Number of days engaged on plan work:
16. Date of completion of field work:
17. Date of completion of plan work:
18. Name of the Superintendent of Surveys:
19. Date of approval of plan by Superintendent of Surveys:
20. Numbers of the field books used:
21. List of all cancelled / amended plans is annexed.
22. Is Amendment tracings prepared? Yes / No
23. National map reference number:
24. The instrument used for field work:
25. Software used for Co-ordinates:
26. Names of computer data files – Basic Co-ordinate .DAT, Index file – idx, Drawing file- dwg
27. Names of Grama Niladharis who pointed out the boundaries and division:
28. Number of new landmarks used Landmarks Permanent landmarks
29. Control monuments established on ground surface

Paragraph 21.76Annexure VII**List of examinations for Superintendent of Surveys and District Senior Superintendent of Surveys**

1. Whether cadastral map number is written against the name of the village.
2. Comparison of village boundary with boundaries of adjoining villages.
3. Whether required accuracy standards have been maintained.
4. All parcels are numbered correctly on cadastral map and the field book.
5. All parcels are closing on cadastral map and field book.
6. All boundaries are defined and described on map and field book.
7. Sufficient numbers of Surface Monuments are shown on the map.
8. Incorporation of old work correctly done.
9. No gaps and/or overlapping areas between the newly surveyed areas and areas where old surveys are incorporated.
10. Coordinate values of surface monuments are given.
11. Coordinates of all boundary points calculated and given in the field books.
12. Computer data files are correctly prepared, named and stored.
13. Comparison of sheet edges.
14. Old statutory plans and 16 Ch RDD are properly endorsed, and amendment tracings are prepared.
15. 1:10,000 index diagrams is properly prepared and amended. Amendment tracing prepared.
16. Information given on tenement list agrees with field book and in accordance with requirements of cadastral surveys.
17. Extents given are correctly checked.
18. Completeness and the accuracy of the Surveyor's report.
19. Correctness of the Bill of Cost.
20. Comments on time estimates and achievements (with reasons for delay if any).
21. Coordinate values of sheet edges.
22. Soft copy and the hard copy of the Cadastral map agreed

Paragraph 21.85Annexure VIII**Form No. 1****Requisition for Surveys to subdivide / amalgamate lands for which Title Certificate are issued**

1. Owner / Owners name:
2. National Identity card number / numbers:
3. Addresses:
4. Whether the request is a subdivision or amalgamation:
5. The details of proposed land for Subdivision / amalgamation
 - (i) Location(a) District:
 - (b) Divisional Secretary Division:
 - (c) Grama Niladhari Division:
 - (d) Village or Town:
 - (e) Street and assessment number:
 - (ii) Cadastral Map number:
 - (iii) Parcel number / numbers of the land / lands:
 - (iv) Extent / extents of land:
 - (v) Details of permanent constructions, cultivations within the land:
 - (vi) How is the subdivision / amalgamation required:
6. Numbers of the Title Certificates:(copies annexed)
7. If there are land grants issued by the state for the land, the approval for subdivision from the Divisional Secretary is annexed / not annexed.
8. If amalgamation, agreements of all owners are annexed.
9. It is certified that there are no any court cases for this land / lands.
10. Other obligations and conditions for the land.
11. If the survey is to be done by a Registered Licensed Surveyor, His / Her name and Registration Number.

12. Agree to pay the Government Cost for the survey.

.....

Date

.....

Signature / s of the Claimant / s

13. Notes of the Registrar of Titles in the Land Registrar Office within the area of land

Until the plan after the survey for subdivisions / amalgamations requested by Mr. / Ms.
is submitted, the subsequent works on this land have been temporarily stopped

Name of the Registrar of Titles

Signature and date

Official stamp

Paragraph 21.87Annexure IX**Form No. 2****Requisition for Surveys to subdivide / amalgamate lands for which Title Certificate are
not issued**

1. Name of the Owner.
2. National Identity Card number.
3. Address.
.....
4. Whether the request is Subdivision / Amalgamation :
5. The detail information of the proposed lands for subdivision / amalgamation:
 - (i) Location
 - (a) District:
 - (b) Divisional Secretary Division:
 - (c) Grama Niladari Division:
 - (d) Village or Town:
 - (e) Street and Assessment Number:
 - (ii) Cadastral Map number:
 - (iii) Parcel number / numbers of allotment / allotments:
 - (iv) Extent / extents of the land:
 - (v) Details of permanent constructions, cultivations within the land:
 - (vi) How is the subdivision / amalgamation required:
6. If there are land grants issued by the state for the land, the approval for subdivision from the Divisional Secretary is annexed / not annexed.
7. It is certified that there are no any court cases for this land / lands.
8. Other obligations and conditions for the land.
9. If the survey is to be done by a Registered Licensed Surveyor, His / Her name and Registration Number.
10. Agree to pay the Government Cost for the survey.

.....

Date

.....

Signature of the Claimant

11. Complete only for the subdivision or amalgamation of lands for which cadastral maps have been prepared and actions are being taken for the issue of Title certificates.

Until the plan after the survey for subdivisions / amalgamations requested by Mr. / Ms.
is submitted, the works relevant to registration of ownership for this land is temporarily stopped.

Name of the Registrar of Titles:

Signature and date:

Official stamp

Paragraph 21.88Annexure X**Form No. 3****Requisition for Surveys to subdivide / amalgamate co-owned lands which have been surveyed together in view of non settlement of ownership**

1. Name of applicants	2. National Identity card number	3. Address

4. Whether the request is Subdivision / Amalgamation :
5. The detail information of the proposed lands for subdivision / amalgamation:
 - (ii) Location
 - (a) District:
 - (b) Divisional Secretary Division:
 - (c) Grama Niladari Division:
 - (d) Village or Town:
 - (e) Street and Assessment Number:
 - (ii) Cadastral Map number:
 - (vi) Parcel number / numbers of allotment / allotments:
 - (vii) Extent / extents of the land:
 - (viii) Details of permanent constructions, cultivations within the land:
 - (vi) How is the subdivision / amalgamation required:
6. If it is a state land, the approval for subdivision from the Divisional Secretary must be annexed.
7. It is certified that there are no any court cases for this land / lands.
8. Other obligations and conditions for the land.
9. The survey will be done by the Surveyor General / Registered Licensed Surveyor.
10. If the survey is to be done by a Registered Licensed Surveyor, His / Her name and Registration Number.
11. Agree to pay the Government Cost for the survey.

Name of applicants	Signature	Date

12. Notes by the Commissioner of Title Settlements

The Senior Superintendent of Surveys (..... District)

We have checked about this land. Until the plan after the survey for subdivisions amalgamations requested by Mr. / Ms. is submitted according to the annexed schedule, the works relevant to registration of ownership for this land is temporarily stopped.

Name of the Commissioner of Title Settlements

Signature and date

Official stamp

Paragraph 21.89

Annexure XI

Form No. 4

(Two copies to be completed)

Requests for Digital Data

District Senior Superintendent of Surveys,

I agree to do this survey after examining the original copies of the documents mentioned in the application after satisfying with the identity of the applicant.

Please release the digital data to me / applicant / messenger / by E-mail.

I certify that the digital data received under this application will be used only for this survey and/or to a survey necessary for other requirements connected to these land/lands. Also, a compact disc is submitted to copy the digital data.

.....

.....

Date

Name of Registered Licensed Surveyor & signature

Annual License number

Accreditation certificate number

For use in the District Survey Office

Reference number of the survey:

Issue of Digital Data

Issue the Digital Data

.....

Signature of Snr. Supdt. of Surveys / Supdt. of Surveys (Bimsaviya Unit) & Date

Receipt for Digital Data

The compact disc containing digital data of the relevant parcels received after examination.

Date

Name of the receiver & signature

Paragraph 21.97

Annexure XIII

Register for issue of Plan details in Cadastral Maps

(To be maintained for each block separately)

Cadastral map Number:

Block Number:

Village / Grama Niladhari Division:

Sheet Number	Parcel numbers	Tenement List page numbers	Surveyor's Name	Remarks	Signature of Supdt. of Surveys

[Paragraph 21.99](#)

[Para 21.109](#)

[Annexure XIV](#)

Paragraph 21.104Annexure XV**Form No. 6****Surveyor's Report for Subsequent Cadastral Surveys**

1. Village / Grama Niladari Division :
2. Divisional Secretary Division :
3. District :
4. Province :
5. Cadastral Map number: Block Number: Sheet number: Number of parcels:
6. Original parcel / s number / s Extent Total
7. New parcel number / sExtent Total
8. Tenement list page numbers :
9. Certified copies of used Field Notes are annexed.
Page number / numbers to in the file
10. Date / dates of Survey:
11. Amendment tracings are annexed.
12. The names of digital computer data files received from District Survey Office for original data
(i) Adjusted coordinate :-txt (ii) Drawing:-dwg
13. The names of new digital computer data files submitted to District Survey Office for new data
(i) Coordinate:- txt (ii) Drawingdxf
(iii) Tenement lists:-.....xls/xlsx (iv) Cad Plans Drawings:-dxf
14. Relevant digital data layers have been used for plan work.
15. Name / names of land owners :
16. Name / names of person / s pointed out the boundaries :
17. Number of new landmarks used Landmarks Permanent landmarks

Number of landmarks replaced Landmarks

18. The relevant notes have been entered in field notes for replaced landmarks.

19. Other remarks.

I state that the details given in No. 1 to 18 are correct.

Signature

Name of Registered Surveyor

Registration number:

Accreditation Certificate number:

Date:

Note: When submitting details above if the space is not sufficient use an additional paper giving the relevant number, certify it and annex to this.

[Paragraph 21.105](#)[Annexure XVI](#)

**Examination notes in the Survey Department for Subdivisions/Amalgamations
Surveys in Cadastral Maps**

Cadastral Plan Number:-

Block Number:-

Sheet number:-

Serial No.	Examination	Notes
01	Documents under 3.15 received	
02	Examined sheet Nos. and parcel Nos. with the letter issued by D. S. O	
03	C.M. No. and Block No., Sheet No., TL page No. correctly entered in documents. (From Plan, Tenement list, Field notes and Surveyor's report etc.)	
04	Following details in the plan and tenement list check with the Surveyor's Report	
	i. Village and Grama Niladhari Division	
	ii. Divisional Secretary Division	
	iii. District	
	iv. Province	
05	Agree with the outer boundary of old parcels in the new cadastral map	
06	Details of Abutting lands agree with the cadastral map	
07	Amendment tracings correctly prepared	
08	Following items are correct in the plan	
	i. Scale	
	ii. North line	
	iii. Sheet edge comparison	
	iv. Reference to adjoining sheets	
09	All parcels examined for the following items	
	i. Sufficient permanent control points are inserted for boundaries	
	ii. Boundaries in the plan and field notes are closed	
	iii. Joint mark have been inserted for internal boundaries	
	iv. Boundaries shown in field notes agree with the map	
	v. Boundary details given in field notes agree with the map	
	vi. Parcel numbers given in field notes agree with the map	
	vii. All the parcels are correctly numbered	
10	Notes are entered in field notes for replaced landmarks	
11	Following items in the tenement list examined with the plan	
	i. Parcel numbers	
	ii. Extent of parcels	
12	Following items in the tenement list examined with the field notes	
	i. Parcel number	
	ii. Name of land	
	iii. Details of buildings etc.	
	iv. Name of the claimant	

13	Examination of digital data	
	i. Correct data layers have been used	
	ii. Cadastral map agreeable with digital data	
	iii. Cadastral map files correctly numbered	
	iv. The use of coordinates correctly related to National Coordinate System	
14	Cadastral plans relevant to each parcel have been correctly prepared	
15	Checked the name and signature of the Surveyor in the plan, Tenement list and in the Report	

Above items have been examined

Name of the Superintendent of Surveys and Signature

Date:

Name of the Senior Superintendent of Surveys and Signature

Date:

Annexure XVII

Form No. 7

A Form to be used in the office of Registrar of Lands

Request for amalgamation / subdivision of a land Form No. 7

Title Registration Act No. 21 of 1992 (Section 36)

For office use only	
<p style="text-align: center;">Received</p> <p>Date : _____</p> <p>Time : _____</p> <p>Number : _____</p> <p>Cost : _____</p> <p>Title Certificate Number : _____</p> <p style="text-align: center;">.....</p> <p style="text-align: center;">Receiving Officer</p>	<p style="text-align: center;"><u>Registered</u></p> <p>Division : _____</p> <p>Volume : _____</p> <p>Folio : _____</p> <p style="text-align: center;">.....</p> <p style="text-align: center;">Registrar of Titles</p>

(To be completed in duplicate by the Registered Land Owners / owners}

1. To Registrar of Titles

District

Name / s of Owner / s	National Identity Card number / s	Address / es

2. Details of land to be amalgamated / subdivided :

- (i) Location
 - (a) District:
 - (b) Divisional Secretary Division:
 - (c) Grama Niladhari Division:
 - (d) Village or Town:
 - (e) Street and Assessment Number:
- (ii) Cadastral Map number / numbers:
- (iii) Parcel number / numbers of allotment / allotments:
- (iv) Reference notes on registration details
 - (a) Registration division :
 - (b) Number / s of volume / s:
 - (c) Folio number / s :
- (v) Number / s of Title Certificate / s:
- (vi) Extent of land:

3. Bindings for land / lands:

Nature of binding	Validity period

4. Claims for other lands

Diagram for amalgamation / subdivision (Attach the diagram)

- (i) Name of the Surveyor :
- (ii) Diagram number :
- (iii) Date of diagram:

5. Registration fee :

Bank receipt number / Receipt number:

6. I / We signed below and declare that, I am/ We are under the bindings described in section 3 above and the land/lands described in section 2 above has/have been registered in the Title Register under the Title Registration Act No. 21 of 1998, the bank receipt, receipts mentioned in section 5 above and, Title Certificates, and Survey Diagram are attached herewith. * I/We request to register the amalgamated/ subdivided land according to survey diagram mentioned in section 4 above in the Title Register.

Full name Names of owner / owners	Signatures and date

Copies :

To Superintendent of Surveys

.....District

CORRECTION SLIPS

CHAPTER XXII**DIGITAL DATA MANAGEMENT****INDEX**

D.S.R. Reference	Description	Page
	<u>Introduction</u>	
22.1.	Introduction to Digital Data Management	1
	<u>Collection of Digital data and Processing</u>	
22.2.	Equipment and software	
22.3.	Preparation of Digital coordinate file	
22.4.	Digital drawing file format and layers	
22.5.	Area Computation	
22.6.	Preparation of digital formed Tenement List	
	<u>Font Types and sizes used in Digital Plans</u>	
22.7.	Describing marginal and internal information	
	<u>Quality control of Digital Plan</u>	
22.8.	Checking for adjustment and correctness of traverses	
22.9.	Checking correctness of boundary point coordinates	
22.10.	Use of layout plan for printing all sections	
22.11.	Checking for data layers and extent of lots	
22.12.	Checking for sheet edge comparison	
22.13.	Completion of accurate plan	
	<u>Data storage in Divisional Survey Offices</u>	
22.14.	Archiving system for Data in Div. SO	
22.15.	Nominating sub folders for all Surveyors	
22.16.	Uploading plan data through TLDMS	
22.17.	Uploaded data should be used for plan checking by the Superintendent of Surveys	
22.18.	Meta Data file	
22.19.	Sending of amendments to surveyors and downloading final plan data for approval through TLDMS by Snr. Supdt. of Surveys	
22.20.	Uploading of approved plan data by Snr. Supdt. of Surveys	
	<u>Digital data storage and Security</u>	
22.21.	Protecting system of Data at District Survey Office	
22.22.	Data archiving system in subfolders	
	<u>Sending Digital Data to Land Information System branch</u>	
22.23.	Approving and uploading of final plan digital data	
22.24.	Data processing of cadastral plans should be done in district level	
22.25.	Procedure of Data processing	
22.26.	Method of sending processed data to LIS Branch	
22.27.	Method of sending Geodatabase file to LIS branch	
22.28.	Set of data files to be included in processed data	
	<u>Sending data for several plans prepared under a survey requisition</u>	
22.29.	Sending digital data for several plans prepared under a survey	

D.S.R. Reference	Description	Page
	requisition	
	<u>Archiving data folder backup</u>	
22.30.	Storing systems of backup data files	
22.31.	Surveyor's responsibility on securing digital data files	
22.32.	Storing digital data in DSO and sending stored data to Document management and Professional Standard branch in Head Office	
22.33.	Maintaining a CDs information database in DSO	
22.34.	Storing of all Cadastral subsequent survey Map digital data using CDs	
22.35.	Referencing for the subsequent survey information in original digital data file	
22.36.	Sending copies of digital data of subsequent surveys to LIS Branch and other departments.	
	<u>Database for Survey Requisition Information Management System</u>	
22.37.	Functions of SRIMS database	
	<u>Scanning of old quarter field sheets and use of scanned soft copies</u>	
22.38.	Scanning of Plan sheets and Tenement List pages	
22.39.	Numbering & storing system of scanned soft copies	
22.40.	Maintaining a separate database using TLDMS for storing soft copies of scanned plans	
22.41.	Issuing system of scanned plans soft copies to other institutions and personals	
22.42.	Uploading scanned data of approved plans using SRIMS database	
22.43.	Updating indexes of scan image database and ADITS software should be done by the in charge officer of the district Document section on instructions of Snr. Supdt. of Surveys / Supdt. of Surveys (Head Quarters)	
	<u>System of using scanned soft copies</u>	
22.44.	Errors and acceptance level of scanned images	
	<u>Scanning of old field sheets in Document Management & Professional Standard branch</u>	
22.45.	Scanning of old field sheets and sending a soft copy of scanned data to District Survey office	
	Annexures	
<u>Annexure I</u>	Meta data file for digital drawing	
<u>Annexure II</u>	Naming system of digital drawing files and Meta data file	
<u>Annexure III</u>	Procedure of processing digital data	
<u>Annexure IV(i)</u>	Specimen Ledger Page for CDs of Digital Drawings – F.V.P.	
<u>Annexure IV(ii)</u>	Specimen Ledger Page for CDs of Digital Drawings – P.P.	
<u>Annexure IV(iii)</u>	Specimen Ledger Page for CDs of Digital Drawings – F.T.P.	
<u>Annexure IV(iv)</u>	Specimen Ledger Page for CDs of Digital Drawings – Tracing, Court commission and Engineering surveys	
<u>Annexure V</u>	Image File Names for Quarter Field Sheets	
<u>Annexure VI</u>	Specimen Ledger Page for CDs of Scanned Images	

CHAPTER XXII

DIGITAL DATA MANAGEMENT

Introduction

- 22.1. It is a responsibility of the Surveyor General to create and maintain a Land Information System for the whole country under the Land Survey Act No. 17 of 2012 and for that purpose digital data produced in field surveys have to be collected, processed, updated and archived systematically. Accordingly all digital survey plans should be prepared according to the guidelines given in this chapter. Therefore, supervising officers and surveyors should acquire required knowledge for data collection, manipulation, processing and preparation of survey plans in digital form.

This chapter covers the following areas.

- i. Equipment and Software
- ii. Field Investigation and Data Collection
- iii. Building up Digital Drawing
- iv. Quality Control in Digital Drawing
- v. Data Storage, Security and Back up
- vi. Database of Survey Requisitions
- vii. Scanning of old field sheets and usage of images

Collection Digital data and Processing

- 22.2. All field survey equipment used for collection field data in digital form should be in good working condition and calibrated annually.

Digital data collection, processing and producing digital plans should be done using the software provided by the Survey Department.

- 22.3. In surveys that Total stations are used digital coordinate file has to be prepared in the format of PNEZC for preparation of digital plan. If conventional method is used, digital plan has to be prepared from original field notes. In both instances digital coordinate file has to be prepared in the format of PNEZC.
- 22.4. The digital drawing should be in DXF format. All drawing features should be organized into the relevant layers given in the [Annexure X in Chapter XI](#).
- 22.5. Area Computation has been detailed in Chapter XIII.
- 22.6. Tenement list has to be prepared in digital form using the software provided by the Department. Printout of the tenement list should be obtained using the same software.

Font types and sizes used in Digital Plans

- 22.7. To [annotate detail of a plan](#) in English, Sinhala or Tamil, the font types, Romans.shx, SD Sinhala.ttf or SD Tamil.ttf should be used and respective font sizes are given in the following table, for a plan at 1:1000 scale. According to the plan scale, font sizes should be changed, by multiplying font height with the scale factor. Oblique angle for all fonts should be 17 degrees with the vertical.

Feature	Font height in digital drawing for 1:1,000 plan		
	Romans.shx (Lower case)	SD Sinhala.ttf	SD Tamil.ttf
1. District prefix, Plan No.	4.5	3.5	3.5
2. Supplement No., Sheet No. Inset No. Large streams Scale	3.3	2.5	2.5
3. Village D.S. Division District Province Abutting Village Name	3.8	2.5	2.5
4. Lot numbers, Description of cultivation	2.4	2.0	2.0
5. Direction of roads and paths	3.0	2.0	2.0
6. Abutting descriptions, TP, PP references Small streams, Buildings, Boundary marks	2.6	1.7	1.7
7. Boundary descriptions	2.0	1.4	1.4

Quality Control of Digital Plans

- 22.8.** Superintendent of Surveys should check the accuracy of the closed position and adjustment according to the field notes. The lengths and bearings of the traverse should be checked with the relevant field notes.
- 22.9.** Coordinates of boundary points (at least 10%) should be compared with the coordinate values given in the field book. If the digital drawing is generated from a survey carried out by conventional method, digital drawing should be compared with the field notes. Endorsement should be made in the field books regarding the checks carried out by the Superintendent of Surveys.
- 22.10.** If a plan consists of several sections, layouts should be used for printing each section and separate drawing files should not be prepared for each section. Repeating lot numbers, arrows, boundary descriptions, section lines and other details should only be placed in separate layers as shown in Annexure X of Chapter XI.
- 22.11.** Digital plan should be checked by the Superintendent of Surveys to verify that detail in the digital plan are in correct data layers and computed extents are correctly entered to TLDMS. QGIS SL Cadastre plug-in and CAD tools provided by the Survey Department should be used for this process and generated reports should be filed with the requisition.

- 22.12.** Edge comparison tracings should be prepared for the sections to compare edge matching and those tracings should be placed in the requisition file with the endorsement of the surveyor and check by the Superintendent of Surveys.
- 22.13.** Completeness and correctness of the plan should be checked according to Department Survey Regulation. Superintendent of Surveys is responsible for correctly naming final drawing file & Metadata file as given in [Annexure I](#) and according to 22.14 - 22.22 paragraphs. Any amendments pointed out by the Superintendent of Surveys should be incorporated in the final drawing.

Data Storage in Divisional Survey Offices

- 22.14.** All the digital data related to the survey should be securely archived in Divisional Survey Office for easy reference following the procedures given below. Three sub-folders, namely; <Work in Progress>, <Survey Work> & <Completed work> should be opened in the internal hard drive-D of the computer assigned to the Divisional Survey Office.
- 22.15.** In data archiving, the surveyor should open a sub-folder naming with his initials under folder; <Work in Progress> (eg:- HAAR-GS, PMS-LS). In this folder, another sub folder is created with the name of Requisition number and two sub-folders namely; <Data> & <Drawings> should be opened for storing all the digital data and drawings connected to particular requisition. Data used for fixation (Fixed Data) also should be kept in <Data> folder.
- 22.16.** Make a new folder under the requisition number folder and name it with the name of dxg drawing, copy <Data> and <Drawings> sub folders to the same and compress to rar/zip format. While sending the TL of statutory survey plans to the Superintendent of Surveys, above rar/zip folder should be uploaded through TLDMS. This data file should be correctly named as [Annexure II](#) as the file is numbered.
The digital data of the plan to be checked by the surveyor and verified the accuracy using the QGIS 2.18 software in the plugin menu using the SL Cadastre tool. Automatically generated report (.txt) must be uploaded in addition to the above data.
- 22.17.** Superintendent of Surveys should only examine the statutory Plans and TLs uploaded through TLDMS.
- 22.18.** Metadata file related to the plan is auto generated using the information in TLDMS. Any information not available in TLDMS has to be manually input to the metadata file by the surveyor. Metadata file to each plan will be stored in TLDMS.
- 22.19.** Any amendments found in statutory plans and tenement lists by the Senior Superintendent of Surveys should be returned to the concerned surveyor through the Superintendent of Surveys using TLDMS. After the amendment is completed, the final data should be sent to the Senior Superintendent of Surveys through the Superintendent of Surveys within the TLDMS database.
- 22.20.** On approving of a survey requisition by the Senior Superintendent of Surveys relevant rar/zip folder should be uploaded through TLDMS. Once the uploaded file is returned to the system, the system will assign a specific file name. Simultaneously, it is compulsory to store these final data in the District Survey Offices.

Digital data storage and Security

22.21. The Senior Superintendent of Surveys should open a sub-folder for the respective <Year> under the sub-folder <Data Archive> and further sub-folders should be opened for each <Plan Type> under the <Year> folder. The zip/rar file that contains data of an approved requisition by the Snr. S.S. should be stored under the correct <Plan Type> folder in a respective subfolder with the name of <Requisition No.> as shown in paragraph 22.22.

22.22. Data archive in subfolders should be as follows.

Sub-folder Name	Data/Content
< Work in Progress>	Subfolders created on Surveyor's Name
<Survey Work>	Contains only Subfolders for each Survey Requisition.
<Data Achieve>	"Year" Subfolders & Only Subfolders for each "Plan Type" under respective "Year"
<Plan Type> eg:-< FVP>< FTP ><Topo PP >< PP ><CM><.....>	Only the subfolders for each "Requisition No"
< Requisition No> District/DSD/Year/Serial No eg:- Co/HMG/2011/235	The zip / rar file downloaded from the TLDMS system in relation to the passed survey requisition.
<Data>	<p>Folder Name: e.g. 1. <Data_52PPlanCO3234> 2. <Data_52FVP14Sup23Sh24 (eg:-in Colombo District)</p> <ol style="list-style-type: none"> 1. Data observed by Total Station equipment and 2. Four data files formed on adjusting of observed data in SD CAD <p>These datafiles should be numbered to include the Requisition number as follows; eg:- Datafile-1, connected with Req. No. 2013/24</p> <p>Data for observed detail survey cod- requisition Number eg:- cod_2013_24_1 Traverse Data (with detail survey) Trv- requisition Number eg:-Trv_2013_24_1</p> <p>four Datafiles on adjustment through software Trv_2013_24_1_Adjcoods-Trv&Pnts Trv_2013_24_1_AdjTrvCoods Trv_2013_24_1_Len&Obs.bearing Trv_2013_24_1_ObservedPt.coods</p> <ol style="list-style-type: none"> 3. Data files prepared for old surveys (eg:- OLD_2013_24_1 etc.) 4. Coordinate file extracted from final plan

	<p>eg:- 11FTP8In5Sh12.xls or 11FTP8In5Sh12.csv or 11FTP8In5Sh12.txt</p> <p>5. Plan with all the fixation data (scan image not required) eg:- fix11FTP7In5Sh12.dxf</p> <p>In addition to standard layers, Fixation data for each plan should be saved in separate new layers eg:- PPCO6575_Fixed data,CM52004b11sh2_Fixed data ,...etc.</p>
<Drawings>	<ol style="list-style-type: none"> 1. Named final Plan (Include only the Standarded Layers) eg :- 11FTP7In5Sh12.dxf (see the annexure II for details) 2. Extent of the lots Extent11FTP8In5Sh12.txt 3. Cad Plans (Only for Cadastral Maps) 310015010013.xxx, 310015010014.xxx, 310015010015.xxx etc. (xxx – Format shuld be as requested by the Land Registry office. dxf/dwg....) 4. 1:10,000 index diagram(Only for Cadastral Maps) 31001501sh1_10000.dxf 5. Quality Control reports generated through QGIS and CAD tools.

[Sending Digital Data to Land Information System branch](#)

- 22.23.** Approving of the Tenement list within the TLDMS system is the responsibility of the Senior Superintendent of Surveys. At this point all digital data files connected to the plan referred in paragraph 22.16 should be uploaded to TLDMS. Those rar/zip files to be downloaded by LIS branch through SRIMS.
- 22.24.** Digital data related to the cadastral plans produced by each district should be processed at the district level to suite LIS updating. At the same time it is compulsory to archive such processed data in District Survey Offices as well.
- 22.25.** Digital Plans (xxxxxx.dxf) received at district survey offices, should be cleaned and processed to make geodatabase and shape files using the software provided by the survey department. Technical instruction required for such data processing has been provided in [Annexure III](#).
- 22.26.** Data processed accordingly should be submitted to LIS branch in two ways, through ARCGIS Server and SRIMS.
- 22.27.** Prepared Geodatabase folder should be sent to LIS branch through Feature Service in ARCGIS Server.

22.28. The following processed data files copied to a new folder with the name of <Plan Number> (E.g. <52005613sh01>) should be compressed into zip/rar format and sent to LIS branch through SRIMS.

- Cleaned DXF
 - E.g (Colombo District 52005613Sh01-cln.dxf)
- Geodatabase File (E.g. 52005613.gdb)
- Shape File Folder (E.g. 52005613)

Finally, it is mandatory to store the processed data in the District Survey Offices.

[Sending data for several plans prepared under a survey requisition](#)

22.29. In case two or more plans are to be prepared under a one survey requisition, relevant data of each plan should be uploaded through TLDMS together with TL information and data related to Cadastral plans should be downloaded and processed at the District Survey Office as described in paragraph 22.25.

[Archiving data folder Backup](#)

22.30. In digital data management, it is very important to systematically save data files and to have an extra copy of the same data set in a separate reliable computer media since digital media are volatile. These data should be properly named and documented to search conveniently, in future.

IT branch is responsible to have a backup of TLDMS data once in two days.

22.31. Surveyor is responsible for the security of all digital data of a requisition till it is fully completed. Hence steps should be taken to save backups of the data in a different computer in the Divisional Survey Office as well as in an external reliable device.

22.32. District Senior Superintendent of Surveys is responsible for backup archiving of all the data folders copied in computer hard drives to compact discs (CD) and they should be numbered on serial order with respective district prefix (eg:- Maha 23 SUR). Folders in different types of surveys <FVP/FTP/CM> may be archived in a single CD. When a CD is fully completed with data folders, it should be copied into a new CD and sent to the Document Management and Professional Standard branch in the head office. The information relevant to each CD should be maintained in a ledger as detailed in the [Annexure IV](#). The serial number of the CD should be stated in both the registers; issuing the Last lot Particulars and Plan certification, which are maintained in District Survey Office.

22.33. The data files archived in computer hard disk in the District Survey Office, should be copied to external hard disk and they should be archived in secure manner. A Database inclusive of all the relevant data in each CD (CD No, Requisition No, Plan Type, Plan No. etc.) should be maintained in District Survey Office. Senior Superintendent of Surveys, prior to issue of plan copies, should ensure that all the relevant digital data had been copied to the CD.

22.34. Since, there can be a large number of subsequent surveys in cadastral map areas, numbering the CD, referring to relevant Cadastral map and archiving them in order of the cadastral map number, would privilege to conduct the subsequent surveys systematically.

22.35. The parent lots in the original digital “dwg” drawing files maintained by the District Senior Superintendent of Surveys, which have been taken for subsequent surveys, should be coloured for easy identification. The digital drawing of the new subsequent survey data file

should be recorded in a separate layer in the original digital drawing and the layer should be named as “TEXT-SUBS”. The stages of subsequent surveys should be denoted in each data layer by naming the same layers such as; TEXT-SUBS1, TEXT-SUBS2 ---- etc. The digital drawing, which contains original data, will be updated by adapting the detailed procedure.

- 22.36. The digital data of subsequent surveys should also be archived in District Survey Office. Tenement List should be prepared through the software provided and it should be transmitted to the Land Information System. In accordance with the section 36(3) of the Title Registration Act, copies should be issued from the amended plan for issue of title certificate. Certified digital copy of the subsequent survey should be used for this purpose. The same certified digital plan copy should be used for issuing copies to both Title Settlement Commissioner and Title Registration Commissioner.

Database for Survey Requisition Information Management System

- 22.37. After numbering of all survey requisitions by the Survey Requisition Information Management System (SRIMS), submitting Survey Requisitions from District Survey Offices to the Divisional Survey Offices, issuing survey requisitions to Surveyors by Superintendent of Surveys, updating information on the progress and work details of the Survey Requisition, all such work should be done through SRIMS system. Details are given in Chapter IV in this regard.

Scanning of old quarter field sheets and their uses

- 22.38. Originals of Quarter Field Sheets and the Tenement Lists are scanned in the District Survey Offices using the software provided by the Department. Photocopies of the documents should not be used for scanning.

The scanned soft copies should be numbered in accordance with the [Annexure V](#). (on scanning of the document, the name assigned for the same soft copy will automatically be given by the software).

- 22.39. The scanned soft copies should be saved in CD and the same CD should be serially numbered under District prefix starting from number 1.

Eg:- Compact Disks (CD) in Kandy District; Maha CD 1, Maha CD 2 etc.

These CD should be stored in District Survey Offices. A separate Register for these CD should be prepared and maintained properly. (See the [Annexure VI](#) for specimen of ledger page)

- 22.40. The CD, which contains the scanned field sheets, should be treated as property of the Department. Issuing the copies of these CD to external institutions and requested public should be followed by the instructions approved by the Surveyor General.

- 22.41. A separate database for the soft copies of scanned field sheets should be maintained using the TLDMS provided by the Department. The information about each soft copy and the details of each CD contains the soft copies etc. should be recorded in the database. Hence, it is important to keep secured backup copies of this database in the DM&PS branch of the SGO.

- 22.42. Scanned data pertaining to the approved plans must be uploaded through the SRIMS database.

- 22.43. The District Senior Superintendent of Surveys should take necessary actions to use the mechanism, which has been already introduced, to avail privileges for general public to view

the scanned plans through the Internet. The assistance of the Superintendent of Surveys (Headquarters), officer in charge of the document room and the IT technician should be availed for this task. Since It is greatly important to update the indexes of “ScanImage” and the “ADITS” software provided by the Department with scanning of all the plans, enabling them to release to view through the Internet, the officer in charge of the document room and the IT technician should follow the proceedings upon the instructions of the District Senior Superintendent of Surveys/Superintendent of Surveys (Headquarters).

System of using the Scanned Soft Copies

- 22.44. Scanned soft copies would be affected with geometrical distortions due to the erroneous effects of the camera of the scanner. Most of these distortions are uniform geometric errors and they can be corrected in few preparations. However, irregular geometrical deviations cannot be corrected in such a simple proceeding. The differences and the quantities of these geometrical errors can only be measured on complete rectification of the images. If the rectification cannot be accepted, a new methodology should be adapted for proper rectification. If the rectified image is not in acceptable condition, action should be taken to re-scan the field sheet. The scanned soft copies with applying geometrical corrections can be used for any purpose. The software tools for rectification of scanned plans are provided by the Department.

Scanning of old field sheets in Document Management & Professional Standard branch

- 22.45. Actions should be taken to scan the old field sheets larger than A3 in size, which are available in the District Survey Offices, at the Document Management & Professional Standard branch in SGO.

Scanning the originals of the old plans also should be archived in DM & PS branch, and the soft copies of the same should be issued to relevant district offices. These scanned softcopies should not be issued to any external institutions and requested public without a prior approval of the Surveyor General. All the copies of scanned plans should be securely archived in backup storages as detailed in paragraph 22.39.

[Paragraph 22.13](#)[Annexure I](#)

අංකිත පිඹුරුවල පෙර දත්ත පත්‍රය

Meta Data File for Digital Drawings

(Drawing file names given in annex-2 should be used for Meta data files will the extension.xls or .xlsx eg. 82FTP57sup31sh42.xls)

1. Main Information	
1.1 Survey Requisition No:	CO/DSO/2018/864
1.2 Purpose of survey:	PP CO. 9724 Lot 131sup TL
1.3. Plan No:	Plan No : 9724
	Block No : 00
	Sheet No : 0000
	Inset No : 0000
	Sup No : 0000
1.4 Digital Drawing Name:	-
1.5 Folder Name:	-
2. Survey Information	
2.1 Period of Survey:	From 2019/3 To 2019/4
2.2 Method of Survey (Total Station, Conventional, etc;):	
2.3 Method used to convert old data/Plans (Scanning and digitizing, Recompilations etc;) :	
2.4 Coordinate System:	
2.5 Name of Survey:	A.S.Silva
2.6 Name of Supdt. Of Survey:	
3. Other Important Remarks	
3.1	
3.2 Meta Data File Created By:	Name: A.S. Silva
	Designation: Registered Government Surveyor

Paragraph 22.16Annexure IINaming system for Digital Drawing Files and Meta Data Files

Unique naming system has to be adopted for easy reference and manipulation of digital files. Following system will assign unique name for each digital drawing. Examples are also given for naming Digital drawings and related Meta data and TL database files.

1. Preliminary Plans

District Code	Plan Type	Plan Number
XX	PPlan	P. Plan number with district prefix

eg: PP CO 3234 in Colombo district
 Drawing file name: 52PPlanCO3234.dxf
 Meta data file name: 52PPlanCO3234.txt
 TL data file name: 52PPlanCO3234.mdb

2. Cadastral Maps

District Code	CM No.	Block Number	Sheet No.
XX	XXXX	XX	sh+sheet number

eg: Sheet 4 of Block 3 in cadastral map 27 in Anuradhapura district
 Drawing file name: 11002703sh4.dxf
 Meta data file name: 11002703sh4.txt
 TL data file name: 11002703sh4.mdb

3. Insets

District Code	Plan Type	Plan No.	Inset No.	Sheet No.
XX	FTP	.....	In+Inset number	sh+sheet number
XX	TopoPP	.....	In+Inset number	sh+sheet number

eg: Inset 5 (sheet12) of FTP 7 in Ratnapura district
 Drawing file name: 62FTP7In5sh12.dxf
 Meta data file name: 62FTP7In5sh12.txt
 TL data file name: 62FTP7In5sh12.mdb

4. Supplements

District Code	Plan type	Plan No.	Sup No.	Sheet No.
XX	FVP	.....	sup+sup number	sh+sheet number
XX	FTP	.....	sup+sup number	sh+sheet number

eg: Supplement 31(sheet 42) of FTP 57 in Matara district
 Drawing file name: 82FTP57sup31sh42.dxf
 Meta data file name: 82FTP57sup31sh42.txt
 TL data file name: 82FTP57sup31sh42.mdb

5. Court Commission surveys

District Code	Plan type	Requisition No.(Year-number)
XX	Court	Year+Requisition number

eg: Court commission surveys (Requisition no. 234 of 2007 in Kalutara district)
 Drawing file name: 53Court2007234.dxf
 Meta data file name: 53Court2007234.txt

6. Engineering Surveys

District Code **Plan type** **Requisition No.(Year-number)**
 XX Eng Year+Requisition number
 eg: Engineering survey (Requisition no. 512 of 2008 in Kalutara district)
 Drawing file name: 53Eng2008512.dxf
 Meta data file name: 53Eng2008512.txt

7. Tracings

District Code **Plan type** **Requisition No.(Year-number)**
 XX Tra Year+Requisition number
 eg: Tracings (Requisition no. 402 of 2007 in Puttlam district)
 Drawing file name: 41Tra2007402.dxf
 Meta data file name: 41Tra2007402.txt

District: District is defined with two digits. Code assigned to each district is given below.

North Central Province		North Western Province	
Anuradhapura	11	Puttlam	41
Polonnaruwa	12	Kurunegala	42
Northern Province		Western Province	
Jaffna	91	Gampaha	51
Killinochchi	92	Colombo	52
Mullaittivu	93	Kalutara	53
Mannar	24		
Vavuniya	95	Sabaragamuwa Province	
Eastern Province		Kegalle	61
Trincomalee	26	Ratnapura	62
Batticaloa	27	Uva Province	
Ampara	28	Badulla	71
Central Province		Moneragala	72
Matale	31	Southern Province	
Kandy	32	Galle	81
Nuwara Eliya	33	Matara	82
		Hambantota	83

[Paragraph 22.25](#)[Annexure III](#)**The process of processing digital data**

- Check the coordinates of the Cadastral Plan and save it in 8 characters. Eg:- 51189301.dxf
- Must have approved the Tenement List (TLdb)
- Using Arcmap software, add the completed SHT_PG in the district, and add the prepared dxf to it and check for gaps and overlaps between the perimeter of the plan and the old SHT_PG.
- Reconfigure the plan according to the layers in Annexure X of Chapter XI.
- When the perimeter of the plan is taken in half the area of a canal or road for survey of the area it should be taken from the adjoining plan. Otherwise boundary must be completed under the VIR-CLOSELINE layer.
- Each Lot Number in the TEXT-LOT layer must be prepared and copied into the new LOTNO layer, and all the Lot Numbers in the same layer must be located within the parcel.
- Open all the layers of the plan and save it in DXF format.
- Process the plan using the software provided in the Land Information Systems Branch. Use SLD99 SriLanka Grid 1999 as the coordinate system.
- After processing, check whether CMXXXXXXXXline, CMXXXXXXXXpoint, CMXXXXXXXXPoly, KXXXXXXXXPoly are created. You can also create CMXXXXXXXXOBJline and CMXXXXXXXXOBJpoly
- Check the gaps and overlaps between Kpoly and Old District SHT_PG using Topology Rules using Arc Map software.
- Only TL's prepared without Unicode should be converted to Unicode by the Converter Tool.
- Create Server connection using District Username and Password through Arc Connection → GIS Servers → Add ArcGIS Server.
- Create a local copy of the Feature service for the district in its LIS-DST using "create local copy for editing tool". Load a list of processed data and converted TL information.
- Finally send it to the Land Information System server using "synchronize Local Edits with Server Tool".

[Paragraph 22.32](#)[Annexure IV\(i\)](#)

Specimen Ledger Page for CDs of Digital Drawings – P. Plans

Requisition No.	P.Plan No.	CD No.	Signature of subject officer

Specimen Ledger Page for CDs of Digital Drawings - FTP
(Maintain separate page for each FTP)

FTP No.:

Requisition No.	Inset No.	Sup No.	Sheet No	CD No.	Signature of subject officer

**Specimen Ledger Page for CDs of Digital Drawings
Tracings, Court commission, Engineering Surveys**

Requisition No.	Plan No.	CD No.	Signature of subject officer

Image File Names for Quarter Field Sheets

(“*Survey Image*” software automatically creates these file names according to the values defined for Plan no., Inset no., Sup no. etc ;)

- **FVP, FVP Supplements and FVP Sheets :-**

FVP_< District>< number>_Sec<number>

FVP MAHA432

FVP MAHA432 Sec2

FVP_< District>< number>_Sup<number>_Sec<number>

FVP MAHA432 Sup3

FVP MAHA23 Sup27 Sec4

- **FVP TLs:-**

FVP_<District><number>_TL<number>

FVP MAHA23 TL46

- **FCP, FCP Supplements :-**

FCP_<number>_Sec<number>

FCP MAHA25

FCP MAHA25 Sec5

FCP_<number>_Sup<number>_Sec<number>

FCP MAHA25 Sup12

FCP MAHA25 Sup12 Sec3

- **FCP TLs:-**

FCP_<number>_TL<number>

FCP MAHA25 TL56

- **FUP and FUP Supplements :-**

FUP_<number>_Sec<number>

FUP MAHA25

FUP MAHA25 Sec5

FUP_<number>_Sup<number>_Sec<number>

FUP MAHA25 Sup12

FUP MAHA25 Sup12 Sec3

- **FUP TLs:-**

FUP_<number>_TL<number>

FUP MAHA25 TL56

- **P. Plans:-**

PPlan_<number>_Sec<number>

PPlan MAHA234

PPlan MAHA345 Sec2

- **P. Plan TLs:-**

PPlan_<number>_TL<number>

PPlan CO345 TL23

- **Topo PPs, Insets and Supplements:-**

TopoPP_<District><number>_Sec<number>

TopoPP GAM7

TopoPP GAM7 Sec12

TopoPP_<District><number>_Inset<number>_Sec<number>

TopoPP GAM7 Inset6

TopoPP GAM23 Inset6 Sec12

TopoPP_<District><number>_Sup<number>_Sec<number>

TopoPP GAM23 Sup6

TopoPP GAM23 Sup6 Sec12

- **Topo PP TLs:-**

TopoPP_ <District> <number>_Inset<number>_TL <number>

TopoPP GAM23 Inset6 TL12

- **FTPs, Insets and Supplements:-**

FTP_ <District><number>_Sec <number>

FTP PO7

FTP PO7 Sec2

FTP_ <District >< number>_Inset<number>_Sec <number>

FTP PO7 Inset3

FTP PO23 Inset6 Sec12

FTP_ <District><number>_Sup<number>_Sec <number>

FTP PO35 Sup23

FTP PO3 Sup6 Sec3

- **FTP TLs:-**

FTP_ <District><number>_TL <number>

FTP PO23 TL12

- **Cadastral Maps:-**

CM_ <number>_B<number>_Sh<number>_Sec <number>

CM 521234 B2 Sh4

CM 521234 B2 Sh4 Sec3

- **Cadastral Map TLs:-**

CM_ <number>_B<number>_Sh<number>_TL <number>

CM 521234 B2 Sh4 TL23

- **VP and VP Supplements :-**

VP_ <District><number>_Sec <number>

VP PO432

VP PO432 Sec2

VP_ <District><number>_Sup<number>_Sec <number>

VP PO432 Sup3

VP PO23 Sup27 Sec4

- **VP TLs:-**

VP_<District><number>_TL<number>
FVP PO23 TL46

- **FSPP and FSPP Supplements :-**

FSPP_<District><number>_Sec<number>

FSPP MAHA432

FSPP MAHA432 Sec2

FSPP_<District><number>_Sup<number>_Sec<number>

FSPP MAHA432 Sup3

FSPP MAHA23 Sup27 Sec4

- **FSPP TLs:-**

FSPP_<District><number>_TL<number>

FSPP MAHA23 TL46

- **FSP and FSP Supplements :-**

FSP_<District><number>_Sec<number>

FSP MAHA432

FSP MAHA432 Sec2

FSP_<District><number>_Sup<number>_Sec<number>

FSP MAHA432 Sup3

FSP MAHA23 Sup27 Sec4

- **FSP TLs:-**

FSP_<District><number>_TL<number>

FSP MAHA23 TL46

- **ISPP and ISPP Supplements :-**

ISPP_<District><number>_Sec<number>

ISPP MAHA432

ISPP MAHA432 Sec2

ISPP_<District><number>_Sup<number>_Sec<number>

ISPP MAHA432 Sup3

ISPP MAHA23 Sup27 Sec4

- **ISPP TLs:-**

ISPP_<District><number>_TL<number>

ISPP MAHA23 TL46

- **Colony Plans and CP Supplements :-**

CP_< number>_Sec<number>

CP MAHA432

CP MAHA432 Sec2

CP_< number>_Sup<number>_Sec<number>

CP MAHA432 Sup3

CP MAHA23 Sup27 Sec4

- **CP TLs:-**

CP_< number>_TL<number>

CP MAHA23 TL46

- **Misc Plans :-**

<Plan Type>_<District><number>_Sh<Number>_Sec<number>

XXXX GAM423 Sh12

XXXX GAM423 Sh12 Sec2

- **Misc plan TLs:-**

<Plan Type>_<District><number>_Sh<Number>_TL<number>

XXXX GAM23 Sh12 TL46

- **Coordinate Sheets :-**

<Traverse Number>_Sh<Number>

PT 23/1967 Sh12

- If there is any plan only with Sheet number without Inset or Supplement numbers, then the image name may be defined as follows.
 - eg: FVP Sheets :-

FVP_< District>< number>_Sh<number>_Sec<number>

FVP MAHA432 Sh3

FVP MAHA23 Sh27 Sec4

CORRECTION SLIPS

