

EAST NEW BRITAIN PROVINCE
POMIO DISTRICT-PALMALMAL
TOWNSHIP
TELECOMUNNICATIION
INFRASTRUCTURE UPGRADE



POMIO DISTRICT-Palmalmal TOWNSHIP Telecommunication Infrastructure Upgrade



Introduction

This report states findings on the recent travel to Palmalmal by Telikom Technical/Sales Staff from Telikom PNG Ltd Kokopo from the 15th April to the 18th April 2019. The report highlights communication problems experienced in the district and the way forward to solving the issues. But more so the trip was taken in conjunction with the current development plans for the upgrade of Palmalmal Township in the Pomio District as a priority step taken up by the current Open Member for Pomio District in promoting economic growth in the district.

Data submitted by Himson Bale, Wesley Diave, Elias Bingia and Peter Panui

Current Set Up



Co-ordinates-05°38.274' S
151° 29.583' E

22m Tower Palmalmal

Palmalmal has a 22m tower that is currently sitting idle with no GSM newtwork present. The District is only getting 2G from Digicel. Our findings confirmed that initially there was a BTS installed for CDM/GSM however for some reasons it was removed and never installed back. This site will be the main gateway into Pomio ditrict, where all other potential GSM sites will be connected to via Radio link. That site will also act as an entrance link for Telikom's Cable newtowrk into Palmalmal.Futher more it will cater for other service providers like, NBC, EMTV, FM Radios and others, through co-siting agreement.

Old Cable Network



The current cable network runs from the previous communication hut to the district treasury office and all the way to the wharf area passing through the residential area of 35 houses. RMI, BSP, ENBSL, Zero Whole Sales, ToBrat Trading, POST PNG, PALMALMAL Secondary School, Heath Centre are all within this cable limit. We pick up the administration office, Koki Guest House, Spirit of Pomio Whole Sale, Medical Store and Pomio Resource Centre at the same vicinity, while on the other end there is also existing cable network at zero supermarket, Papindo and the Police rural post. Upon inspection, the cable condition looked intact and undisturbed, since it is running in 50mm pipes and lead-ins running in 25mm pipes, however it will be advisable to test all cables for continuity and performance status as well as upgrading to cater for the growing township.

Potential Data Customers

The need for Data in Palmalmal is very demanding and recorded dialogues with very prominent heads of departments and other service providers in the district can justify TPNG must upgrade its services to cater for these demands. To begin with, all systems in Pomio are on stand alone. BSP, ENBSL and the Treasury office are targeted here due to the handlings of cash flow which directly contribute to the economy and life standards of people in the district. Public servants and their families are the most affected. They face the hardship of leaving their work behind and traveling to Kokopo for these most needed services. They can't cash K1000.00+ nor deposit government cheques in Palmalmal BSP sub branch simply because their systems are not in real time. BSP on the other end doesn't want to take the hazard of taking ownership of the cheque deposits, neither does ENBSL, hence, people have to travel to Kokopo for the service. The Chinese on the other end does cash out of cheques below K1000 but charges very huge amount of interest.

If Telikom can link up Palmalmal district to Toma directly then we can connect those standalone systems in the district back to their HQs in Kokopo and hence they can be able to operate on real time too to serve the people in Pomio better rather than these people risking their lives to travel to Kokopo for these services.

The Palmalmal Township and District Headquarters, is going through a major facelift with the new town plan set to be implemented. This will see new landmark development like a major hotel and hospital being built, as well as the development of tourist attractions. The process has already begun with the building of the new state of the art District Office Complex.

Propose 3G/4G Sites Surveyed

As part of our survey trip we also visited 3 potential GSM sites as per our propose 3G/4G network expansion plan. Sites selected have the potential to further boost business activities in the area, and earn huge revenue for KTHL. Based on the population data, project sites and the demand for faster internet connection by the huge expatriate community living and working in the area, two of these sites will certainly mirror that of Masarau Oil Palm setup, in terms of Data usage.

Potential Sites Surveyed

1. DRINA OIL PALM PROJECT

Co-ordinates- 05° 40.204 S

151° 24.568 E



2. RANO OIL PALM PLANTATION

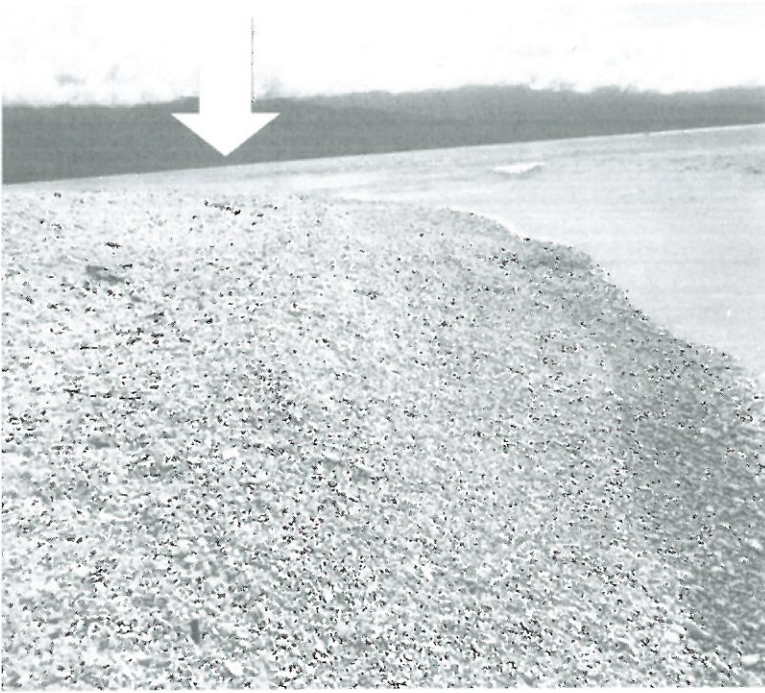


Co-ordinates-05° 54.014 S

151° 10.258 E

Next to Digicel 30M 2GTower

3. Central Inland Pomio LLG(MOANI CATHOLIC MISSION)



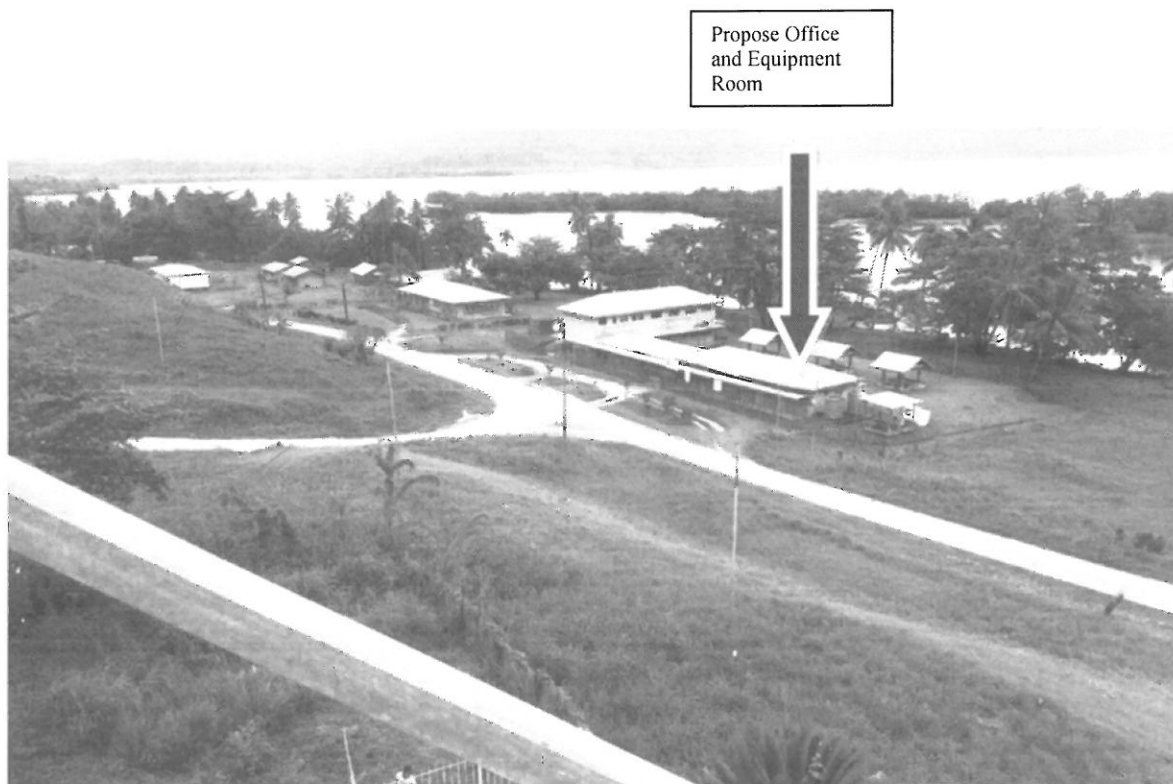
This site is next to Potential Tourist site-Wara Kalap
Co-ordinates-05° 31.164 S
151° 31.098 E

PROPOSE EQUIPMENT ROOM & KTHL BUSINESS OFFICE

In discussions with the District Administrator, a section of the old district Office was identified for co-siting to house our propose future KTHL Business office to cater for Telikom, Bmobile, Datec, and even EMTV.

As shown by the photograph below, the last section of building wing along the main road was identified as a potential room for a business office and also an equipment room.

This was communicated to the District Administrator.



Potential Fix Line and ADSL Customers

This table shows the potential residential customers that can be connected with fix lines, adsl and even the emerging IP TV Business. It does not include business houses and shops as mention above.

Location	No# Of Houses	Within Cable Limits	Remarks
DPI	5	Yes	Upgrade
Health Centre	20	Yes	Upgrade

Secondary School	35	Yes	Upgrade
Gov. Houses near School	10	Yes	Upgrade
Police	2	yes	Upgrade
District residents	35	yes	Upgrade
Guest House	5	Yes	upgrade

The LLG

Palmalmal is the District HQ that is made up of five (5) LLGs. We have LLG office fully functioning across the whole of Pomio. The biggest problem is the geographical features that makes travelling to Palmalmal very difficult. How do we make available faster Voice and Data to these LLG office to make life easier for the service providers in these sites?

Conclusion

The Business Boom in Pomio District is being triggered by huge Oil Palm development, Lime stone projects, and Tourism which has a high potential to grow in the district. With the discovery of notable natural attractions like: Wara Kalap, Blue Water Hole and Nakanai Trail, Tourism is set to grow. That is why there is a great need for communication upgrade in the area. KTH/Telikom would like to make a difference through the provision of our state of the art telecommunication products in the district, which until today is stuck with 2G network Technology, provided by Digicel. Other stake holders in the Government and Non-Government organizations are also seen flying into Palmalmal for the same reason; UPGRADE of the services in the District.

Palmalmal is the only district in East New Britain, without a proper communication infrastructure. KTH/Telikom Services can be the catalyst here in the development plans and endeavors of Pomio District. The district has a potential and formidable market both in the fixed and mobile services. It is now up to KTH/Telikom, through its Planning Department to put a cost to the following recommendations given below, and work in conjunction with the District Authority for implementation.

Recommendations

1. Install an Entrance Link into Palmalmal via Domsat or Advanced Vsat
2. Install a Standby Genset at new Palmalmal site, and restore solar backup, with new fuel tank
3. Install GSM towers (45m) at:
 - a) Palmalmal – 3G/4G
 - b) Drina – 3G/4G
 - c) Rano – 3G/4G
 - d) Central Pomio – 3G
4. Refurbish Ex-Tokua Hut and install at new Palmalmal site to cater for Network Upgrade

5. Install IP Radio links from Palmalmal to Drina and Central Pomio GSM sites
6. Install VSAT backhaul for Rano GSM site
7. Rehabilitate Cable Network at Palmalmal as per the Scope attached.
8. Renovate KTH Business Office at the old District Office
9. Install MSAN/BA1000 for Fixed Lines/ADSL services as per the EB.

ATTACHEMENTS

1. Palmalmal Cable Provisioning
2. Palmalmal Cable Restoration
3. Palmalmal Exchange Site Plan
4. Palmalmal Town Development Plan

Thank you

Himson Bale Waninara
Wesley Diave
Elias Bingia
Peter Paniu

Tuesday 23rd April 2019



TELIKOM PNG LIMITED
"our communication company"

Telikom PNG Limited

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Papua New Guinea

Ph: 982 9407

Email: Wesley.Diave@telikompng.com.pg

Our Ref: 002/2019
Date: 22nd April 2019

ENGINEERING BRIEF FOR ISLANDS MINOR WORKS

Project Title: PALMALMAL FIBER AND COPPER CABLE PROVISSIONING

Action Officer: WESLEY DIAVE
T/L Construction Kokopo

Recommended by: _____
Himson Bale
Ag/Regional Access Manager Islands

Approved by: _____
Head of Access Network

1.0 General

This brief outlines scope of works and cost estimates for the fiber and copper cable provisioning to the new proposed BA/MSAN switch at Palmalmal station

2.0 Proposal

Trench and install 36 meters of P100 from old district office, across the road to existing conduit run. Also Trench 520 meters of P50 conduit from existing pit at Pomio District office junction towards housing area. Install 2 No: 6 pits and 20 number 3 pits, Haul in 50 meters of 200/0.40 grease filled cable from proposed MDF to new No6 pit across the road. Also haul in 2X100/0.40 grease filled cable from new No 6 pit across the road towards the east and west respectively. 1000 meters towards the east and 1000 meters towards the west. Also trench and lay 1200 meters of P50 Conduit and haul 1300 24 Fiber from 4G tower site towards propose switch site at old District office. Technical officers from Kokopo access team will execute the job.

3.0 Justification

Palmalmal station was once have a communication network of its own. Due to the continuous vandalism of Telikom's network, all the communication to the station was abandon and never been restored. Pomio District with the backing of their current member, is now assuring Telikom PNG to restore back communication network to Pomio District.

The new fiber cable will carry the link from the new 4G site towards the new BA/MSAN site, while the copper cable will cater for the fix line services around the district areas including the hospital, school and staff houses. The old cable network and infrastructures are still intact which only needs upgrading and conduit diversion, due to new road reconstructions.

4.0 Work Required

- Local Tech to arrange with contractor carry out digging
- Contractor to trench, haul and install pits and markers
- Linesman to install cable entry, termination, jointing and testing

5.0 Transmission Limit

Within Palmalmal Proposed Exchange limits

6.0 Project Cost

Compest Cost Summary sheet attached

Summary of cost is:

Materials	Labor	Incidentals	Contract	Total
K176,200.00	K94250.00	K229,060.00	K159,250.00	K658,760.00

7.0 Funding, Execution and Time Scale

PROJECT COSTING SHEET

JOB TITLE: Palmallal Cabling Upgrade and Restoration

JOB SEQUENCI 1901/1

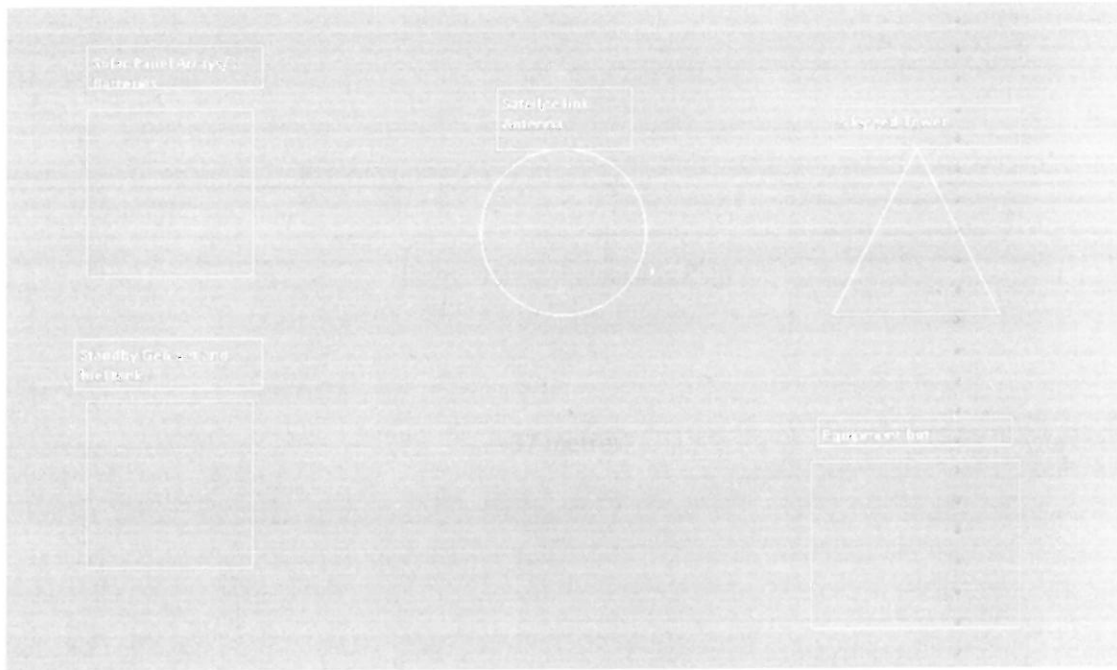
ESTIMATOR Wesley Diave

DATE : 22-Apr-19

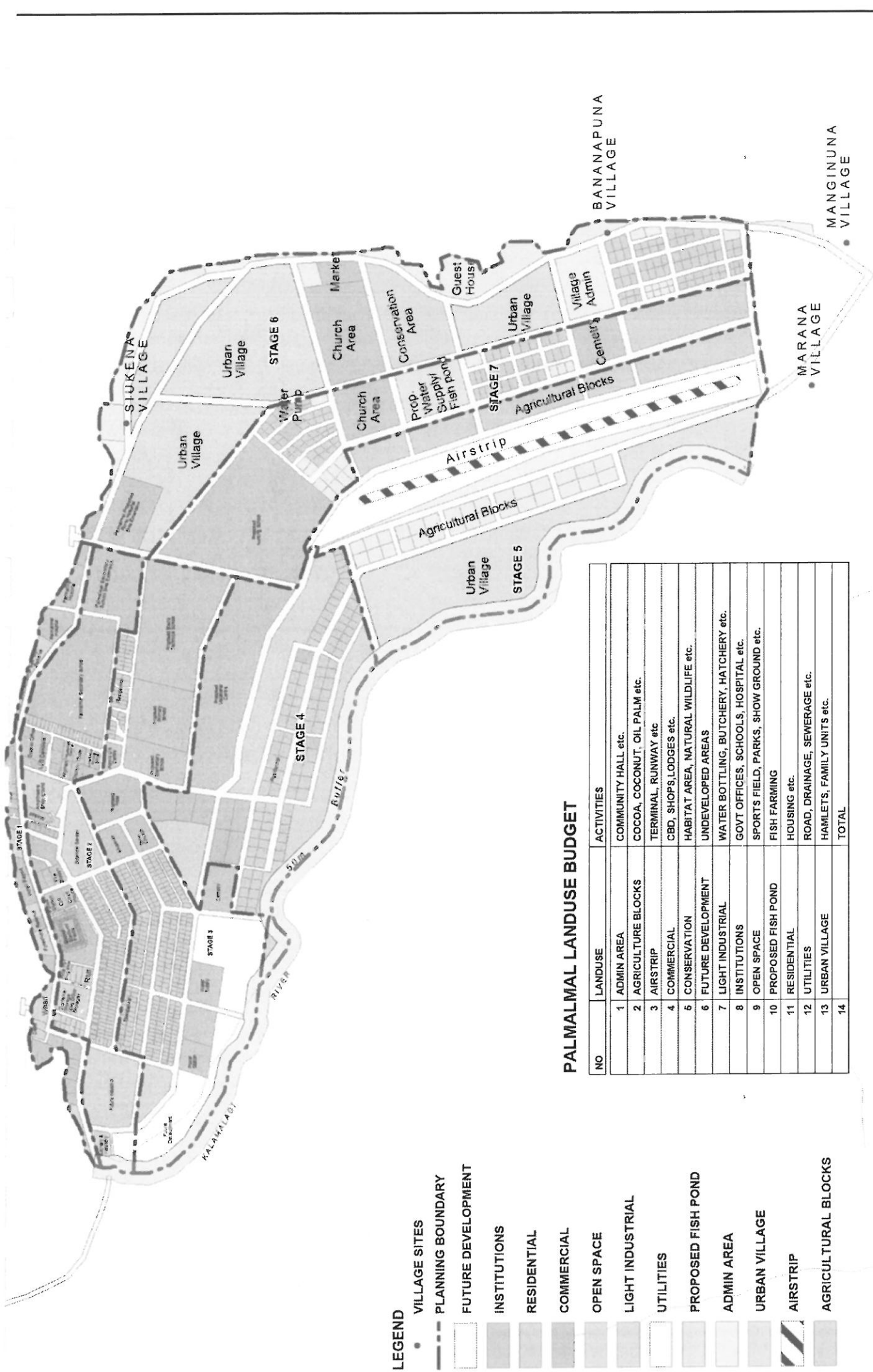
	ITEM DESCRIPTION	Stock Code	Stock	QTY	UNIT COST	COST
STORES	Conduit 100mm x 5.8m	3087		6	124.80	748.80
	Conduit 50mm x 5.8m	37283		300	55.60	16,680.00
	Jointing Pits No.6	38406		2	190.32	380.64
	Jointing Pit Lid No: 6	38315		4	83.42	333.68
	24 fibre cable SM	137166		1500	5.02	7,530.00
	24 ODF	639346		2	376.06	752.12
	Cable 200/0.40 CPFUT MB	49502		500	19.44	9,720.00
	Joint Enclosure O/J Small	93666		20	158.58	3,171.60
	Joint Enclosure O/J Large	93674		20	174.17	3,483.40
	Cable 100/0.40 CPFUT MB	551417		2000	11.62	23,240.00
	Cable 50/0.40 CPFUT MB	551391		1000	6.90	6,900.00
	Xaga 550 75-15/250	38638		20	127.08	2,541.60
	Xaga 550 92-30/500 P/N TFS	38653		10	106.88	1,068.80
	Cable 30/0.40 CPFUT MB	551441		1000	16.85	16,850.00
	Cable 10/0.40 CPFUT MB	594524		1000	2.25	2,250.00
	Cable 2/0.40 CPFUT MB	551300		5000	0.99	4,950.00
	Scotch Lock Connectors	40204		500	31.00	15,500.00
	Nylon Rope(600mmX500M)	93663		4	175.88	703.52
	Pigtails Simlex	139378		48	150.00	7,200.00
	Splice Protector	139379		48	60	2,880.00
	Jointing Pit No: 3	621525		20	259.42	5,188.40
	Jointing Pit Lid No: 3	5387523		20	58.98	1,179.60
				TOTAL MATERIALS	K	133,252.16
					30% Loading	39,975.65
					Total	173,227.81
LABOUR	ACTIVITY			MHRS	RATE	COST
	Supervision + Skilled labor component			2500	29	72,500.00
				TOTAL LABOUR		72,500.00
					30%Loading	21,750.00
INCIDENTALS						94,250.00
	ITEM DESCRIPTION			QTY	UNIT COST	COST
	Direct Purchases			5	2000	10,000.00
	Duty travel from Kokopo to Palmallal and back					
	Meals Allowances			180	140	25,200.00
	Air line tickets			10	1500	15,000.00
	Accommodation			180	350	63,000.00
	Hire Car			90	700	63,000.00
				TOTAL INCIDENTALS	K	176,200.00
					30%Loading	52,860.00
						229,060.00
CONTRACT						
	Pole erection			2	250.00	500.00
	Fiber Hauling			1200	7.00	8,400.00
	Trenching			1500	52.00	78,000.00
	Pipe laying			1500	15.00	22,500.00
	Pit Installations			22	300.00	6,600.00
	Copper Cable hauling			500	10.00	5,000.00
	Cable jointing			600	2.50	1,500.00
				TOTAL CONTRACTOR	K	122,500.00
					30%Loading	36,750.00
						159,250.00
COST SUMMARY						
Stores	Labour			Incidentals	Contract	Grand Total
176,200.00	94,250.00			229,060.00	159,250.00	658,760.00

Palmalm Exchange Site Plan

37 metres



Perimeter = 37 metres x 17 metres



- LEGEND**
- VILLAGE SITES
 - PLANNING BOUNDARY
 - FUTURE DEVELOPMENT
 - INSTITUTIONS
 - RESIDENTIAL
 - COMMERCIAL
 - OPEN SPACE
 - LIGHT INDUSTRIAL
 - UTILITIES
 - PROPOSED FISH POND
 - ADMIN AREA
 - URBAN VILLAGE
 - AIRSTRIP
 - AGRICULTURAL BLOCKS

PALMALMAL LANDUSE BUDGET

NO	LANDUSE	ACTIVITIES
1	ADMIN AREA	COMMUNITY HALL etc.
2	AGRICULTURE BLOCKS	COCOA, COCONUT, OIL PALM etc.
3	AIRSTRIP	TERMINAL, RUNWAY etc
4	COMMERCIAL	CBD, SHOPS, LODGES etc.
5	CONSERVATION	HABITAT AREA, NATURAL WILDLIFE etc.
6	FUTURE DEVELOPMENT	UNDEVELOPED AREAS
7	LIGHT INDUSTRIAL	WATER BOTTLING, BUTCHERY, HATCHERY etc.
8	INSTITUTIONS	GOVT OFFICES, SCHOOLS, HOSPITAL etc.
9	OPEN SPACE	SPORTS FIELD, PARKS, SHOW GROUND etc.
10	PROPOSED FISH POND	FISH FARMING
11	RESIDENTIAL	HOUSING etc.
12	UTILITIES	ROAD, DRAINAGE, SEWERAGE etc.
13	URBAN VILLAGE	HAMLETS, FAMILY UNITS etc.
14		TOTAL

NLDS

NIUGINI LANDS
DEVELOPMENT SERVICES

NIUGINI LANDS
P O BOX 2047
KOKOPO, ENBP

GRID NORTH
N

RV	REVISION	DATE	INT.	APP.

LOCALITY: WAIRIKI PLANTATION
DESIGNED: S BIAWAK
DRAWN: B. PAULIAS
CHECKED:
APPROVED
SCALE: AS SHOWN

PALMALMAL, POMIO DISTRICT
**PALMALMAL URBAN
DEVELOPMENT PLAN SHOWING
EXISTING LANDUSE
FACILITIES**

DATE: MARCH, 2016, REVISED APRIL 2016
PLAN NO. 1
FILE NO.
RE