Coonamble Shire Council

Mt Magometon Quarry Management Plan 2011 - 2021

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1. Introduction

In 2007/08 Council developed a Quarry Management Plan aimed at optimising the long-term performance of the Mt Magometon Quarry. This document is a review of that document and will be incorporated in Councils Management Plan for 2009/10.

2. Overview and History

The Mt Magometon quarry has been in operation for approximately 50 years. During the last 10 years Council have enhanced the existing operation, with the installation of a new crushing plant and the renewal of mobile plant.

A new DA approval, issued by Council in 1999, permits the extraction of up to 85,000Tpa, this being approximately 50,000 tonnes more than had previously been removed. With this new approval, and recent changes to road construction techniques across the Shire, extraction has been increased to an average of approximately 70,000Tpa.

Whilst the quarry has been of great benefit to the Council over its life, as the only significant source of high quality aggregate and roadbase, it is important that Council continue to gain an economic benefit from their investment, whilst also achieving the most beneficial use of this scarce resource. This Plan hopes to provide direction to the ongoing operation of Mt Magometon quarry in the medium term to achieve these aims.

3. Existing Operation

During the last few years, the construction techniques used on Council's local and regional roads has been modified. This has resulted in a more consistent requirement for roadbase than has previously been the case. In addition, the introduction of a significant works program by the RTA has also increased the need for quarried roadbase.

In recent years, the production of quarry material has been between 50,000 and 80,000T. This is approximately the level of production expected for the long term, sustainable reconstruction of Council's road network. The major products produced have been roadbase and sealing aggregates. By products such as crusher dust are also sold at a discounted rate.

Annual revenue has been relatively consistent in recent years at approximately $1.5 - $2million, with around third of this being private sales and the remainder being used by Council. Annual operation costs have been relatively consistent, being around $700-$800,000 per annum (excluding depreciation, loan repayments and stockpile adjustments). It can be seen that private sales currently cover a substantial portion of the cost of the existing operation. Given the substantial rock reserves still available on the site, it is recommended that these private sales are continued.

Annual net profit has fluctuated somewhat but have been relatively steady in recent years at around $2-300,000. This represents a return on capital of around 9-13%, which is considered appropriate for a commercial venture such as Mt Magometon. It is felt that this is an appropriate target for future returns.

Staffing levels at the quarry are based on four operators plus a Production Manager. This provides for the operation of the three items of mobile plant, the main crushing plant, and the weighbridge. There is sufficient flexibility within the existing workforce to enable the operation to continue, albeit at slightly lower production, with only four operators in the event of an absence at short notice. It is not felt that there is any need for change in staffing levels in the immediate term.

There are a number of areas of the existing operation that are undertaken under contract. These include:

1. Drilling and blasting operations
2. Crushing of oversize rock

Both of these operations require highly specialised equipment with a large capital cost. Given the relatively low frequency of this type of work (typically once or twice per annum), it is unlikely that the potential savings would justify the purchase of such equipment by Council. As a result, it is suggested that these contract works continue to be undertaken as required.

4. Development Issues

The existing pit has now extended well below the surface level of the surrounding area and has limited remaining life, although survey and design work has not been done to confirm exactly what the life is. A second pit was established in early 2008, with the two pits expected to run concurrently for several years.

5. Plant and Equipment

There are two major types of plant and equipment used at the quarry – fixed and mobile.

5.1. Mobile Plant

There are currently three major items of mobile plant, these being:

1. Volvo A25 Dump Truck
2. Cat 320 Excavator
3. Case 821 Loader
4. Komatsu PC200-6 Excavator

It is felt that the size and type of mobile plant be reviewed, with additional equipment hired if necessary for campaign crushing operations.

All three of these major items are provided through the Council Plant Fleet, and are internally charged in accordance with the Fleet Management Plan. The internal charges for these items fund their depreciation and subsequent replacement. The scheduled replacement of these items and the funding for this is described in the Fleet Management Plan.

Replacement of the Quarry's second vehicle be in accordance with Council's current policies and procedures for plant replacement.

5.2. Fixed Plant

The major fixed plant at the quarry consists of a crushing and screening plant. This was purchased in 2000/2001 at a cost of $1.3million.

The fixed plant is currently being depreciated over 25 years, this being a reasonable estimate of its economic life. This equates to approximately $55,000 per annum. This depreciation should continue to be cash funded to provide for future replacement.

The crushing plant is currently in good condition, given that was subject to continuous upgrading during the last few years. Maintenance and operational costs are expected to reduce during next few years.

In an endeavour to increase productivity, Council will be investigating reconfiguring the screening process to bypass the secondary jaw (HP Crusher) and it may be possible to complete these works "in house" utilizing existing plant and staff during lulls in production.

6. Products and Pricing

As noted earlier, the major products produced at Mt Magometon are engineered road sealing aggregates and roadbase. Council have, in the past, produced "rockfill", being an un-engineered raw product, and other low quality products. Following the change in road construction techniques, the focus is now on the production of engineered products of guaranteed quality. It is suggested that the production of "rockfill" should be only for specific Council projects that require such a product, and that the sale of this product to the public should be discontinued.

The pricing of the various products was reviewed by the Director of Engineering in a report to Council in November 2004 after which significant price increases were applied. It is felt that CPI increases in the medium term will continue to provide a profitable return on Council's operation.

7. Rehabilitation

The future rehabilitation of the quarry site was detailed in the 2009/10 Plan, however a brief overview is provided in this section of the Plan. Some additional needs have been identified.

The major components of the future site rehabilitation are:

1. Fencing and signage to ensure safety of the pit area
2. Removal of structures, roads and other infrastructure
3. Tree planting for the purpose of screening the site

It is expected that construction techniques during the operational phase will prevent the need for ongoing management of stormwater runoff or site safety. To this end, benches are to be established during the operation to provide adequate protection from landslip and/or rockfalls. Similarly, the site is to be graded such that the area in the immediate vicinity of the pit drains to the pit and does not allow runoff. In this way, only the surrounding area will require revegetation to prevent erosion and sedimentation.

The estimated cost of the major rehabilitation items is approximately:

1. Fencing	-	$ 20,000)	
2. Removal of Structures	-	$ 60,000)	$130,000
3. Tree Planting		$ 50,000)	

This cost should be provided for through the accumulation of reserves over the life of the quarry.

8. Financial Plan

As noted earlier, the financial position of the quarry appears to be sustainable, with profitable operations since the 2004/05 price adjustment, and the 1999 Development Approval providing a secure resource.

It is essential that cash funding of depreciation on the fixed plant is provided as part of the annual financial reporting for the quarry, this being approximately $77,000 per annum.

Finally, the long term rehabilitation of the site should also be cash funded through the preservation of reserves. These funds should be accumulated though the anticipated life of the quarry, which for the purpose of this plan is assumed to be at least 20 years. Section 7 of the Management Plan estimates the rehabilitation liability to be approximately $130,000 in today's terms, equating to an annual accumulation of $10,000 – this amount will allow for annual price increases.

Although reserves have historically been accumulated at a higher rate, this review identifies the long term funding needs to be equal to the annual

depreciation of fixed plant, plus $20,000 toward future rehabilitation. This will be cash funded as part of future financial statements.

9. Conclusion and Recommendations

This Plan constitutes a review of quarry operations at Mt Magometon. Whilst some information is still being collected and will be included in future annual reviews, this current Plan established Council's commitment to achieve a long term, financially sustainable management of the site, ensuring the most effective use of this valuable natural resource.

9.1. Existing Operation

It is recommended that Council:

1. Continue to operate the Mt Magometon quarry with the existing plant and equipment and staffing levels
2. Continue to utilise contractors for drilling, blasting and breaking down of oversize rock
3. Continue to investigate possible improvements to increase productivity.

9.2. Future Development

It is recommended that Council:

4. Continue the development of the new pit to the south of the existing workings
5. Commence discussions with the relevant Department to investigate securing additional land to the south of the existing pit.
6. Manage the cost of pit development through the utilisation of overburden in the production of roadbase wherever practical.

9.3. Rehabilitation

It is recommended that Council:

7. Accrue $130,000 at a rate of $10,000 per annum, plus CPI increases, toward the long term rehabilitation of the quarry.

9.4. Financial Matters

It is recommended that Council:

8. Aim to achieve at least 13% return on capital invested at the site and also two million dollar annual sale within the next two years
9. Increase prices annually in accordance with CPI, subject to a review of the prevailing market prices
10. Continue to cash fund the depreciation of plant and equipment on the site, with mobile plant to be funded through the Plant Reserve, and fixed plant to be funded through the Quarry Reserve