SARAWAK MULTIMEDIA AUTHORITY

TELECOMMUNICATION PROCESS, PROCEDURE & GUIDELINE IN SARAWAK

KEMENTERIAN PEMBANGUNAN BANDAR DAN SUMBER ASLI SARAWAK

The Telecommunication Process, Procedure & Guideline in Sarawak was approved by the State Planning Authority on the 27.11.2019 and shall take immediate effect on 09.06.2020

Ref. No : 36/KPBSA/SPA/6-39/263 (VOL.5)

(DATU SR. ZAIDI BIN MAHDI)
SECRETARY TO SPA

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1. OBJECTIVES

a) To have telecommunication as a basic necessity whereby any new development in the state of Sarawak shall include or earmark for Telecommunication infrastructures and fiber readiness for all buildings and premises;

b) To ensure telecommunication infrastructures are constructed in a proper manner in accordance with any written law for the time being in force;

c) To ensure that all towers and structures for new site are constructed in accordance with the State Telecommunication policies for accountability, economy impact, efficiency, effectiveness, transparency, integrity, safety and health;

d) To minimize adverse land use impacts of Telecommunications Facility;

e) Enabling, promoting and enforcing common Infrastructure sharing on Telecommunication facility;

f) To add aesthetic values in the construction of telecommunication infrastructure.

2. SCOPE

This procedure defines the actions and responsibilities of the Applicants, the Authority and the relevant agencies who are responsible in the process of and not limited to: -

a) land acquisition
b) approval and justification of land use
c) site layout design
d) structural use
e) tower or structures design approval
f) advise or justification from the local authorities for the use of land which shall be constructed with telecommunication tower or structures regardless of type and heights.

3. RESPONSIBILITY

Respective agencies are responsible to the respective activities covered in this process document are unless otherwise specified.

4. DEFINITION

The following terms shall have the meanings assigned to them unless stated otherwise:

Authority	:	Sarawak Multimedia Authority
AVTC	:	Application for Variation of Title Condition
BDA	:	Bintulu Development Authority
CAAM	:	Civil Aviation Authority of Malaysia
DBKU	:	Dewan Bandaraya Kuching Utara
EPU	:	Economic Planning Unit
JKR	:	Jabatan Kerja Raya Department, Sarawak
LA	:	Local Authorities
L&S	:	Land & Survey Department, Sarawak
MBKS	:	Majlis Bandaraya Kuching Selatan
MLGH	:	Ministry of Local Government and Housing
MuDeNR	:	Ministry of Urban Development and Natural Resource
MOU	:	Ministry of Utilities
NCR	:	Native Customary Rights
NFP	:	Network Facility Provider
NSP	:	Network Service Provider
RECODA	:	Regional Corridor Development Authority
RoW	:	Right of Way
SMA	:	Sarawak Multimedia Authority
SPA	:	State Planning Authority
UPKJ	:	Unit Pendaftaran Kontraktor & Juruperunding

5. PROCEDURE SUMMARY FOR TOWERS AND STRUCTURES

Refer to Siting Application for Tower and Structure process flow as attached in appendix A.

6. PROCEDURAL DETAIL FOR TOWERS AND STRUCTURES

Refer to Siting Application for Tower and Structure process detail as attached in appendix B.

7. SET BACK REQUIREMENT FOR TOWERS AND STRUCTURES

The minimum distance allowable between each tower is 500 meters apart (air distance) but anything below shall require SMA's approval. The minimum setbacks for all 30 metres and above type of telecommunication tower from different type of road should be measured from the base to the road reserve boundary as follows: -

Road type	**Road reserve width**	**Minimum setback** (from the edge of road reserve to the centre of the tower structure)
Protocol Road	Designated by Government	25m or half of tower height whichever is higher
Trunk Road	34m or more	25m or half of tower height whichever is higher
Distributor Road	20m to 25m	25m or half of tower height whichever is higher
Access Road	15m or less	25m or half of tower height whichever is higher

Table 1: Setback against road

Minimum setback on all new communication towers and structures type to the nearest building from the centre base of the telecommunication tower: -

No	Category	(A)	(B)	(C)	(D)	(E)
	Type of Building	Mini Pole/Street Light pole (≤ 18m)	Lamp Pole (≤30m)	Rapole or Monopole or hollow tubular or polygonal tubes (≤ 45m)	Minaret (≤ 30m)	Three (3) or Four (4) Legged Tower or Structures
1	Residential (all residential building including kampung house)	5m	15m	20m or half of structure height or which is higher to the centre of the tower or structure	10m	20m or half of structure height or which is higher to the centre of the tower or structure. Only applicable in the rural and remote areas
2	Institutional/Government building/Religious/Schools	5m	15m	20m or half of structure height or which is higher to the centre of the tower or structure	10m	20m or half of structure height or which is higher to the centre of the tower or structure. Only applicable in school, rural and remote areas
3	Commercial (all commercial, shopping complex, office complex, cinema, etc.)	5m	10m	20m or half of structure height or which is higher to the centre of the tower or structure	10m	Not permitted
4	Industrial	5m	10m	20m or half of structure height or which is higher to the centre of the tower or structure	10m	20m or half of structure height or which is higher to the centre of the tower or structure.
5	Recreational/Sport complex (e.g. stadium, sport complex, swimming pool, etc)	5m	15m	20m or half of structure height or which is higher to the centre of the tower or structure	10m	20m or half of structure height or which is higher to the centre of the tower or structure. Only applicable in the rural and remote areas

Table 2: Setback against building

Minimum Setback requirements on all new telecommunication tower and structure type for existing parks and open space from the base of the telecommunication tower.

No	Category	(A)	(B)	(C)	(D)	(E)
	Type of Building	Mini Pole/Street Light pole (≤ 18m)	Lamp Pole (≤ 30m)	Rapole or Monopole or hollow tubular or polygonal tubes (≤ 45m)	Minaret (≤ 30m)	Three (3) or Four (4) Legged Tower or Structures
1	Within gazetted area of parks and open space	Next to SEB substation or having with minimum visual impact, assimilated with the surrounding	Next to SEB substation or having with minimum visual impact, assimilated with the surrounding	Not permitted	Not permitted	Not permitted
2	Within Open space	Next to SEB substation or having with minimum visual impact, assimilated with the surrounding	Next to SEB substation or having with minimum visual impact, assimilated with the surrounding	Not permitted	Not permitted	Not permitted
3	Within River Reserve and Buffer Zone	**NOT PERMISSABLE** unless otherwise as may be approved by **SMA Committee** on case to case basis based on the principal to serve the community or to meet the coverage objectives and strong justification.				

Table 3: Setback for parks & open space

8. PROCEDURE SUMMARY FOR ROOFTOP STRUCTURE & IN-BUILDING SYSTEM

Refer to Rooftop process flow as attached in appendix C.

9. PROCEDURAL DETAIL FOR ROOFTOP STRUCTURE & IN-BUILDING SYSTEM

Refer to Rooftop process detail as attached in appendix D.

10. SET BACK REQUIREMENT FOR ROOFTOP

The construction of new telecommunications facility on roof top or on high rise building or non-residential is **only allowed to four (4) stories and above** whereby: -

a) For four (4) storey building, the height of the antenna or structures or boom or masts shall not exceed one (1) meter;

b) For high rise building (> 4 storey), the structures extension on the roof top shall not exceed three (3) meters of height from the roof top. Any changes of the roof top structure shall be verified by Professional Engineer;

c) Integration into existing rooftop elements is preferred over creating new rooftop elements, unless to do so would defeat concealment or be otherwise undesirable;

d) compatibility with nearby properties - Telecommunication structure or boom or masts and base units shall utilize building materials, colours and textures that are compatible with the existing principal building structure. The telecommunication facilities shall effectively blend or assimilate into the surrounding setting and environment to the greatest extent possible;

e) the visual impact of an antenna must be minimized as it can be hidden behind a compatible building feature such as mounted flush to the facade of the building and painted to match or mounted on a structure designed with minimal bulk and painted to fade into the background, or mounted by other technique that equally minimizes the visual impact of the antenna;

f) should conceal telecommunication facilities components from all sides. This may include the top. Antennas should not be visible from sides or back;

g) rooftop mounted Telecommunication structures or boom or masts and antennas shall not be located on residential building less than four (4) stories in height, except for structures and antennas designed for private reception of television and radio signals and used for amateur or recreational purposes;

h) compliance to heritage Preservation whereby the proposed structure for any locally designated historical buildings or structures shall be subject to all requirements of the relevant authority;

i) architectural Integrity of the building shall be maintained whereby the original character of the buildings is affected when making modifications that affect the exterior which shall be minimised. Any additions shall be compatible in scale, colour, details, material proportion, and character with the existing building;

j) rooftop elements shall be generally be set back from the roof edge of the rooftop boundary or parapet wall at least the height of the Telecommunication structure or boom or masts or antenna.

11. WAYLEAVE

In order to fast track the application pertaining on Wayleave/RoW, land or premises acquisition issues and to facilitate the erection and commissioning of the infra in setting up of Telecommunication infrastructure.

12. PROCEDURE SUMMARY FOR WAYLEAVE

Refer to Wayleave process flow as attached in appendix E.

13. PROCEDURAL DETAIL FOR WAYLEAVE

Refer to Wayleave process detail as attached in appendix F.

14. COMMITTEE

SMA COMMITTEE

The committee members need to form the meeting quorum consist of: -

a) SMA (General Manager of SMA – Chairman);
b) MuDeNR (Head of Planning – Member);
c) L&S (Assistant Director (Planning) – Member);
d) Another member from the Relevant Agencies.

The meeting shall be presided over by the chairman or by any member appointed by the Chairman. The meeting shall be held upon receiving all technical feedback from the relevant agencies.

SMA TECHNICAL COMMITTEE

The member of SMA Technical Committee consist of: -

a) Deputy General Manager SMA (Chairman)
b) SMA Regional Engineer (Member)
c) SMA Telecommunication Unit (Member)
d) SMA Inspectorate Unit (Member)

15. ELECTROMAGNETIC FIELD

Refer to Guideline for Radiofrequency (RF) Electromagnetic Field (EMF) emission/radiation for Telecommunication structure in Sarawak as attached in appendix I.

RF certification is compulsory on all new and existing structures in Sarawak. For new structure, RF certificate is to be obtained during commissioning of the structure. As for existing structure, SMA will decide on reasonable time frame, preferably in stages, for NFPs to obtain the RF certification. Certification is to be carried out by contractors who are registered and have Memorandum of Agreement (MoA) with Nuclear Agency and registered with UPKJ.

The validity of the RF certificate is five (5) years from the date of issuance from Malaysian Nuclear Agency. However, if there are any changes made to the structure at any time during the validity of the certificate, NFPs as tower owners will be required to renew the RF certificate accordingly.

All telecommunication towers, structures and in-building system requires ‘Permit to Operate’. The permit application and renewal shall be applied from SMA. In order for NFPs to obtain the ‘Permit to Operate’, they have to furnish RF certificate as it is the pre-requisite document for permit application. The fee for the ‘Permit to Operate’ shall be imposed.

Penalties will be imposed by SMA to any structures that are not operating with valid ‘Permit to Operate’. This will be reflected as default by NFPs. The amount of penalties will be based on Sarawak Multimedia Authority Ordinance 2017.

The validity of the ‘Permit to Operate’ and RF certificate must always be maintained and keep valid. Penalties will be imposed if NFPs failed to maintain the validity of both during operation.

16. HEIGHT LIMIT OF THE TELECOMMUNICATION TOWERS & STRUCTURES

This is applicable whereby the proposed structure is located within the aerodrome (refer Diagram 1). The applicant is required to get the height limit clearance from Civil Aviation Authority of Malaysia before the Authority can process the application.

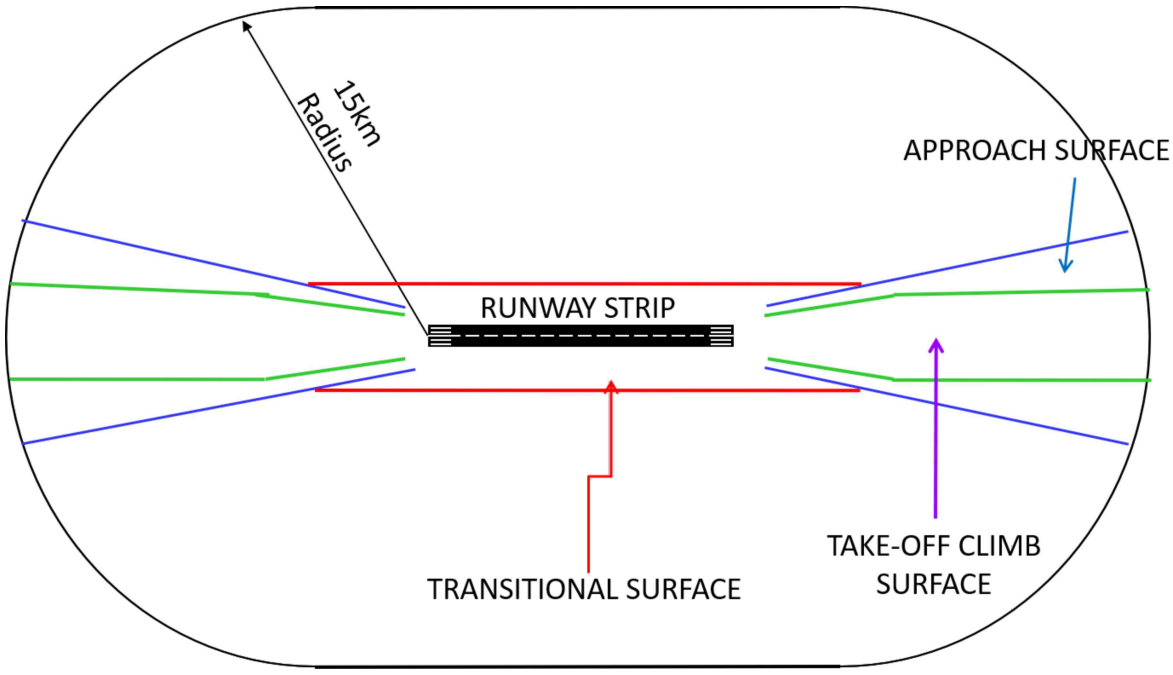


Diagram 1: Aerodrome

According to the International Civil Aviation Organization (ICAO) an aerodrome is "A defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure, and surface movement of aircraft."

17. HAZARDOUS AREA

Hazardous areas are defined as "any place in which an explosive atmosphere may occur in quantities such as to require special precautions to protect the safety of workers". In this context, 'special precautions' is best taken as relating to the construction, installation and use of apparatus in the area whereby an explosive gas atmosphere may occur. As such, the applicant is required to get the approval from the relevant organisation such Petroleum Sarawak Berhad (PETROS), Petroliam Nasional Berhad (PETRONAS), SHELL and others before the Authority can process the application.

18. TEMPORARY USAGE

Any structures 30 meters and below; and not limited to portable or coverage on wheel for temporary usage, the service provider shall: -

a) submit their application to the Authority.
b) approval validity is only valid for thirty calendar days (30) from the approval date.
c) All temporary structures will require ‘Temporary Permit to Operate’ and this needs to be applied from SMA and the fee for the permit shall be imposed.
d) The applicant shall write in to the Authority for any extension.
e) The Authority shall only allow maximum of two (2) times of extension. The applicant shall engage the local NFP for permanent tower or structure.

19. ARBITRATION

All complaints or enquiries shall be brought to attention of the Authority. The cost for relocation or dismantling the tower or structure shall be borne by the local NFP upon instruction by the Authority.

20. DEVELOPMENT PERMITTED WITHOUT CONSENT FROM THE AUTHORTY

Development for the purpose of preventive and operational purposes on telecommunications line or network cables for existing underground facilities.

a) Installation of Telecommunications network at telecommunication facility.
b) Development for the purpose of subscriber connections unless the connections require to pass by a State land or local heritage item or is located in a heritage conservation area.

21. LAND PREMIUM

Enhanced land premium is chargeable.

22. REVISION

This Process, Procedure and Guideline will be reviewed for the period of 3 years or any circumstances that warrant for the changes.

23. ATTACHMENT

a) Appendix A: Tower and Structure process flow
b) Appendix B: Tower and Structure process detail
c) Appendix C: Rooftop and In-Building process flow
d) Appendix D: Rooftop and In-Building process detail
e) Appendix E: Wayleave process flow
f) Appendix F: Wayleave process detail
g) Appendix G: Guideline for Radiofrequency (RF) Electromagnetic Field (EMF) emission/radiation for Telecommunication structure in Sarawak
h) Appendix H: RF Certification & Re-Certification process flow
i) Appendix I: Application for Permit to Operate process flow
j) Appendix J: Sample of Application Submission Report to SMA
k) Appendix K: Sample of Cadastral submission

l) Appendix L: Sample of Proposed Development of Telecommunication Infrastructure and Facilities

m) Appendix M: Sample of Tower Design Drawing

APPENDIX A

TOWER AND STRUCTURE PROCESS FLOW

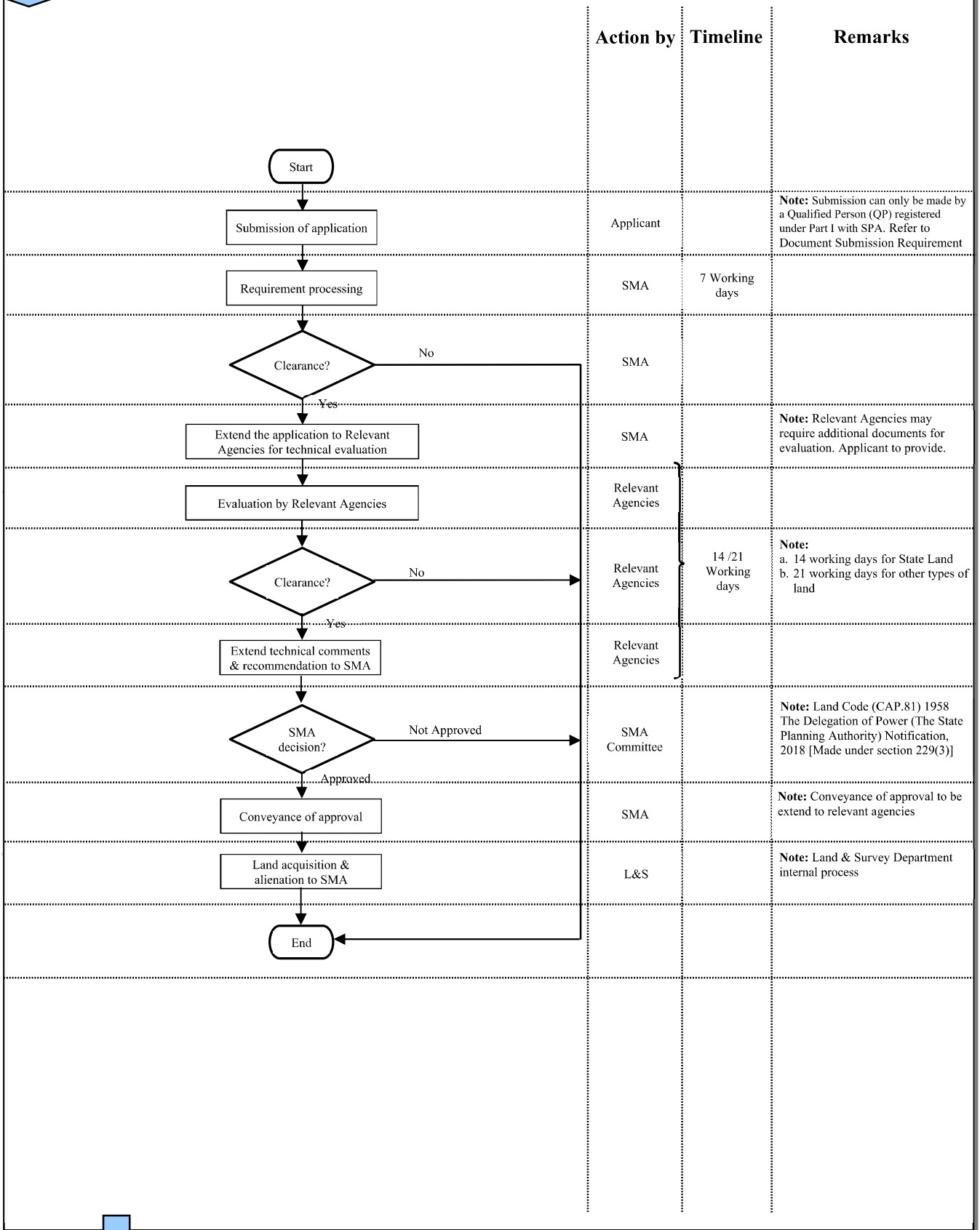
PROCESS: SITING APPLICATION FOR TOWERS & STRUCTURES

Doc No.:SMA/INFRA/PPG/P/1
Issue: 1
Rev No.: 0
Date: 27 NOVEMBER 2019

INPUT

1. Application from provider (NFP)

PROCESS



OUTPUT

PROCESS OUTPUT:

1. Approval

Relevant Agencies:
- Including CAAM, Land & Survey Department, BDA, Local Council, etc.

APPENDIX B

TOWER AND STRUCTURE PROCESS DETAIL

PROCESS: SITING APPLICATION FOR TOWERS AND STRUCTURE

1.0 Submission of Application

Submission of application can only be done by: -

a) Approved local Network Facility Provider (NFP);
b) UPKJ registered local company with Telecommunication head VIII; and
c) Qualified Person (QP) registered under Part I with SPA for Planning Proposal submission.

1.1 The applicant shall submit their application by writing an official letter to SMA accompany with the documents as per the following Document Checklist as follows: -

a) Application Form (FORM/SMA/01) ;
b) Submission Report to SMA ;
c) Extract of land title ;
d) Sample of Cadastral submission;
e) Request letter from the Mobile or Service Operator ;
f) Complaint reports from Public on coverage or QOS (if applicable);
g) Official reply or letter from Network facility provider nearby structure (if any);
h) Network Justification report from the Mobile or Service Operator;
i) NCR land –supporting letter from Penghulu or Tuai Rumah (if any);

It is mandatory for the applicant to submit the documents listed in the Document Checklist for SMA to review and process the application.

2.0 Requirement Processing

SMA will review and process the application based on the documents as per Document Checklist. If the application passes SMA requirement, SMA will notify and extend the application to Relevant Agencies for technical evaluation.

3.0 Technical Evaluation by Relevant Agencies

Relevant Agencies will conduct their technical evaluation based on their own internal process. Once the technical evaluation meets the Relevant Agencies requirement, the Relevant Agencies will extend their comments to SMA for approval.

Document Checklist:

a) Extraction of Title
b) Plan (Layout) for Subdivision and Development of Land
c) Development Checklist, Site Inspection Report Plan (Consultant to submit Part 1 only. (No handwritten Development Checklist is allowed. It must be typed. Divisional Officer to check and request for amendments on all submitted documents/checklist within 7 working days)
d) Site Inspection Sketch Plan (NTS)
e) Site Photographs (NTS)
f) Cadastral Plan
g) Offset Plan (if any structure or building(s) to be retained)

4.0 Conveyance of Approval

SMA will convey the approval to the local NFP through official letter.

5.0 Land Acquisition and Alienation

Land & Survey Department will do the process of land acquisition and the land shall be alienated to SMA.

6.0 Permit to Start Work

The applicant needs to apply and get the permit to start work from SMA prior to work commencement.

	TITLE	DOCUMENT NO	ISSUE: 1
SMA SARAWAK MULTIMEDIA AUTHORITY	SITING APPLICATION FOR TELECOMMUNICATION STRUCTURES	FORM/SMA/01	REV : 0
			DATE: 27 Nov 2019

APPLICATION FORM

1.	Project Title		
2.	Applicant		
3.	Contact Person	Name: Tel. No:	
4.	Project Locality	Address: Latitude: Longitude:	
5.	Attachment Check List	a) Submission Report	
		b) Extract of Land Title	
		c) Sample of Cadastral submission	
		d) Request letter from the Mobile or Service Operator	
		e) Complaint reports from Public on coverage or QOS (if applicable)	
		f) Official reply or letter from Network facility provider nearby structure (if any)	
		g) Network Justification report from the Mobile or Service Operator	
		h) NCR land – supporting letter from Penghulu or Tuai Rumah (if any)	
6.	Submitted by Signature: ..... Designation: ..... Name: ..... Date:		

SMA Official Use
Remarks:
Forward to:

APPENDIX C

ROOFTOP & IN-BUILDING PROCESS FLOW

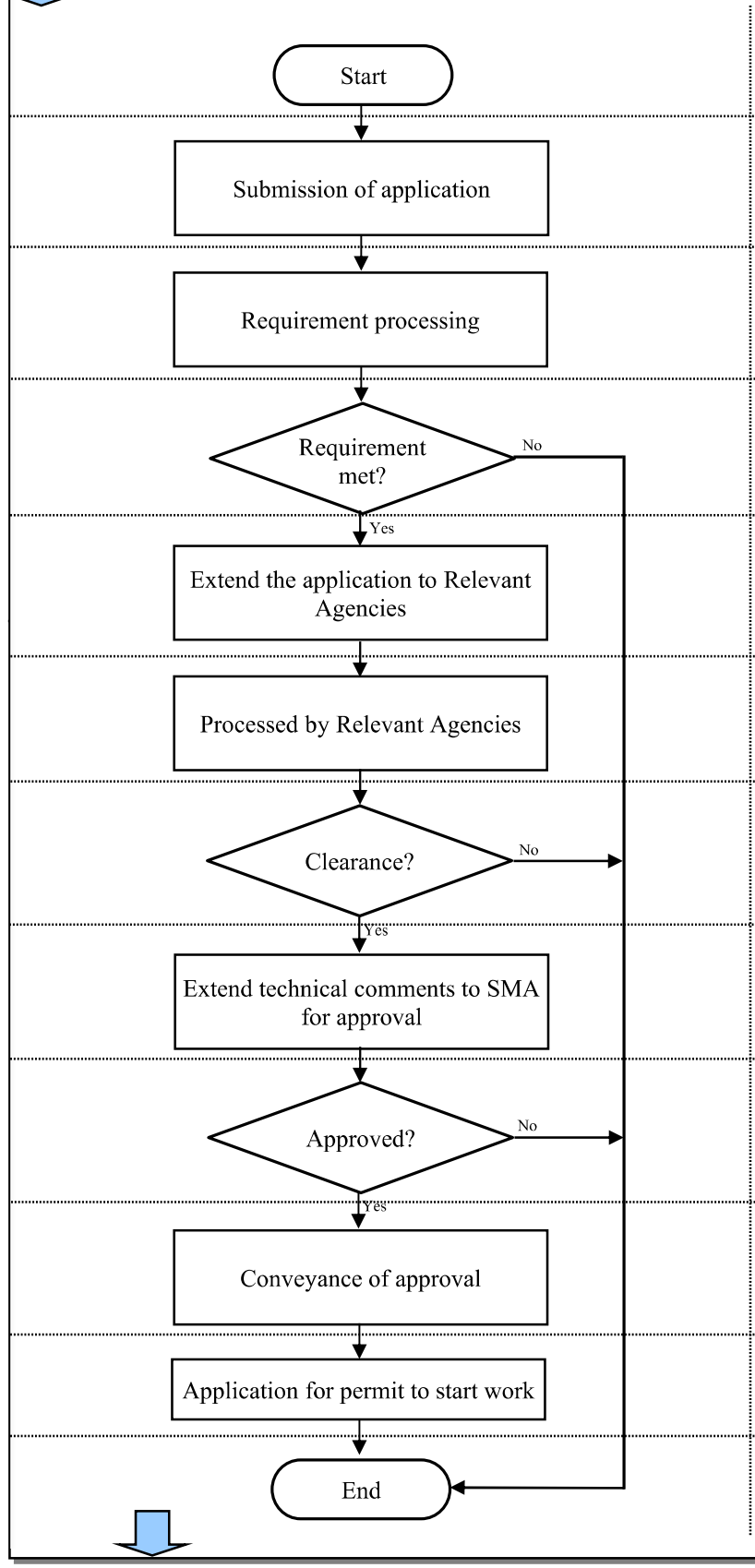
PROCESS: APPLICATION FOR ROOFTOP STRUCTURE & IN-BUILDING SYSTEM

Doc No.:SMA/INFRA/PPG/P/2
Issue: 1
Rev No.: 0
Date: 27 NOVEMBER 2019

IN-PUT

1. Application from provider (NFP)

PROCESS



Action by	Timeline	Remarks
Applicant		**Note:** Refer to Document Submission Requirement
SMA	7 Working days	
		Note: For rooftop only allowed on non-residential 4-storey and above building
SMA		**Note:** Relevant Agencies may require additional documents for evaluation. Applicant to
Relevant Agencies		
Relevant Agencies	14 Working days	
Relevant Agencies		
SMA Technical Committee	3 Working days	**Note:** Member of Technical Committee: - 1. GM SMA 2. Regional Engineer SMA 3. SMA Planning Section
SMA		**Note:** Conveyance of approval to be extend to relevant agencies
Applicant		

OUTPUT

PROCESS OUTPUT:

1. Approval

Relevant Agencies:
- Including CAAM, Land & Survey Department, BDA, Local Council, etc.

APPENDIX D

ROOFTOP & IN-BUILDING PROCESS DETAIL

PROCESS: APPLICATION FOR ROOFTOP STRUCTURE & IN-BUILDING SYSTEM

1.0 Submission of Application

Submission of application can only be done by SMA's approved local Network Facility Provider (NFP). The local NFP can submit their application by writing an official letter to SMA accompany with the documents as per the following Document Checklist.

Document Checklist:

a. Application letter to the Authority
b. Submission Report to SMA
c. Request from Network Service Provider (NSP) or Telco
d. Complain report (if any)
e. Network justification
f. Official reply from NFP/NSP on nearby structure
g. Tenancy agreement
h. Rooftop or Layout design

It is mandatory for the NFP to submit the documents listed in the Document Checklist for SMA to review and process the application.

2.0 Requirement Processing

SMA will review and process the application based on the documents as per Document Checklist. If the application passes SMA requirement, SMA will notify and extend the application to Relevant Agencies for technical evaluation.

3.0 Technical Evaluation by Relevant Agencies

Relevant Agencies will conduct their technical evaluation based on their own internal process. Once the technical evaluation meets the Relevant Agencies requirement, the Relevant Agencies will extend their comments to SMA for approval.

4.0 Conveyance of Approval

SMA will convey the approval to the local NFP through official letter.

5.0 Application for Permit to Start Work

The applicant needs to apply and get the permit to start work from SMA prior to work commencement.

APPENDIX E

WAYLEAVE PROCESS FLOW

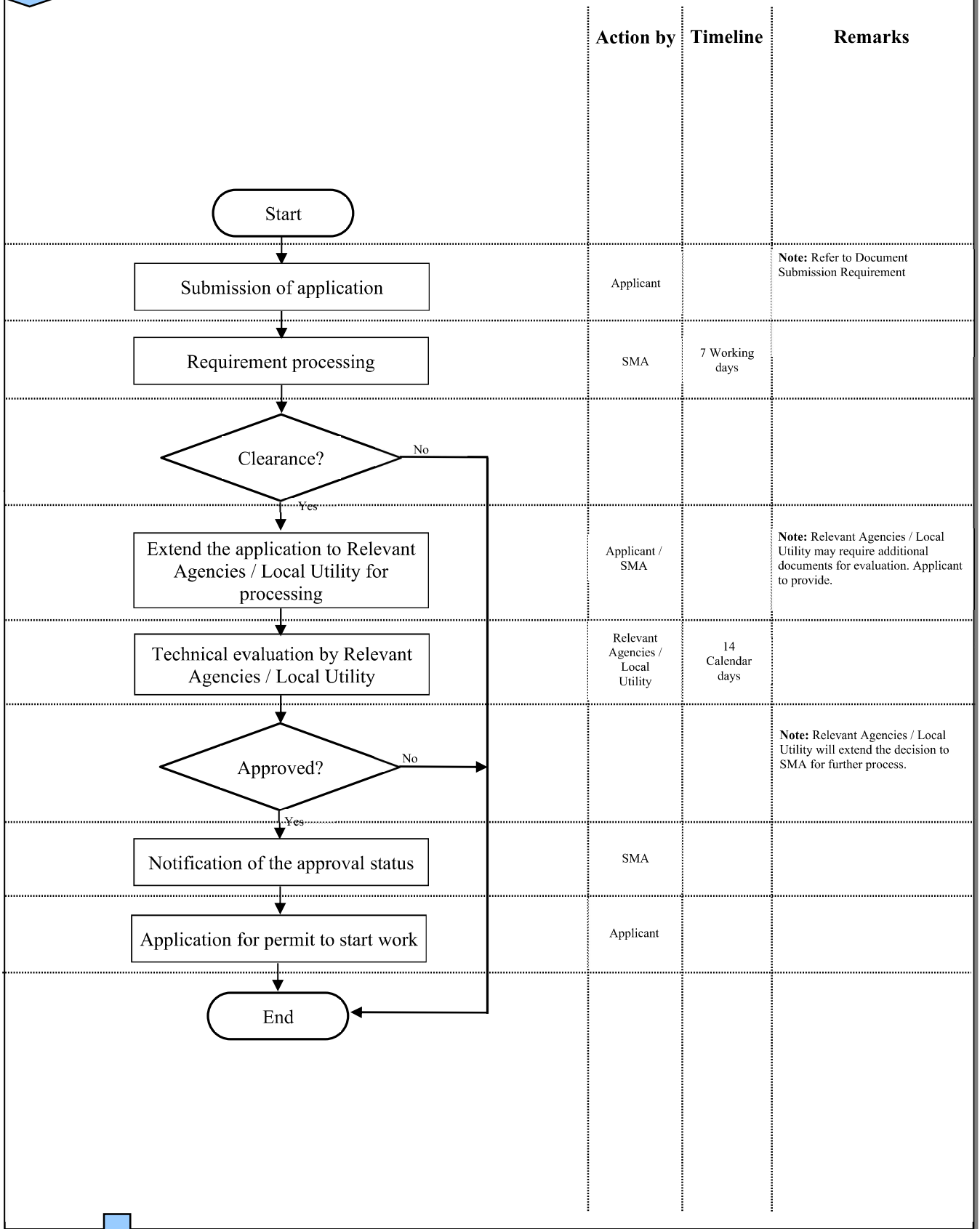
PROCESS: WAYLEAVE APPLICATION

Doc No.:SMA/INFRA/PPG/P/3
Issue: 1
Rev No.: 0
Date: 27 NOVEMBER 2019

IN-PUT

1. Application for wayleave

PROCESS



OUTPUT

PROCESS OUTPUT:

1. Approval

Relevant Agencies:
- Including Land & Survey Department, JKR, BDA, Local Council, etc.

Local Utility:
- Including Sarawak Energy, JBALB, Telekom, Lembaga Air etc.

APPENDIX F

WAYLEAVE PROCESS DETAIL

PROCESS: WAYLEAVE APPLICATION

1.0 Submission of Application

Submission of application can only be done by SMA's approved local Network Facility Provider (NFP). The local NFP can submit their application by writing an official letter to SMA accompany with the documents as per the following Document Checklist.

Document Checklist:

a. Application letter to the Authority
b. Submission Report to SMA
c. Request from Network Service Provider (NSP)
d. Complain report (if any)
e. Network justification

It is mandatory for the NFP to submit the documents listed in the Document Checklist for SMA to review and process the application.

2.0 Requirement Processing

SMA will review and process the application based on the documents as per Document Checklist. If the application passes SMA requirement, SMA will notify the local NFP to extend the application to Relevant Agencies and/or Local Utility for technical evaluation.

3.0 Technical Evaluation by Relevant Agencies and/or Local Utility

Relevant Agencies and/or Local Utility will conduct their technical evaluation based on their own internal process. Once the technical evaluation meets the Relevant Agencies and/or Local Utility requirement, the Relevant Agencies and/or Local Utility will extend their comments and decision to SMA for further process.

Notes:

a. Relevant Agencies means L&S, BDA, Local Council, etc unless stated otherwise.

b. Local Utility means Sarawak Energy, JKR, JBALB, Telekom, SACOFA, Reach10, Redpyne, Lembaga Air, NFP etc unless stated otherwise.

4.0 Notification of the Approval

SMA will notify the applicants once all approval are obtained.

5.0 Application for Permit to Start Work

The applicant needs to apply and get the permit to start work from SMA prior to work commencement.

APPENDIX G

GUIDELINE FOR RADIO FREQUENCY (RF) ELECTROMAGNETIC (EMF) EMMISSION/RADIATION FOR TELECOMMUNICATION STRUCTURE IN SARAWAK

Guideline for Radiofrequency (RF) Electromagnetic Field (EMF) emission/radiation for Telecommunication structure in Sarawak

Introduction

Sarawak Multimedia Authority (SMA) has established telecommunication policy in Sarawak in the year 2017. The guidelines include the site selection, design, construct and operation maintenance of the telecommunication facility in Sarawak. The 5th principle of the Telecommunication Policy in Sarawak has mentioned that telecommunication facility shall be designed, installed and operated to minimize EMF emission to human and all telecommunication facilities shall be accessed and certified to ensure the RF EMF emission/radiation are not hazardous to the surrounding. The RF safety assessment results will be accessible to the public via an RF database portal.

Objective

The guideline aims to:

1. Establish RF EMF emission/radiation safety assessment in Sarawak
2. Ensure all the RF EMF emission/radiation from the telecommunication structures comply with the Permissible Exposure Limit (PEL) from the standard guidelines issued by the Malaysian Communication and Multimedia Commission (MCMC) and the International Commission on Non-Ionizing Radiation Protection (ICNIRP).
3. Provide RF EMF certification to all safety assessment of telecommunication structures in Sarawak.
4. Provide assurance to the public that RF EMF emitted from the telecommunication structures is safe.

Scope

This guideline is applicable to all types of telecommunication structures in Sarawak, and is also applicable to all Network Facilities Provider (NFP). The RF EMF assessment will measure the electric field strength and power density at identified locations in the vicinity of the telecommunication structure. Measured radiation levels will be evaluated against the PEL and the recommendations of standard guidelines issued by the MCMC and the International Commission on Non-Ionizing

Radiation Protection (ICNIRP). Based on the safety assessment results, RF EMF certification will issued to the telecommunication structure as a proof of compliance.

RF Radiation Safety Assessment

The RF radiation safety assessment will be conducted by measurement in the vicinity of the telecommunication structure.

The measurement shall be conducted as following:

1. The RF Safety assessment shall be conducted by trained and authorized personnel.
2. The equipment utilized shall have an isotropic probe capable of measuring EMF.
3. The frequency spectrum utilized by the Network Mobile Provider shall be identified.
4. The measurement shall capture both the electric field strength and power density at identified locations around the site.
5. In assessing the RF radiation level, the measurement shall cover the frequency range from 700 MHz to 3GHz.
6. Results of the measurements will be recorded and presented as RF power density (μWatts/cm2) and electrical field strength (V/m).
7. Measured RF radiations shall be assessed and evaluated against the PEL and the recommendations of standard guidelines issued by the MCMC Mandatory Standard, determination No.1 of 2010 and the International Commission on Non-Ionizing Radiation Protection (ICNIRP).
8. Based on the results obtained in the assessment, results will be compared to the PEL of the members of public.
9. RF Safety assessment shall be conducted every 5 years for single operator for each telecommunication structure. New assessment is required after 3 months of commission for any new user leasing at the Telecommunication Facility.

10. New assessment shall be carried out on any modification, addition of new antennas or upgrading to new system structure or increasing the transmitted power of the existing antennas.

Report verification and submission

The report verification and submission shall be as follows:

1. RF Radiation Safety Assessment Report shall be submitted to Malaysian Nuclear Agency (Nuklear Malaysia) for verification.
2. The verified RF Radiation Safety Assessment Report shall be submitted to SMA for record.

RF Database

The results of the RF safety assessment of each telecommunication structure shall be updated in the RF database within a month after completion of the verification report.

RF Emission Safety Certification

RF safety certificate will be issued for each structure upon verification of the report with 5 years validity. NFP shall ensure validity of certificate at all times.

Arbitration

Any complaints or enquiries regarding the safety assessment of the telecommunication structure shall be brought to the attention of SMA.

Revision

This guideline shall be reviewed every 5 years.

References

1. Commission Determination on the Mandatory Standards for Electromagnetic Field Emission from Radiocommunications Infrastructure, Determination No. 1 of 2010
2. International Commission on Non-Ionising Radiation Protection (ICNIRP); Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300GHz); ICNIRP Guidelines Health Physics No.4, Vol. 74, pp. 115-123, 1998.
3. Australian Radiation Protection and Nuclear Safety (ARPANSA): Radiation Protection Standard; Maximum Exposure Levels to Radiofrequency Fields – 3 kHz to 300 GHz, Radiation Protection Series Publication No. 3, May 2002
4. Health and Welfare Canada (HWC); Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3kHz – 300 GHz: Safety Code 6, 1999.

APPENDIX H

RF CERTIFICATION &
RE-CERTIFICATION PROCESS FLOW

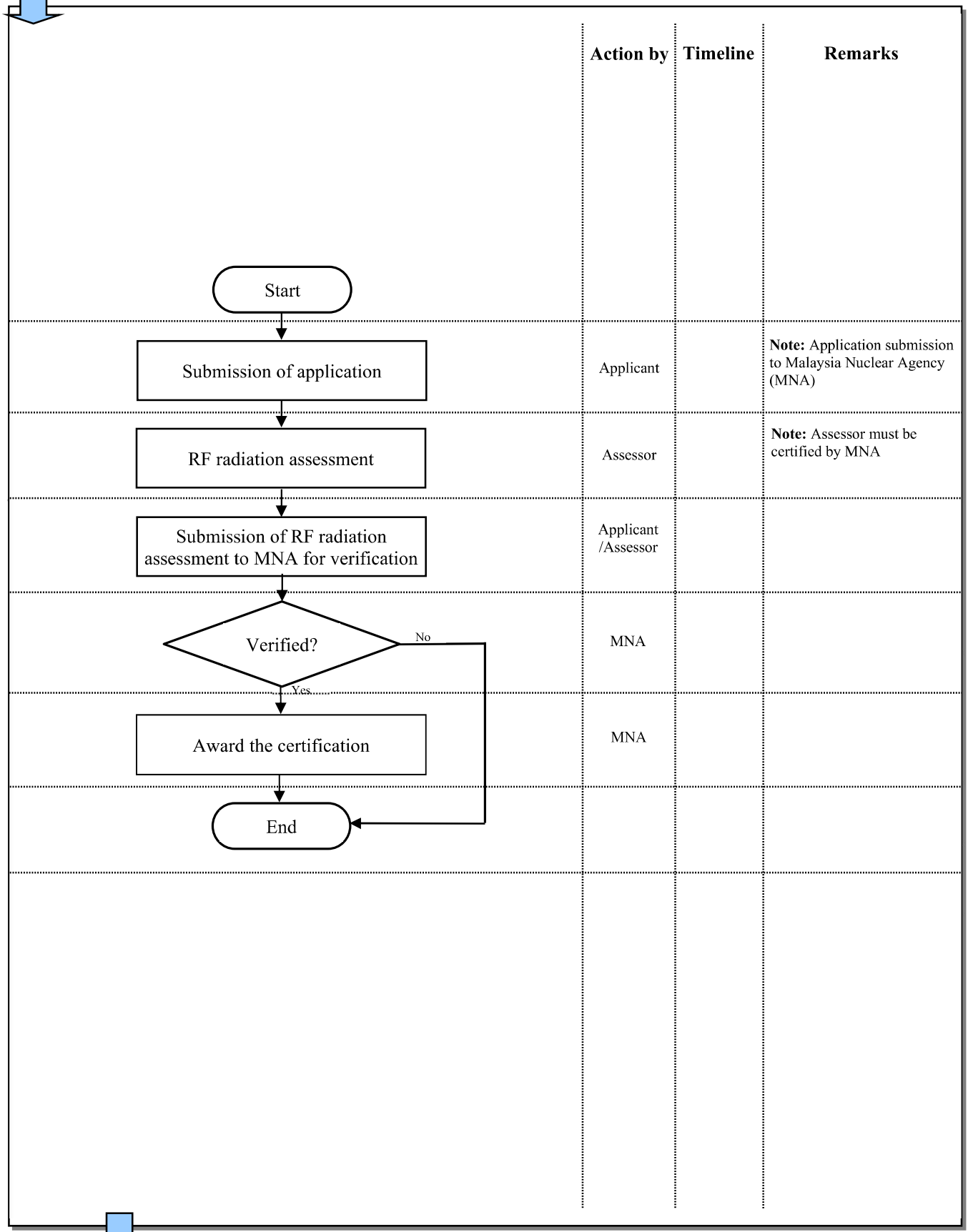
PROCESS: APPLICATION FOR RF CERTIFICATION & RE-CERTIFICATION

Doc No.:SMA/INFRA/PPG/P/4
Issue: 1
Rev No.: 0
Date: 27 NOVEMBER 2019

IN-PUT

1. Application

PROCESS



OUTPUT

PROCESS OUTPUT:

1. Certification

APPENDIX I

APPLICATION FOR PERMIT TO OPERATE PROCESS FLOW

PROCESS: APPLICATION FOR PERMIT TO OPERATE

Doc No.:SMA/INFRA/PPG/P/5
Issue: 1
Rev No.: 0
Date: 27 NOVEMBER 2019

IN-PUT

1. Application
2. RF Certification

PROCESS

	Action by	Timeline	Remarks
Start			
Submission of application	Applicant		**Note:** Application submission to SMA
Processing of the application	SMA		
Produce permit to operate	SMA		
End			

OUTPUT

PROCESS OUTPUT:

1. Certification

APPENDIX J

SAMPLE OF APPLICATION SUBMISSION REPORT TO SMA

SITE INFORMATION FORM

Telco Requester Detail			
Telco Site ID			
Telco Site Name			
Local NFP Site ID			
Local Site Name			
	Latitude, Longitude		
Proposed Site Address Detail			
Landlord Name:			
Landlord Address			
Contact No			
Distance from the nearest road in metre			
Nearest Tower/Rooftop Site Name		**Latitude, Longitude**	
Nearest building		**Distance (m)**	-
North Boundary		**Distance (m)**	-
South Boundary		**Distance (m)**	-
East Boundary		**Distance (m)**	-
West Boundary		**Distance (m)**	-

SITE STRUCTURE PROPOSE DETAIL

Structure Type	Self-supporting Tower
Structure Height	76meter
Total of User supported	4 users
Compound Size	18 meter X 20 meter

To attach

- **Sample of Technical Drawing for Site Infrastructure and Ancillaries**
- **Sample of Tower Design Drawing**

SITE PROPOSE LOCATION

SITE LOCATION GOOGLE PLOT

Coverage Objective

Owner Information

Owner Category	
Owner Particular	
Acquisition Method (Lease / Acquire)	
Leasing Period (in years) if applicable	

Site Information

Surrounding Area Topography	Flat Terrain (Sandy area)		
Potential Piling Required			
Power Supply Availability	Yes	Distance to Nearest Tapping (m)	100m
Potential Major Earthwork	No		
Access Road Availability	Yes	Distance to Main Road (m)	150m

PROPOSED LOCATION

Road Access

Electric Post (P204274)

SITE AERIAL VIEW (0 Degree)

SITE AERIAL VIEW (90 Degree)

To insert photo

SITE AERIAL VIEW (180 Degree)

To insert photo

SITE AERIAL VIEW (270 Degree)

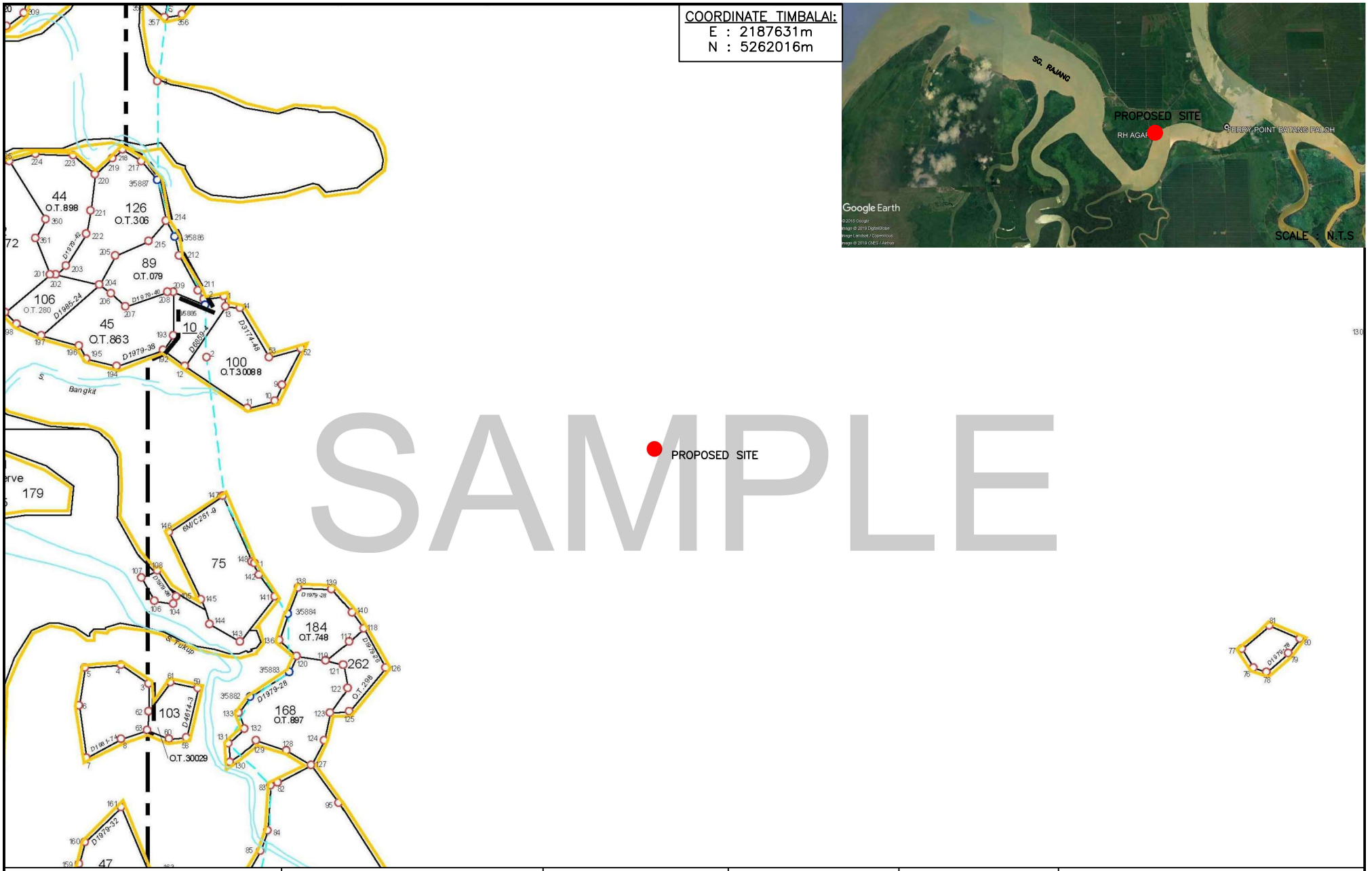
To insert photo

Aerial View with the Proposed Road access distance

Aerial View with the distance from the nearest residential or building

APPENDIX K

SAMPLE OF CADASTRAL SUBMISSION



CONSULTING SURVEYOR	DECLARATION I, ... of .....do hereby certify that this plan has been prepared from the Survey executed by me/done under my supervision and that the plan and survey are correct. Date : 00-00-0000 Signature :	CLIENT	Checked By :	Drawing No : JMJ/10/2019/RH AGAR	PROJECT NAME :
			Surveyed By :	Sheet Ref : K8-14-3	
			Survey Date :	Scale : 1:5000	
			TITLE : CADASTRAL SHEET		

SUBMISSION REQUIREMENTS

- **Application Letter**
  - To Indicate Project Title & Site Name
  - To Annote Whether To Acquire or Otherwise
  - Type Of Tower

Form Q

- 3 copies (1 must be of original copy)
- Submitted by a Qualified Person Registered With The SPA
- Payment of RM100.00

SUBMISSION REQUIREMENTS

- **Extract of Title**
  - 3 copies
  - 1 Must Be Original Copy

- **Google Map**
  - To reflect the site with the nearest population/settlement
  - To demarcate the site

SUBMISSION REQUIREMENTS

- **Plans** *(3 Copies Each)*
  - Locality Plan – indicate known landmarks eg Settlements, Towns
  - Site Plan – indicate components of the project within the boundary
  - Site Inspection Plan & Photos
  - Cadastral Plan – to insert site onto the Cadastral Plan
  - Offset Plan – distance to nearest structure(s), legal roads, boundary

- **Drawing in CAD**

ADDITIONAL INFO ON SITE SELECTION

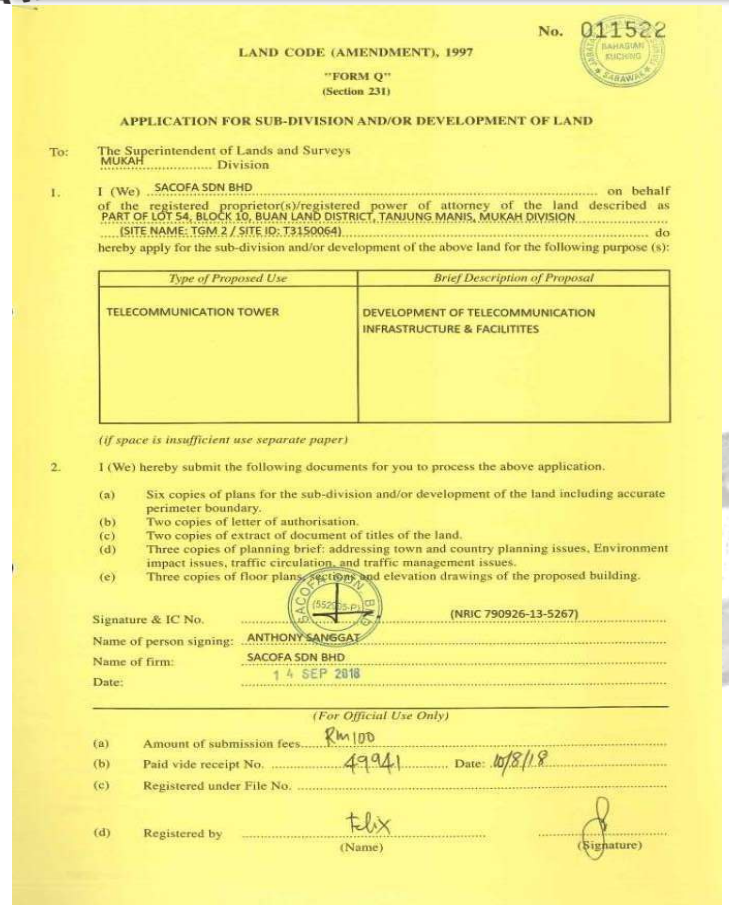
URBAN AREAS

1. Not within Gazetted Parks or Open Spaces
2. Observe the Setback Requirements
3. Not To Be On Flat Roofs

RURAL AREAS

1. Highest Hill/Point
2. Not At Valley Or Low Lying Areas
3. To Provide 7.5m Access Road
4. Access Road To Be Maintained By Applicant

FORM Q



No. 011522

LAND CODE (AMENDMENT), 1997

"FORM Q"
(Section 231)

APPLICATION FOR SUB-DIVISION AND/OR DEVELOPMENT OF LAND

To: The Superintendent of Lands and Surveys
MUKAH Division

1. I (We) SACOFA SDN BHD on behalf of the registered proprietor(s)/registered power of attorney of the land described as PART OF LOT 54, BLOCK 10, BUAN LAND DISTRICT, TANJUNG MANIS, MUKAH DIVISION (SITE NAME: TGM 2 / SITE ID: T3150064) do hereby apply for the sub-division and/or development of the above land for the following purpose (s):

Type of Proposed Use	*Brief Description of Proposal*
TELECOMMUNICATION TOWER	DEVELOPMENT OF TELECOMMUNICATION INFRASTRUCTURE & FACILITITES

(if space is insufficient use separate paper)

2. I (We) hereby submit the following documents for you to process the above application.

(a) Six copies of plans for the sub-division and/or development of the land including accurate perimeter boundary.
(b) Two copies of letter of authorisation.
(c) Two copies of extract of document of titles of the land.
(d) Three copies of planning brief: addressing town and country planning issues, Environment impact issues, traffic circulation, and traffic management issues.
(e) Three copies of floor plans, sections and elevation drawings of the proposed building.

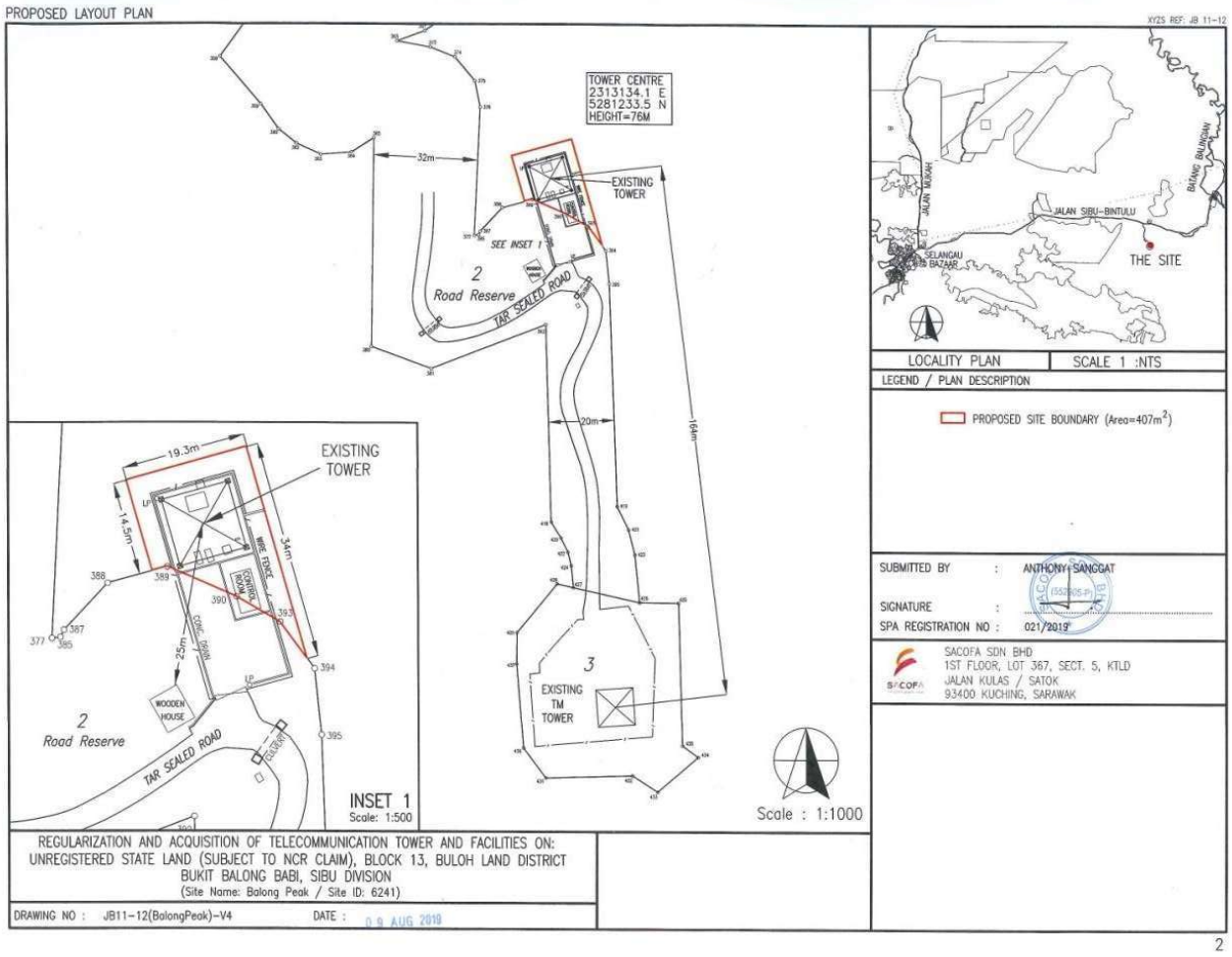
Signature & IC No. (NRIC 790926-13-5267)
Name of person signing: ANTHONY SANGGAT
Name of firm: SACOFA SDN BHD
Date: 14 SEP 2018

(For Official Use Only)

(a) Amount of submission fees: Rm100
(b) Paid vide receipt No. 49941 Date: 10/8/18
(c) Registered under File No.
(d) Registered by felix (Name) (Signature)

- Can Purchase At L&S Divisional Office
- Project Title and Land Details
- Submitted By A QP Registered With The SPA
- Payment Of Rm100.00

SAMPLE – LAYOUT PLAN OF STANDARD FORMAT



Locality Plan

Legend

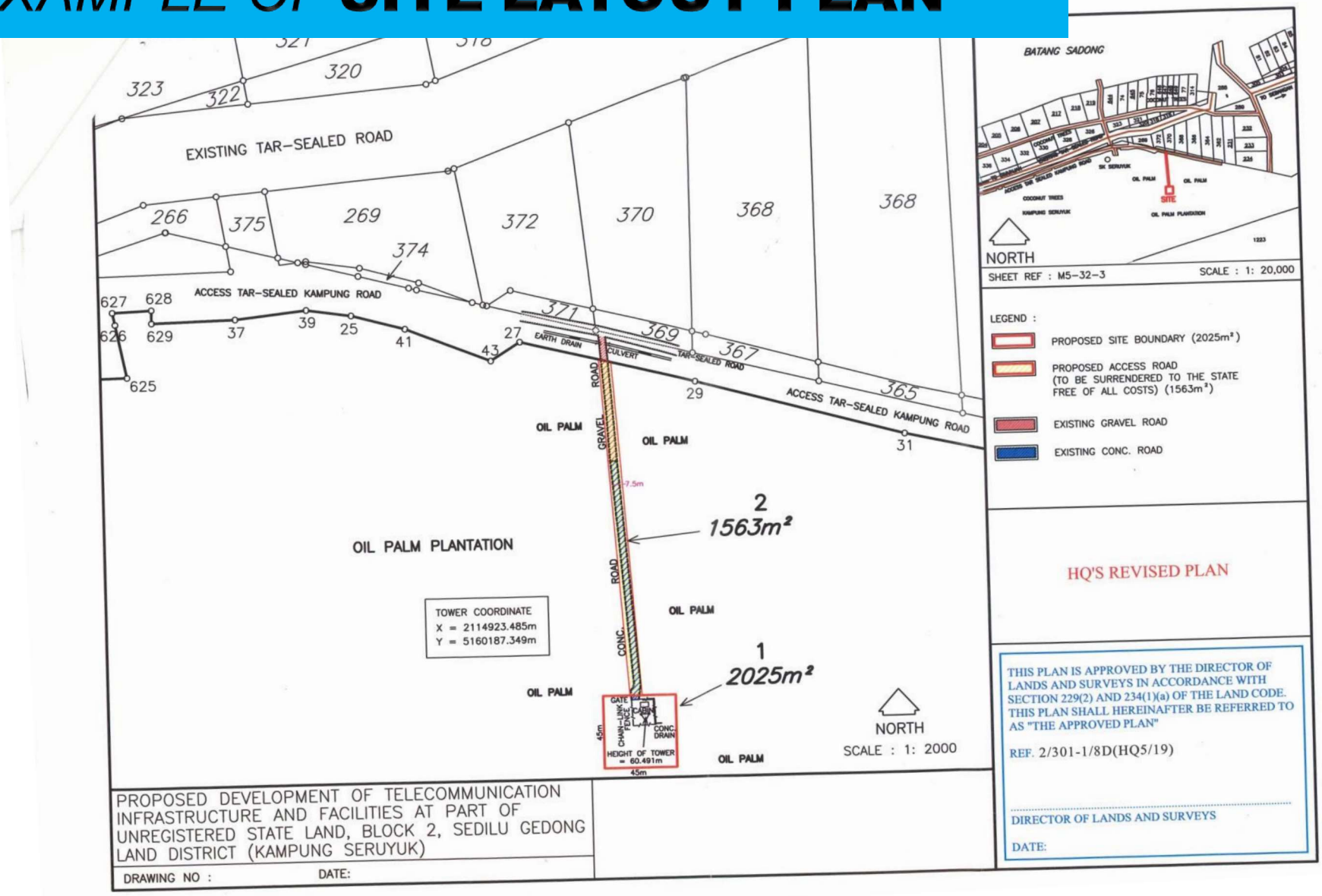
QP details

Endorsement Column By SMA (11cm X 8cm)

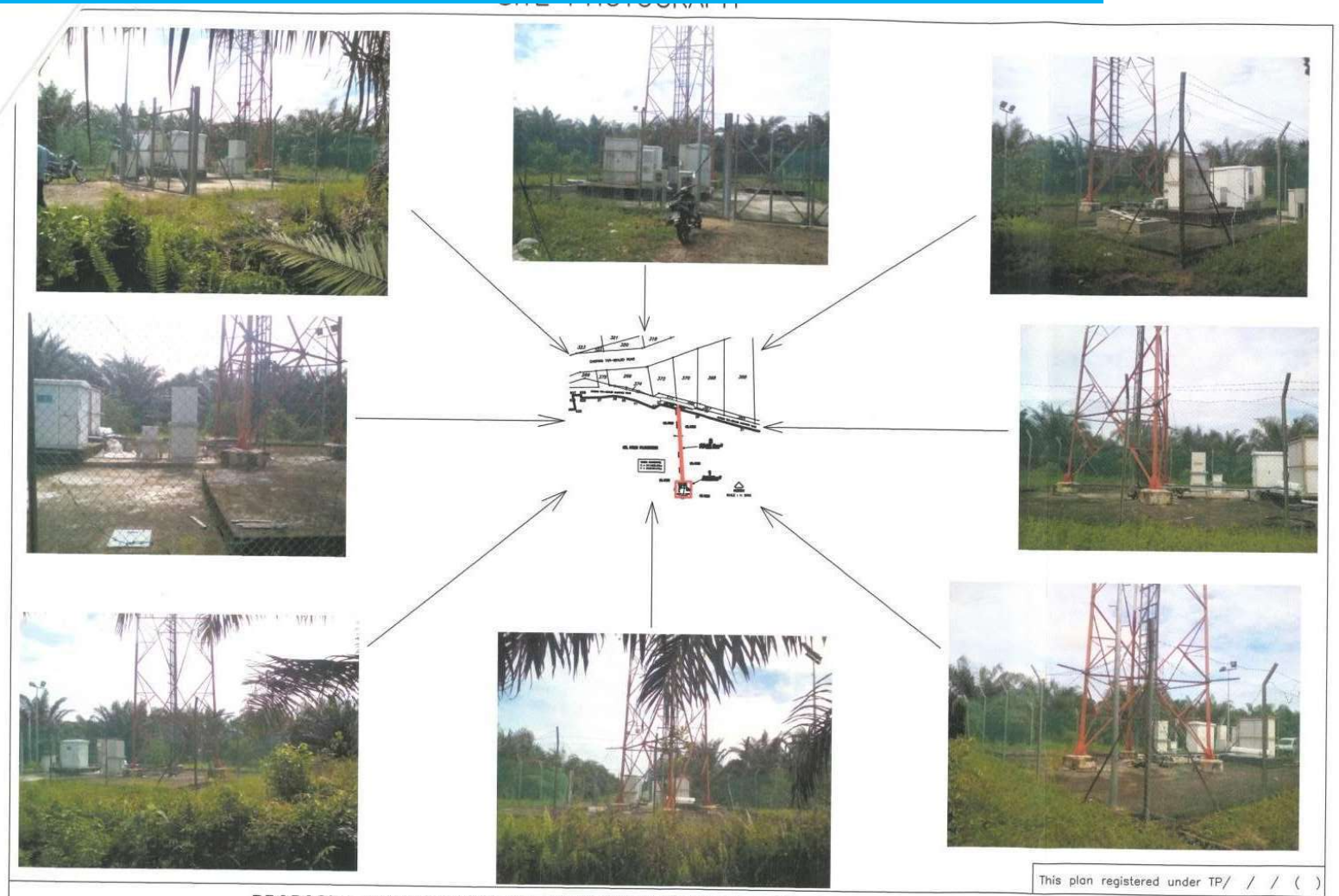
Title Block (with site name)

EXAMPLE OF **SITE INSPECTION PHOTO**

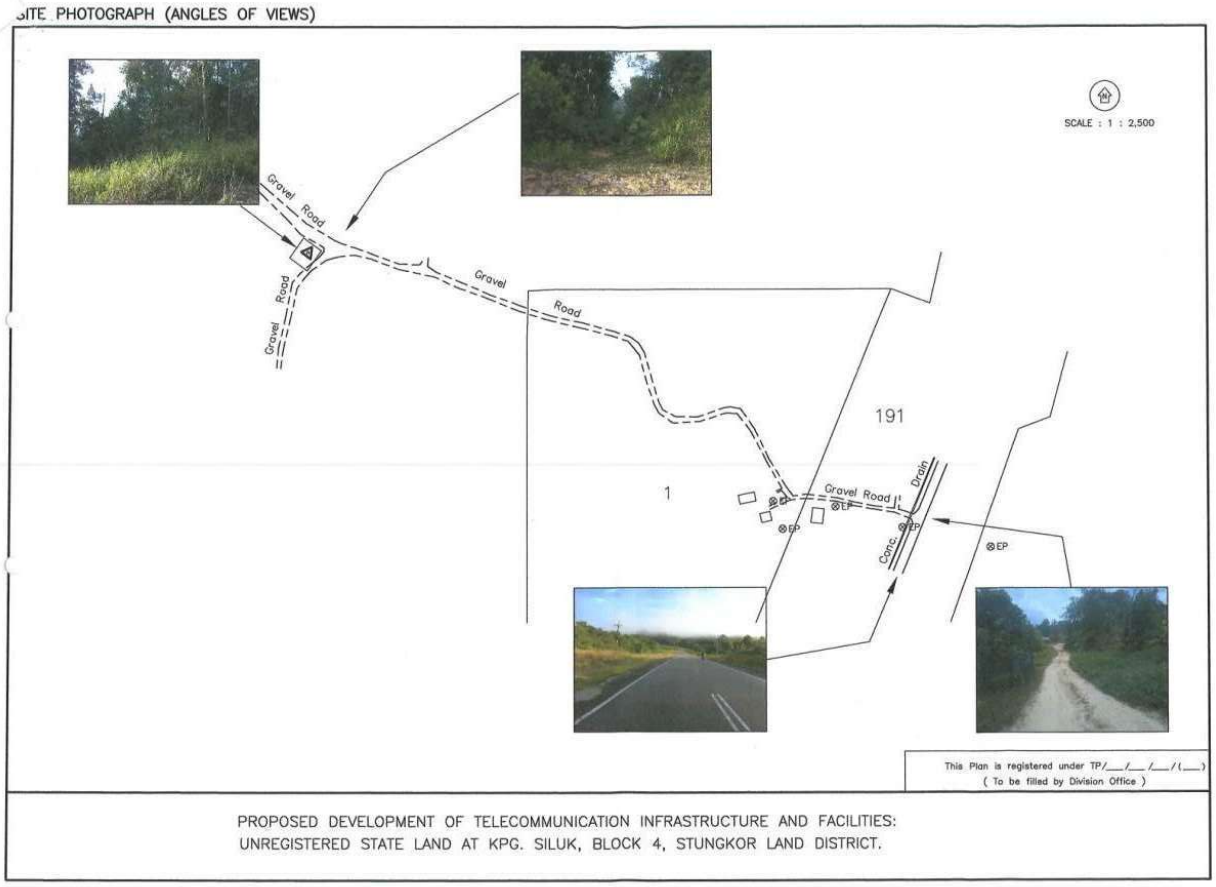
EXAMPLE OF **SITE LAYOUT PLAN**



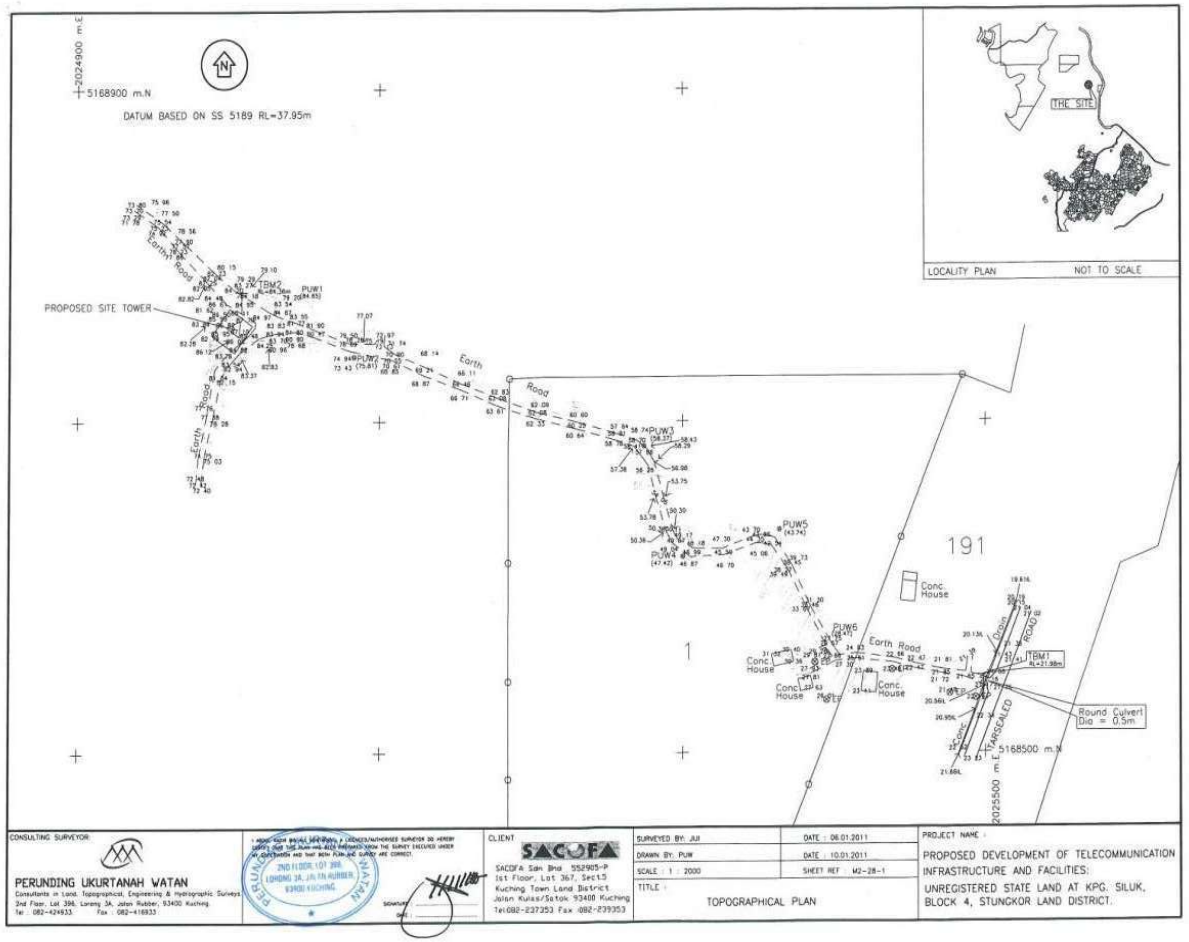
EXAMPLE OF **SITE INSPECTION PHOTO**



SITE PHOTOS



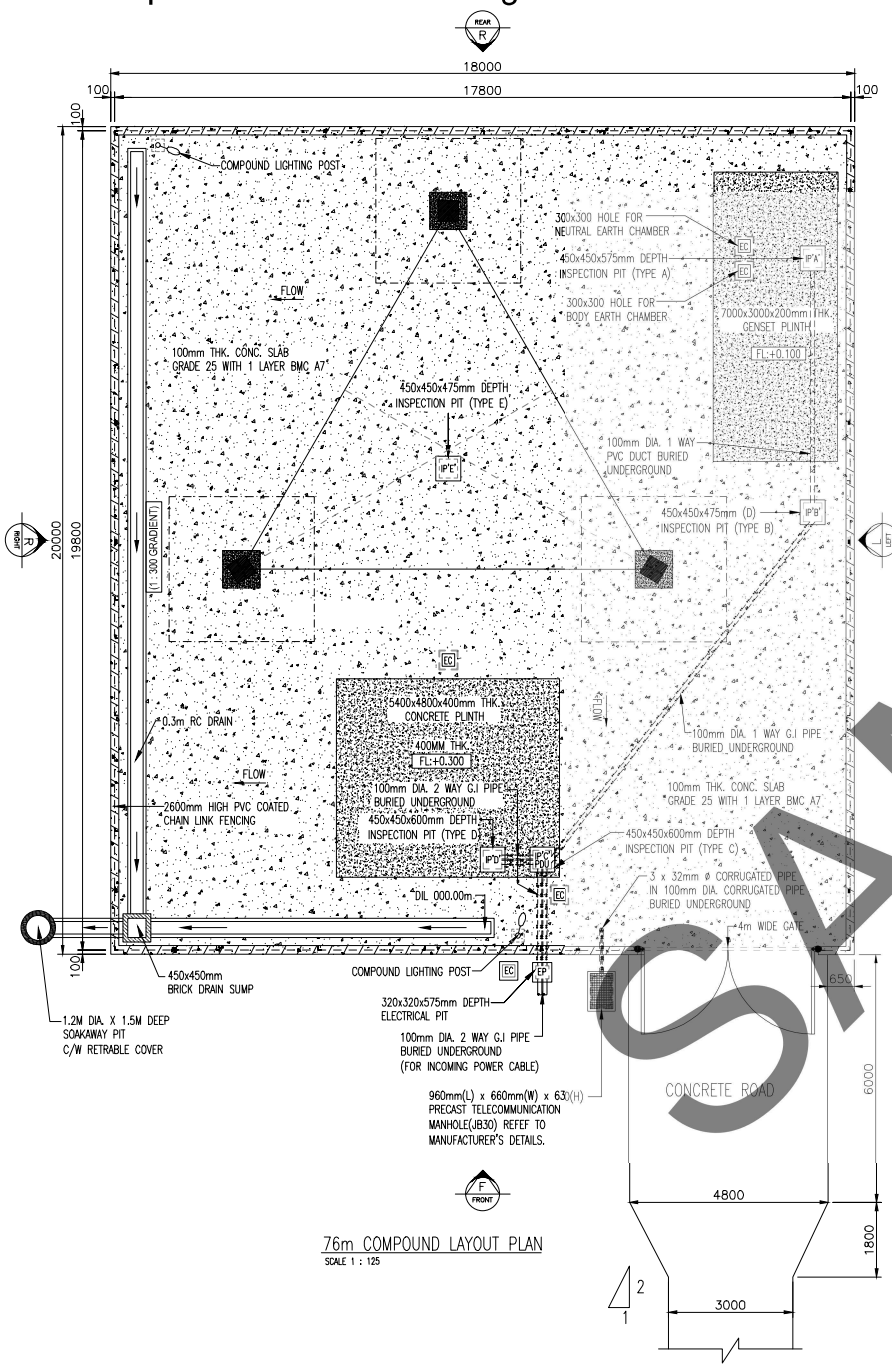
PLAN OF SITE PLATFORM LEVEL



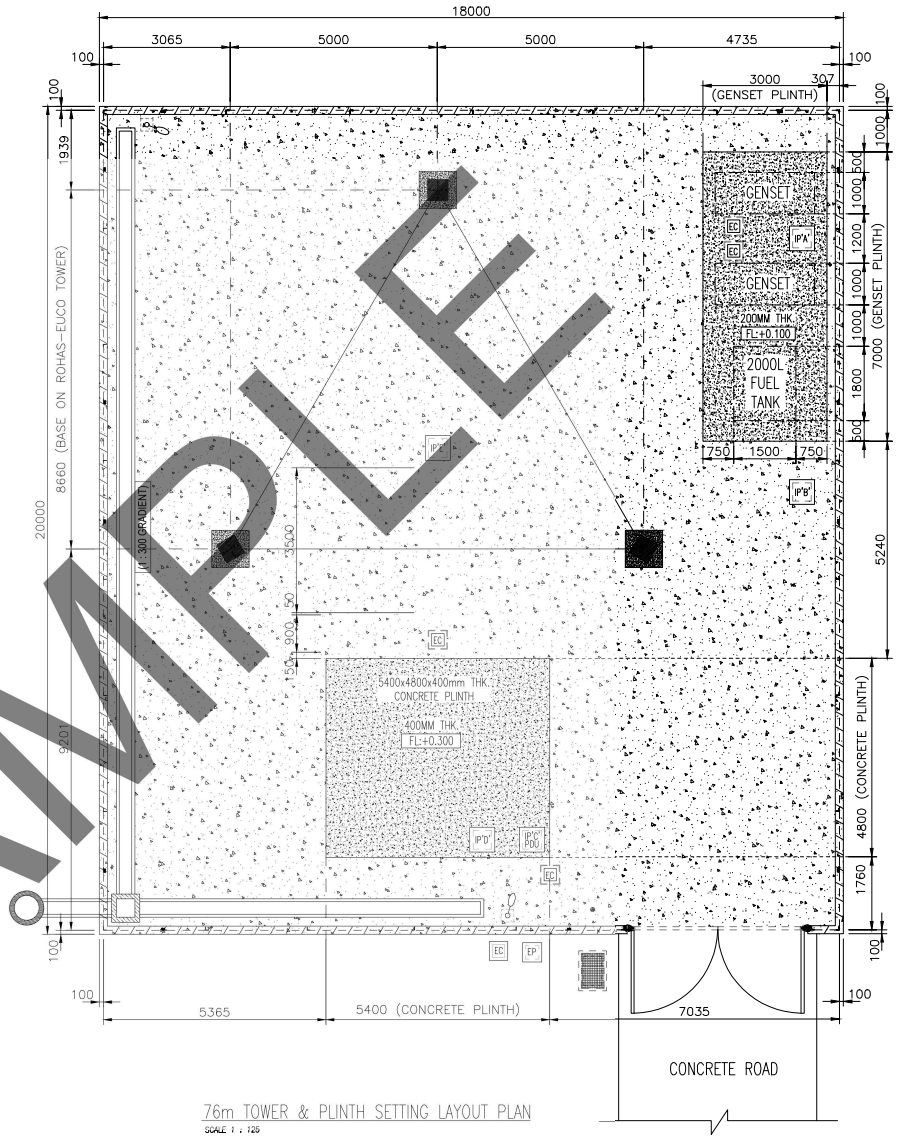
APPENDIX L

SAMPLE OF PROPOSED DEVELOPMENT OF TELECOMMUNICATION INFRASTRUCTURE AND FACILITIES

Sample of Technical Drawing for Site Infrastructure and Ancillaries



76m COMPOUND LAYOUT PLAN
SCALE 1 : 125



76m TOWER & PLINTH SETTING LAYOUT PLAN
SCALE 1 : 125

CONTRACTOR MUST OBTAINED CONFIRMATION & APPROVAL FROM SMA WITH REGARD TO SITE LOCATION & POSITION BEFORE COMMENCE ANY WORK.

NOTE :

A) CONCRETE :

1. CONCRETE SHALL BE GRADE 30 FOR FOOTING, COLUMN & PLINTH AND OTHERS TO BE GRADE 25 TO BS 8110
2. ALL STEEL REINFORCEMENT SHALL COMPLY WITH BS 4449
   R DENOTES MILD STEEL BAR
   Y DENOTES HIGH TENSILE DEFORMED BARS
3. BOND LENGTHS :
   R BARS = 40 x LARGER BAR DIAMETER
   Y BARS = 50 X LARGER BAR DIAMETER
4. CONCRETE COVER TO REINFORCEMENT
   PILE CAP = 50 mm
   STUMP = 40 mm
   GROUND BEAM = 40 mm
   COLUMN, BEAM & WALL = 25 mm
   SLAB = 16 mm
5. NEW SITE LEVELS TO BE ASSUMED AT PREVIOUS SITE

DATE	NO.	REVISED

CLIENT :

SARAWAK MULTIMEDIA AUTHORITY

LEVEL 5, BANGUNAN YAYASAN SARAWAK
JALAN MASJID, 93000
KUCHING,SARAWAK.

SIGNATURE : _____

ENGINEER ;

SIGNATURE : _____

PROJECT:

SMA TECHNICAL DRAWING FOR SITE INFRASTRUCTURE AND ANCILLARIES - 76m 3 LEGGED TOWER

DRAWING :

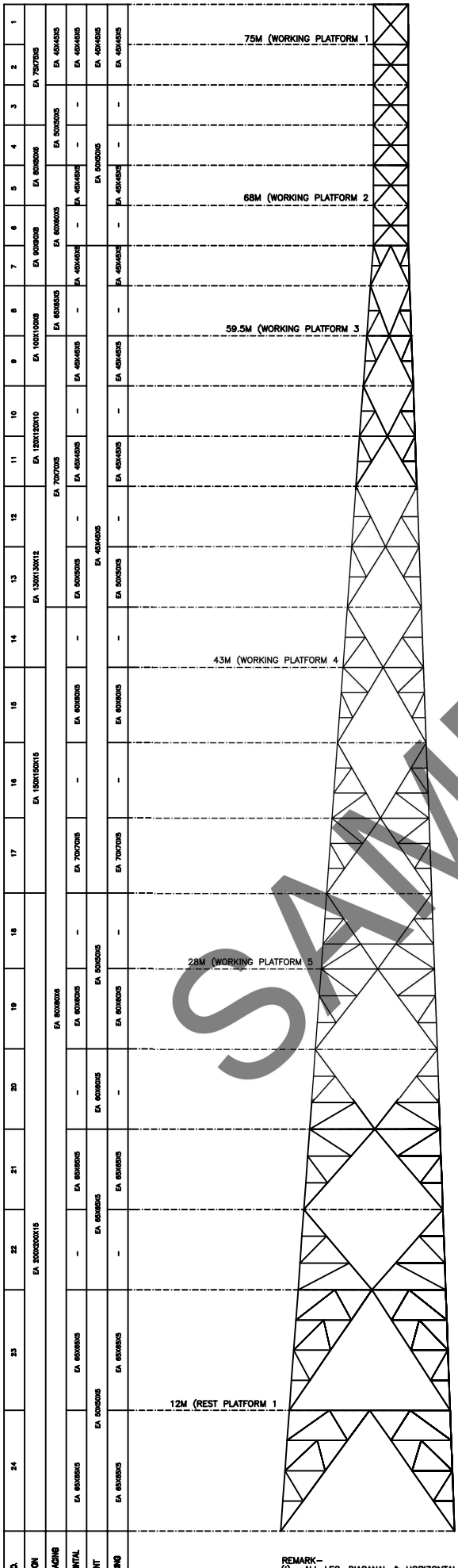
COMPOUND LAYOUT PLAN, TOWER AND PLINTH SETTING LAYOUT PLAN

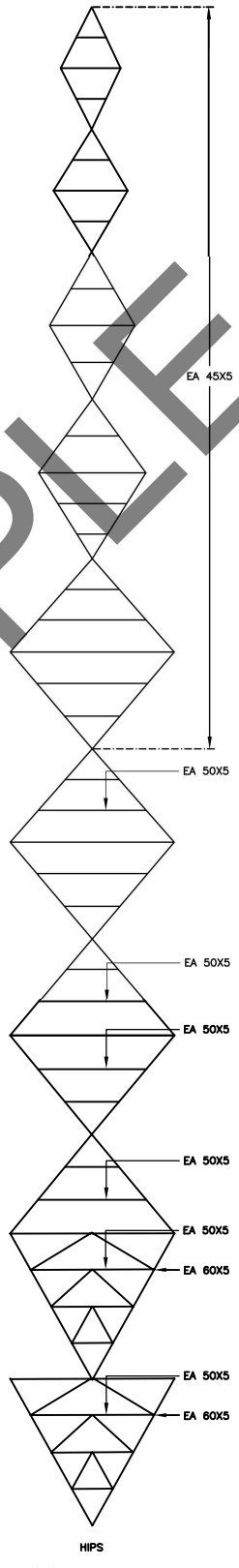
DRAWN BY :		
CHECKED BY :	A. HALIM	
SCALE :	A1 : 1 : 1	A3 : 1 : 2
DATE :	15 OCTOBER 2018	
JOB NO :	DRAWING NO : 01	REV.

APPENDIX M

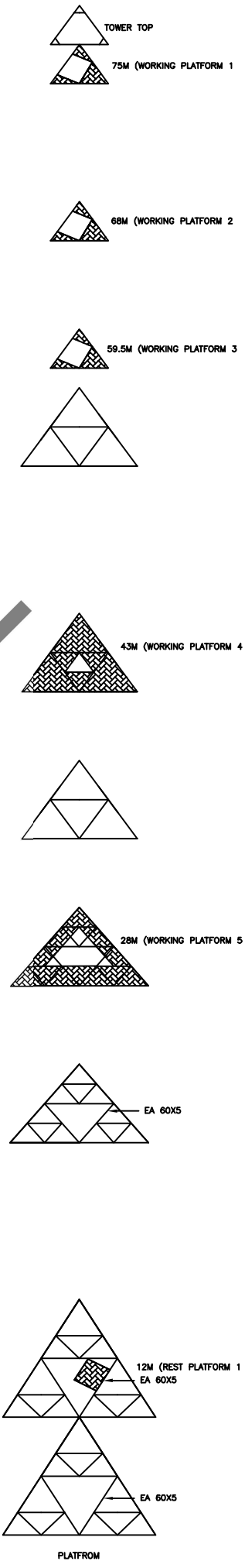
SAMPLE OF TOWER DESIGN DRAWING

SECT SIZE	FY	L(m)	M(kg)
EA 45X45X5	Y355	287.33	969.87
EA 50X50X5	Y355	461.54	1739.07
EA 60X60X5	Y355	323.33	1477.18
EA 65X65X5	Y355	175.19	859.55
EA 70X70X5	Y355	211.94	1123.02
EA 75X75X5	Y355	60.92	346.69
EA 80X80X6	Y355	348.25	2556.07
EA 100X100X8	Y355	15.04	181.33
EA 120X120X10	Y355	24.06	428.22
EA 130X130X10	Y355	9.02	117.08
EA 130X130X10	Y355	9.02	210.80
EA 150X150X15	Y355	33.84	1142.19
EA 90X90X8	Y355	12.02	131.11
EA 200X200X15	Y355	95.50	4329.27
TOTAL	15626.99kg		





HIPS



PLATFROM

REMARK–
(I) ALL LEG, DIAGANAL & HORIZONTAL MERBER ARE HIGH (HT) EXCEP EA 45X5
(II) ALL PLAN BRACING, REDUNDANT & HIPS ARE HIGH (HT) OTHERWISE AS STATED IN DRAWING

76m 3–LAGGED LIGHT DUTY TOWER

REV. | AMENDMENTS | DATE | CLIENT :

SARAWAK MULTIMEDIA AUTHORITY
LEVEL 6, BANGUNAN YAYASAN SARAWAK,
93300, KUCHING, SARAWAK.

IMPLEMENTING AGENT :

SIGN & CHOP :

PROJECT TITLE :
76m 3–LEGGED LIGHT DUTY TELECOMMUNICATION TOWER

DRAWING TITLE :
LINE DRAWING

DESIGNED BY : EFA
DRAWN BY : FREDRO
CHECKED BY : A. WALM
FILE NAME :
SCALE : AS SHOWN
DATE : SEPTEMBER 2019

JOB NO. : 76m_3legged/SMA/19
DRAWING NO. : TMR.01

REV.