



**GOVERNMENT OF VANUATU
PUBLIC WORKS DEPARTMENT**



PWD Quarry Guide

This guide is applicable to: All Public Works
Department Staff & other Government Stakeholders

DOCUMENT CONTROL

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1. DEFINITIONS AND ABBREVIATIONS

Term	Meaning
CBR	California Bearing Ratio
CLTU	Customary Lands Tribunal Unit
DEPC	Department of Environmental Protection & Conservation
DMM	Department of Mines & Minerals
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
L.A.Abrasion	Los Angeles Abrasion
MIPU	Ministry of Infrastructure & Public Utilities
PEA	Preliminary Environmental Assessment
PWD	Public Works Department
PSD	Particle Size Distribution
SLO	State Law Office
QMP	Quarry Management Plan



2. PURPOSE

The Public Works Department (PWD) under the Ministry of Public Utilities and Infrastructure (MIPU) of the Vanuatu Government has the responsibility to rehabilitate, maintain and further develop national roads and other Government owned infrastructure to facilitate economic growth and service delivery.

The purpose of this PWD Quarry Guide is to guide the Public Works Department, and its agents, in acquiring and managing quarries or borrow-pits, in a legal and environmentally-friendly approach, for the purpose of the construction or maintenance of road works under its own operational works and under donor funded projects.

3. SCOPE

In the planning stage of the construction of a new road or airport runway, or maintenance and rehabilitation of an existing road or airport runway, or for any purpose of which a quarry needs to be opened; this procedure manual shall apply to the Director of PWD and his Deputy, the Project Manager, the Operation Manager, all Divisional Managers and their respective Engineers, Senior Road Foreman and Road Forman and any other PWD personnel involved in the proposed works. And it shall also apply to all personnel of the various infrastructure projects of which PWD is the Employer or the Engineer, and other stakeholder agencies within the Vanuatu Government and non-government agencies.

4. OBJECTIVES

To ensure quarries and or borrow pits are properly acquired, used and rehabilitated upon works completion.

To establish the process, and criteria, of royalty payments for custom landowners for PWD quarries.

5. PROCEDURE DETAIL

5.1 Prospecting

A team of two to three persons shall endeavour on the prospecting phase. The team shall consist of:

- i.* A geologist from the Department of Mines & Minerals (DMM);
- ii.* An Engineer and Senior Road Foreman from the Public Works Department (PWD);
- iii.* A Manager or Technical Advisor of the PWD to assist with negotiations

Objectives of the team are to:



- i.* Locate the quarry site, (the geologist should have a geological map of the location/island).
- ii.* Quantify the volume of material to be extracted.
- iii.* Sample 50 kg of material from the site for geotechnical testing. (Tests to be done are CBR, PSD, Atterberg Limits, and L.A.Abrasion).
- iv.* Carry out PEA of the site, identify fruit crops and record, get consents from crop owners.
- v.* Survey the proposed quarry site area; site must be secured by permit.
- vi.* Negotiate with the land owner regarding the price/rate of royalty. (DMM to specify rate and take lead in land negotiations).

5.2 Environment Impact Assessment (EIA)

EIA is the process of assessing the environmental impacts of projects that are likely to cause an impact on the environment, including proposed quarry sites. This is in accordance with Part 3 of the Environmental Protection & Conservation Act [Cap 283] and the EIA Regulations 2011, administered by the Department of Environmental Protection and Conservation (DEPC).

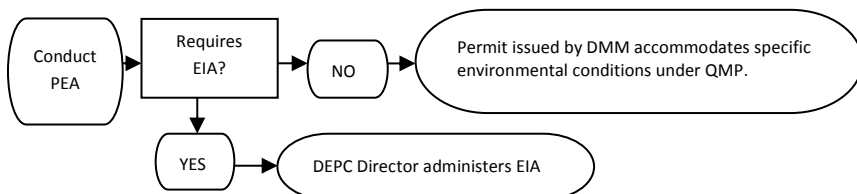
The first step of the EIA process is to undertake a Preliminary Environmental Assessment (PEA). The purpose of a PEA is to determine whether the project requires a complete EIA. All PEAs must be undertaken by the DEPC Director or an officer authorised by the Director.

The DEPC Director has delegated authority of conducting quarry PEA to the Department of Mines and Minerals (DMM), who is the body issuing quarry permits.

Therefore, during the prospecting trip, an officer from the DMM, who is authorised by the DEPC Director, shall be responsible for carrying out the PEA. The DEPC Director will then decide whether or not the proposed quarry can proceed without the need for a complete EIA. The Director's written approval must be obtained before any work can commence on a quarry site.

The Director of the DEPC shall inform PWD through DMM, in writing, of any particular approval conditions such as buffer zones, dust and noise control, operating hours, rehabilitation and other mitigation measures concerning the quarry site. The particular quarry's QMP must accommodate those conditions.

Environmental Process:





5.3 Department of Mines & Minerals Quarry Permit

The Department of Mines & Minerals is responsible for issuing quarry permits. Under the repealed Part 14 of the Mines & Minerals Act CAP 190, the new Quarry Act has provisions for the Public Works Department to be issued a PWD Public Permit which ignores fees in acquiring a Quarry permit.

Therefore, once the prospecting trip has been made, a Quarry Management Plan (QMP) shall be completed and submitted to the Commissioner of Mines (COM) for approval of Quarry Permit.

5.3.1 PWD Public Permit

Under the new Quarry Act, PWD shall submit to the DMM, a completed Quarry Management Plan, (attached as Associated Document 12.1), for the purpose of acquiring a PWD Public Permit for quarry works.

The QMP shall be submitted and shall include:

- a. Consent for access by landowner(s) for PWD.
- b. Site Plan for the quarry (with drawings of how the operation will move within the site and depth level of extraction).
- c. An Environmental Management Plan of the site.
- d. A Rehabilitation Plan.
- e. A listing of all machinery to be used on site for extraction process.
- f. Health & Safety Plan.

(Refer to PWD QMP template attached as Associated Document 12.1)

5.3.2 Landowner Agreement

The DMM shall be the lead negotiator between the government and the landowner(s). PWD in conjunction with DMM shall discuss the following regarding the proposed site:

- i. Ownership
- ii. Payment
- iii. Access
- iv. Extraction quantities
- v. Vegetation management
- vi. Rehabilitation requirements

The agreement must be in writing and signed by the landowner before any commencement of works.

PWD shall commence works once the quarry permit is granted.



5.3.3 Obtaining Consent from Disputed Areas

In the case of a land dispute in the Quarry site, consents must be collected from all disputing parties for the commencement or continuation of works, while the disputing parties sort out the rightful land owner at a chiefly level or in court.

Where the Quarry site is of Public interest and there is no alternative quarry site;

- The Minister of Lands can step in as the Land owner under Mining Act CAP 190, Part 16, clause 77: Compulsory acquisition of land;
 - For areas where there is lack of quarry sites;
- Lease the land under Land Lease Act CAP 163
 - For areas where short term quarry is needed.

5.3.4 Royalty Payments

According to Part 15 of the Mines & Minerals Act CAP 190, royalty payments shall be paid to the custom owners of the land and to the Local Government Council of the Local Government Region from which the minerals or building materials come, an amount not exceeding 40 per cent and 20 per cent, respectively, out of the revenue received in respect of royalties.

The rate specified in 2012 by the office of the Commissioner of Mines for the Public Works Department quarry permits is 125VT per cubic meter (loose) for the customary land owners. This is 40 per cent of the total royalty share.

Due to the reason that the PWD is acquiring quarries for public road works and not for commercial purposes, the 20 per cent royalty payments to the Local Government Council and the 40 per cent to the State are usually remitted, under the provision of remission provided for under CAP 190.

5.3.5 Royalty Payments Process

In all quarries, whether disputed or not disputed, the royalties are to be paid to the office of the Commissioner of Mines which will go into a trust fund with the Department of Finance, who will then pay the landowners.

Royalty payments will be made only after verification of landownership by the State Law Office and the Customary Land Tribunal Unit. The advice will be based on the land owner documents presented to them by the PWD or DMM.

The royalty payment will remain in the Finance Trust account until such time that any land disputes are resolved. Once the issue is resolved, the documents stating the true land owner shall be presented to the SLO for verification and advice and the final release of payments by the Finance Department. Flowchart illustrating royalty payment process is shown in page 9.



5.4 Dealing with Custom Land Owner Royalty Claims

In the case where a land owner makes a claim on quarry royalty payments, the written claim must be sent with all relevant documents to the Director of PWD, where the claim will be categorised under the PWD Quarry Claim Table, (*Table 1 below*), and shall go through the following process:

- i.* Validation of claim in accordance with PWD Quarry Claim Table;
- ii.* If claim is deemed valid, obtain verification of landownership from SLO and CLTU: *1 Month Time Limit*
- iii.* At the same time as point *ii* above, obtain verification from the respective PWD Division where the said claimed quarry is located: *2 Weeks' Time Limit*
- iv.* Pay off valid claims: *6 months' Time Limit*
Amount of claim is to be calculated according to the PWD Quarry Claim Table which is categorised into the following three periods:

5.4.1 Claims from pre-Independence time (1970 to 1980);

- Deemed invalid because Vanuatu was not a sovereign nation then.

5.4.2 Claims from post-Independence to pre-Mines & Minerals Act existence (1980 to 1986);

- Claims are deemed invalid because the legislation governing this activity was not in place.

5.4.3 Claims from post-Mines & Minerals Act to present (1986 to date).

- Claims are categorised under PWD Quarry Claim Table.

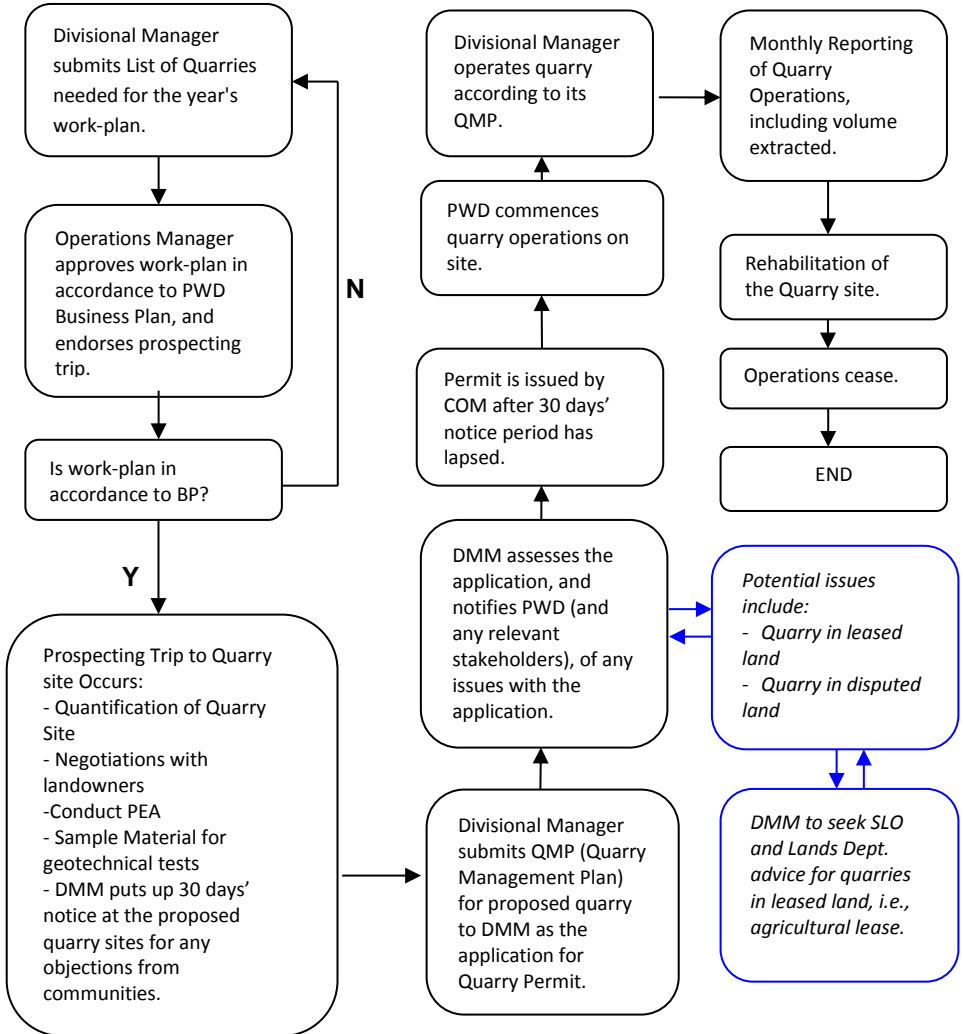
Table 1: PWD Quarry Claim Table

Claim Period (Year)	Quarry Size	Criteria of Size	Goodwill Amount Payable (VT)	Frequency of Payment	Conditions of Payment
1970 - 1980	Claims are deemed Invalid				
1980 - 1986	Claims are deemed Invalid				
1986 – 2010 (Usually no records kept, no permits used, no written agreements).	Small	Flat land, has no significant impact on natural environment.	20,000 – 50,000	One time	- Only for quarries without permits or agreements. - After goodwill payment, to re-use the quarry, PWD must have quarry permit.
	Medium	Has some significant impact on natural environment.	250,000 – 300,000	One time	
	Large	Has significant impact on natural environment.	500,000	One time	
2010 - Date	All under permit or valid agreement	Royalty: 125 VT per cubic (compacted) or as per agreement		Annually	Records must be accurate and true.



6. Flow Charts of Quarry Processes

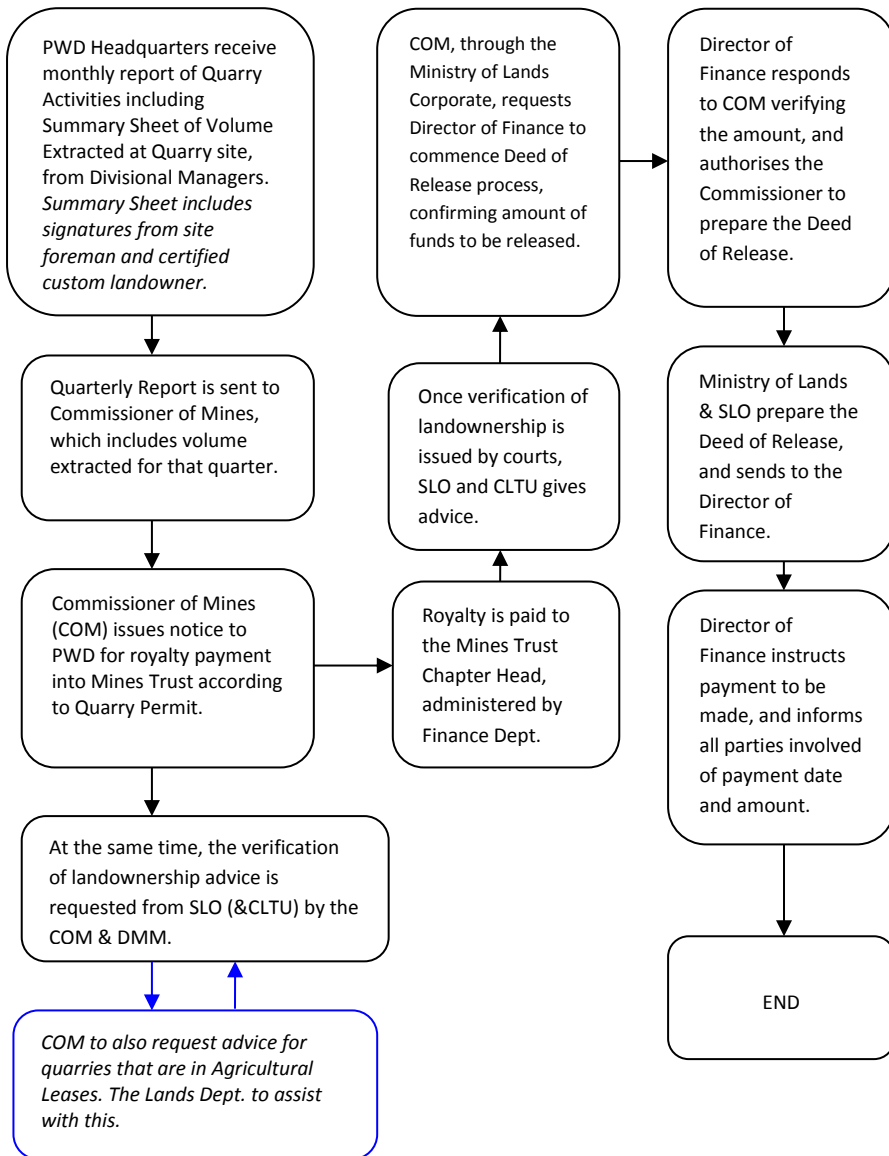
6.1 Process of Quarry Operation



NOTE: This process is for PWD Force Account type project. For any other projects, the process to obtain materials for road construction will be based on that project's contract agreement with the government of Vanuatu.



6.2 Process of Quarry Royalty Payment





7. ROLES AND RESPONSIBILITIES

Party / Parties	Roles and responsibilities
PWD Divisional Engineer OR Senior Road Foreman OR Road Foreman	Implement QMP and monitor compliance of QMP. Submit weekly quarry report to the Divisional Manager. Submit monthly summary sheet of volume extracted with certified custom landowner signature confirming the amount.
PWD Divisional Manager	Approve Prospecting team Complete Quarry Application Form. Keeps a register of all operating quarries under his province. Submit monthly/quarterly report of quarry works to Operations Manager. Monitors compliance of the QMP.
PWD Operations Manager	Submit monthly/quarterly report of quarry works to Director PWD. Monitors compliance of the QMP.
PWD Director	Endorses the completed Quarry Management Plan before PWD submits it to the Dept of Geology & Mines. Submit quarterly report (which includes current volume of material extracted) to all stakeholders including Commissioner of Mines, and Director of Environment & Conservation. Reviews the Quarry Procedures Manual every 2 years, or as required.
Commissioner of Mines	Issues quarry licenses. Endorse royalties of material extracted.
Director of Mines & Minerals (and officers)	Do negotiations with landowner regarding access to quarry and royalty payments. Assist in locating and quantifying quarry site. Carry out PEA of quarry site. Undertake monitoring of compliance of quarry QMP and EMP when relevant.
PWD Environment & Social Officer	Assist Divisional Manager in developing the QMP. Assist in monitoring compliance of the QMP.
PWD Laboratory Technician, PWD Lab	Carry out geotechnical tests on quarry samples. Keeps database of all quarries and their geotechnical properties.
Customary Lands Tribunal Unit Office	Verify customary land ownership of quarry sites.
State Law Office	Verify customary land ownership of quarry sites. Process Deed of Release for funds on Mines Trust Account.
Ministry of Finance	Process the Release of funds from Mines Trust Account to Custom Landowner.
Department of Environmental Protection and Conservation	Approve PEA of proposed quarry site and activity. Carry out monitoring of compliance of QMP when relevant.
Lands Department	Deal with Quarries in Leased lands.



8. IMPLEMENTATION AND REPORTING

Once permit is granted, the Divisional Manager, Divisional Engineer and the Divisional Senior Road Foreman shall be responsible for implementing the QMP.

Compliance to the QMP shall be monitored by the PWD Environment & Social Officer, the Operations Manager and on an ad-hoc basis, by representatives from the DEPC and DMM.

A quarry checklist form (contained in the QMP) shall be completed daily, by the Senior Road Foreman and the Road Foreman recording the truck tally (volume extracted), plant/equipment on site, visitors on site, incidents/ meetings etc.

This checklist will form the basis of the weekly quarry report which shall be submitted to the Divisional Manager by the Divisional Engineer.

The Divisional Manager shall be responsible for submitting monthly reports to the Operations Manager.

The Operations Manager shall be responsible for submitting the monthly and quarterly reports to the Director of PWD.

The Director of PWD shall be responsible for submitting quarterly reports to any interested stakeholders and in particular, the Commissioner of Mines, the Director of DMM, the Director of DEPC, the Director of Lands, the Director of Finance and the Attorney General.

9. MONITORING, EVALUATION AND REVIEW

Compliance to the PWD Quarry Guide shall be audited by the PWD Director.

Evaluation shall be made on the achievement of key performance indicators as stated in the Quarry Management Plan.

Review of the PWD Quarry Guide shall be made every 2 years, or as required.



10. CHECKLIST OF PROCEDURES

Procedure No.	Procedure Detail	Person Responsible
1.	Submit list of quarries needed for the year's work-plan to the Operations Manager for approval of prospecting trip.	Divisional Manager
2.	Prospecting of proposed quarry site: <ul style="list-style-type: none"> • Locating of quarry site • Quantification of quarry site • Negotiations with landowner(s) regarding ownership, royalty, etc. of quarry site 	Prospecting team: Geologist
	<ul style="list-style-type: none"> • Survey of quarry site (hand-held GPS) • Sampling of material (50kg) from quarry site for geotechnical tests 	Divisional Engineer/ Senior Road Foreman
3.	Draft and Submit Quarry Management Plan (QMP). Send soil sample to PWD Lab for geotechnical testing.	Divisional Engineer
4.	Submit QMP to the Operations Manager for endorsement.	Divisional Manager
5.	Operations Manager reviews QMP and recommends submission to Director who submits the QMP to the DMM.	Operations Manager Director, PWD.
6.	PWD Public Permit is granted by Commissioner of Mines (COM).	Commissioner of Mines
7.	Mobilisation of machinery/equipment to quarry site. Quarry operations start. Demarcate quarry site using pegs/fence.	Divisional Manager/ Operations Manager
8.	Implementation of quarry plans as specified in the QMP. Completion of weekly reports to the Divisional Manager.	Divisional Engineer/ Senior Road Foreman.
9.	Completion of monthly reports to the Operations Manager.	Divisional Manager.
10.	Monitoring of compliance to the QMP.	Operations Manager, Env. & Social Officer, (& Env. Dept / Mines Dept on ad-hoc basis).
11.	Completion of monthly/quarterly reports to the Director.	Operations Manager.
12.	Quarterly report to interested stakeholders, particularly the COM, DMM, SLO, MFEM & CLTU.	Director, PWD.
13.	Once quarry operations cease, rehabilitation works must occur as in accordance to QMP.	Divisional Manager, Divisional Engineer, Senior Road Foreman.
14.	Demobilisation of machinery/equipment.	Divisional Manager.
15.	Customary landowner royalty is paid after following payment process described in this Guide. (section 6.3.4, 6.3.5 and 7.2)	COM, DMM, CLTU, SLO, MFEM, PWD.



11. ASSOCIATED DOCUMENTS

- 11.1** PWD Quarry Management Plan (QMP) Template

12. REFERENCES

- 12.1** Public Road Act
- 12.2** Vanuatu Code of Quarry Practice
- 12.3** Mines and Minerals Act
- 12.4** Quarry Act
- 12.5** Environmental Protection & Conservation Act
- 12.6** Land Lease Act