



# **Coonamble Shire Council**

**Mt Magometon Quarry  
Management Plan  
2016/17 – 2026/27**

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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 Council's Management Plan for 2016/17.

## **2. Overview and History**

The Mt Magometon quarry has been in operation for over 50 years. During the last 10 years Council has 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 80,000 t/pa.

Whilst the quarry has been of great benefit to the Council over its life as the only significant source of high quality aggregate and road base, it is important that Council continue to gain an economic benefit from its 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 road base than has previously been the case. In addition, the introduction of a significant works program by the RMS has also increased the need for quarried road base.

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 road base and sealing aggregates. By products such as crusher dust, spalls and concreting aggregates are also produced as required.

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 \$1 million 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 vital that these private sales are continued.

Annual net profit has been relatively steady in recent years at around \$200,000 - \$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.

In 2012 investigations were undertaken into the expansion of the Quarry and the Minister has given approval for the expansion and the lease for the additional area transferred.

#### **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 A40 Dump Truck
2. Komatsu 27 Tonne Excavator
3. Komatsu 3 cubic metre Loader

The size and type of mobile plant were reviewed in 2015 and a larger excavator, loader and dump truck were purchased, with additional equipment hired if necessary for campaign crushing operations.

All major mobile plants replacement program is provided through the Council Plant Fleet, and 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. Up on a review of the effectiveness and efficiency of the major mobile plants used at the Quarry.

Replacement of the Quarry's second vehicle will 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 \$87,000 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 dependent on output and production levels.

A new pre-coater has been purchased in 2013/14 and associated mobile retaining walls installed to store and segregate different aggregate sizes as well.

## **6. Products and Pricing**

As noted earlier, the major products produced at Mt Magometon are engineered road sealing aggregates and road base. Council does produce "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. The production of "rockfill" is used for specific Council projects that require such a product, and that the sale of this product to the public will continue in specific circumstances, i.e. scour protection, private road re-sheeting, causeway resheeting, culvert bedding to name a few.

The pricing of the various products is reviewed annually as part of the Fees and Charges in a report to Council. It is felt that CPI increases in the medium term will continue to provide a profitable return on Council's operation and Council ensures that its prices are competitive in the market sector.

## **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 rock falls. 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	-	\$ 30,000	)	
2. Removal of Structures	-	\$ 70,000	)	\$150,000
3. Tree Planting		\$ 50,000	)	

These costs will be provided for through the accumulation of reserves over the life of the quarry.

## **8. Crushing Plant Retaining Wall**

An assessment of the structural integrity of the Crushing Plant retaining wall indicated that it needs a replacement as the retaining wall wooded structure deteriorated to a level that allow the backfill to be eroded.

It is expected that the cost of the removal of the existing and construction of the new wall will costs in the vicinity of \$350,000.00. The work would need to be planned and carried out in winter 2016 as the crushing plant would need to be taken out of service for the extended period of time.

## **9. Financial Plan**

As noted earlier, the financial position of the quarry appears to be sustainable, with profitable operations since the 2004/05 price adjustment.

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 \$87,000 per annum.

Finally, the long term rehabilitation of the site will be cash funded through the application of reserves. These funds will be accumulated through 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 \$150,000 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 \$10,000 toward future rehabilitation.

## **10. 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.

### **10.1. 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.

### **10.2. Future Development**

#### **It is recommended that Council:**

4. Continue the development of the new pit to the south of the existing workings
5. Expand the quarry to extend the life of operations.
6. Manage the cost of pit development through the utilisation of overburden in the production of road base wherever practical.
7. Implement a designated pre-coating operation area following the purchase of a pre-coater.
8. Upgrade the fuel storage capacity.
9. Investigate and seal the haulage access road to eliminate dust.

### **10.3. Rehabilitation**

#### **It is recommended that Council:**

10. Accrue \$150,000 at a rate of \$10,000 per annum, plus CPI increases, toward the long term rehabilitation of the quarry.

#### **10.4. Crushing Plant Retaining Wall**

**It is recommended that Council:**

11. Approve a budget of \$350,000 for the reconstruction of the retaining wall.  
Funds to be sourced from the Quarry Reserves.

#### **10.5. Financial Matters**

**It is recommended that Council:**

12. Aim to achieve at least 13% return on capital invested at the site and also \$2,000,000 annual sales
13. Increase prices annually in accordance with CPI, subject to a review of the prevailing market prices
14. 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.
15. Consider utilising profit for future Urban Street Rehabilitation project.