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### ASSET MANAGEMENT IS AN INVESTMENT

With a surprisingly SHORT payback period!

#### Savings are like dividends – you have to invest to get them!

Too many organisations today are trying to force savings without up-front investment in research and planning. The end result is that their cost cutting results in an even greater cut in value or service. They end up charging more for a worse service and wonder why their customers or ratepayers vote with their feet. The trouble is they are trying to reap where they have not sown!

Achieving savings *without destroying the business* requires some investment in asset management and this costs time and effort – but, *chosen wisely*, the dividends can vastly outweigh the initial cost, sometimes even within the same or next accounting period!

Three short term pay-back techniques worth employing are

- Value Management
- Pilot Studies
- Strategic Planning

The three articles in this issue, each in their own way, deal with up front investment in asset management, and the great benefits to be achieved. Peter Yeomans, Yeomans Consulting, writes of benefits of VM that go far beyond the dollars; Geoff Glynn, writing for the City of Whitehorse, Victoria, looks at sustainable asset management and asks (and answers) the question “Does Recycling for road rehabilitation stack up?” And Wilton Boyd, Tamworth City Council and Cary Reynolds, Tomorrow Today Strategic Engineering Planning look at ways in which the management task is going to get tougher – and what to do about it.

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*Value Management (VM) is an investment in doing things better – it can reduce costs but the benefits of VM go far beyond the dollars as Peter Yeomans argues in this article.*

## VALUE MANAGEMENT—BEYOND THE DOLLARS

*As part of the close-out of his VMs, participants are asked to identify the key outcomes and accomplishments of the VM exercise. Ten or so issues are raised with increasing regularity – and financial gains do not rate a mention, either taken for granted or considered of secondary importance!*

*This is what he found.*

*“Themes of a shared understanding, a clear understanding, an unambiguous brief, a defined way forward come up time and time again and are often considered to be the big ticket outcomes.”*

*“Even in the most sensitive of situations where property resumption might be a key issue, those directly affected can be positive contributors and respond more favourably as a result of being treated genuinely as a stake-holder”*

*“Months of deadlock can be corrected in a few hours with a well run VM”*

- **Communication.** The international construction industry is an underachiever. One of the root causes of this sad state of affairs is poor communication. In no other industry is the responsibility for production so far removed from the responsibility for design. The industry has been eloquently described as operating as “isolated islands of expertise”. ... Contemporary VM overcomes this by involving key players, working together in a positive social climate. “Key players” would be the design team but also the client and an end-user. In a very short fragment of time, all parties are talking the same language. ... The synergies lead to smart, value-added outcomes and the client or building owner ends up the requisite school, and not a nuclear power plant.

- **Ownership.** In today’s climate, is it sufficient to simply present a set of proposals in a local library or shopping centre and invite comments? The answer is probably a resounding “no” and yet this remains the most common version of community consultation. Far better is it to involve the community as part of the process and enable it to be part of the solution rather than the problem. A strategic VM application embraces this opportunity strongly. A large number of community interests can be represented in a large workshop format, or series of workshops, to generate and clearly define community concerns, needs and ideas – more a case of community feedforward than feedback..

- **Time** VM can be used to accelerate an established project programme/schedule or part thereof. Greater gains will be made from considering the entire project schedule rather than just the construction portion and may bring into the spotlight alternative contracting strategies and other fast tracking interventions where time is of the essence. One of the most powerful and yet least acknowledged benefits of VM is that it is extremely time effective. This, unashamedly, flies in the face of the critics who see it as too time consuming and an added burden to an already busy business life. Not so. The framework for the project brief can be established inside two days rather than weeks and months. Deadlocks can be dismantled enabling projects to be released from stalemate.

*"An intensive two-day VM workshop can deliver a framework for the brief generated by the right people with the best information. The overall project schedule can then shrink significantly."*

*"The lowering of traditional professional barriers (not standards!), the willingness and ability of all parties to acknowledge the power of synergy and the innate sense of ownership do make a difference to the project team"*

*"Intransigence, posturing, I am right, you are wrong and professional/departmental/us and them attitudes are ingrained. I don't know why but VM takes the wind out of these particular sails."*

- **Briefing.** There is a link with the point above when it comes to briefing. The key outcomes from using a VM approach to briefing is that it provides the opportunity to 'get it right first time' i.e. a robust and meaningful brief, driven by the MUST do's of function analysis, providing a package of needs rather than wants. Over and over this potential is raised, particularly by architects (the converts!) who might spend weeks and months chasing misinformation towards compiling an unsatisfactory project brief.
- **Risk.** A risk study is useful as a forerunner to or corollary of VM but increasingly the two are being combined.
- **Teamwork.** Teamwork in the project environment is actually rare. The isolated islands of expertise come into view again. VM, as a structured group process, relies on the group dynamic to make it work. True teamwork is a state resulting from positive group dynamics. Handled appropriately, a VM gaggle will flower into a functioning team and hopefully remain in that model beyond the VM workshop.
- **Never mind the width, feel the quality.** One aspect of VM is to achieve quality and performance expectations at lowest cost. If, however, a budget has been set, VM can achieve process or product improvement for the same price.
- **Co-operacy.** Co-operacy is fairly self-explanatory but rarely practiced. It is unfair to suggest that VM is a conflict resolution, mediation or arbitration tool (these sadly are common misconceptions however). And yet this is often the backdrop. Perhaps the {reason that VM works is that the} nature of the process disallows the necessary soapboxes to be mounted or perhaps such individuals cannot help but contribute to satisfy their own sense of self, and accidentally and brilliantly get sucked in, or perhaps it simply provides the level playing field which has been missing to date. All I know is that it works, and it works in VM to a degree that I have neither experienced nor heard tell in other group processes.
- **Synergy.** Synergy is the things that happen when a mob of people get together. It is an enabling force. Extraordinary ideas and results come from synergy. In the project environment, the synergies from VM seem to happen on a level almost non-existent in the normal day-to-day business of procuring an asset, and far beyond those in other participative management processes.
- **Strategic Directions/Scenario Planning/Strategic Planning.** Not collateral gains per se but, rather, benign opportunities for the principles of VM. At the end of the day, they are all about visioning needs and generating innovative means to satisfy those needs or ends.

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## RECYCLING - DOES IT STACK UP?

### Road Rehabilitation using 100% Recycled Materials

*It is easy to reject a new idea, or, conversely, to seize upon it without due consideration. Both can lead to major waste. The City of Whitehorse **invested in testing** – and some of the dividends are already being reaped*

*Geoff Glynn shows how the City of Whitehorse went about testing – and, importantly, how they interpreted the results.*

Council had a commitment to a new Waste Management Strategy with emphasis on waste minimisation and recycling in all Council activities. The task was to

- Establish whether a road can be rehabilitated using 100% recycled materials
- Establish cost differences compared with conventional methods of construction
- Develop a greater awareness in the road construction industry of the alternative methods of rehabilitating roads using recycled products.
- Establish what products are not available or are not of suitable quality in the recycling industry for road rehabilitation projects and provide guidance of what improvements are required.
- Establish the benefits of adopting waste minimisation techniques for road rehabilitation works.

Other outcomes of the project expected were to establish time differences in completing the project, the attitude of contractors in using the products, and the life expectancy of the project.

The objectives were defined and key stakeholders such as the recycled material suppliers, road construction contractors and case study publishers EcoRecycle Victoria were involved at an early stage.

Two roads were selected with similar characteristics and size, each requiring the same type of reconstruction to correct pavement failures. A new engineering specification was developed for one aiming for as much recycled content as possible. The specification was finalised after consultation with industry over the quality and availability of recycled products.

One of the key criteria in the development of the specification was that the specification for the project had to read as a normal specification and that the only difference was in how the materials were specified. Early in the development of the project it was thought that Council would purchase the materials and that the contractor would just be responsible for providing the labour to construct the road. This was abandoned, as it was essential that the contractor took ownership on the whole project and that the specification was as close to a traditional specification as possible. The intention was to provide a real example to the industry that has not been manipulated by the Council and could be readily adopted by other organisations to construct works from recycled products.

*"The entire project was carefully planned, recognising the need for transparency, accuracy and cooperation from all key stakeholders."*

*"The specifications also required contractors to minimise waste arising from their construction procedures and to actively source alternative disposal arrangements for any waste rather than take it to landfill."*

**Tendered rates were higher and fewer contractors tendered.**

Special tender information and post-tender sessions were conducted to ensure that the road construction contractors clearly understood and contributed towards the desired outcomes of the project. All aspects of the construction were closely monitored and measured. Council staff and the contractor worked closely through all stages of the project to ensure the completed project met quality standards and any problems were quickly addressed.

### **Results**

The "recycled" specification was largely achieved and the street was successfully reconstructed. 82% of materials (by weight) were recycled or re-used compared with 26% for the 'control' street reconstruction. (see table next page). Some materials were not available with recycled content.

The tendered rates for the reconstruction of the recycled road were not as competitive as the non-recycled road, and fewer contractors tendered for the recycled road project. This reflected a lack of knowledge within the industry about using recycled products. It may also have indicated some hesitation about contractors making the extra effort to plan and implement a road reconstruction based on a 'different' specification that required use of new products as well as waste minimisation techniques.

***The project team considered that these factors will be overcome in time as the recycled products prove their performance and become more readily available and understood.***

Also the cost of some of the recycled materials was more expensive than the virgin product materials. E.g. the 1000% cold mix recycled asphalt product was 20% more expensive than normal asphalt. Discussions with the suppliers indicated that this difference was due to the fact that there was little demand for the product and therefore it was expensive to do one production run.

***It was indicated that when there is more demand the cost would reduce substantially so that it would be 20% cheaper than standard asphalt.***

### **Conclusion**

The challenge was "Does it stack up? Road Rehabilitation using 100% recycled materials." Well, the answer is not yet. The amount of recycled material used in the contract finished up at 82% by weight of the project. If all things had gone well with materials being able to be delivered in a reliable and timely way this could have been increased to about 95%. However for this to occur in a cost effective and practical way, more suppliers are required and the industry needs to further mature. Constructing a suburban road in this method with 100% recycled road does not appear to be possible from our experience.

**The Statistics**

|   | Recycled Road   | Conventional Construction |
|---|-----------------|---------------------------|
| Number of tenders received  | 8               | 13                        |
| % of materials recycled or re-used (by weight)                          | 82%             | 26%                       |
| % of materials removed from site that were sent to landfill (by weight) | 40% (only clay) | 93%                       |
| Waste materials separated and alternative disposal arranged?            | Yes             | No                        |
| Overall cost comparison with conventional construction                  | +17.2%          |                           |
| Cost of recycled materials compared with benchmark street rates         | +7.2%           |                           |
| Number of items/commodities recycled or re-used                         | 9               | 2                         |

The recycled street project succeeded in demonstrating that road reconstruction can be undertaken utilising a high percentage of recycled materials without detriment to the quality, time frame or performance of the roadworks. The cost of providing recycled materials exceeded that of conventional materials by 7.2%. The overall project cost was 17.2% higher, however, the cost disparity is expected to decrease significantly as suppliers and contractors gain experience in dealing with recycled materials.

Some of these additional costs at present relate to the excessive distance to a particular recycled materials supplier, the less competitive nature of the product pricing due to low production volumes, or the lack of recycled alternatives available.

Increasing the amount of recycled materials used in road construction is considered worthwhile because there is

- A reduction in reliance on virgin materials, resulting in energy and environmental savings
- A boost for manufacturers using recycled materials, encouraging them to improve the quality and cost of recycled materials.

The road contractor who constructed the recycled street has indicated his intention to continue using waste minimisation principles and some of the recycled products in future projects.

The City of Whitehorse will update its roadworks specifications to include more recycled products. Council intends to continue to promote the project outcomes and the benefit of using recycled products in road construction.

**Acknowledgements:** I would like to thank the project team Ian Barnes, Mark Bullen and Richard Meloni without whose expertise and support this project would not have been possible. I would also like to thank the contractor John DiCarlo and his team for their good work in delivering the project. The Whitehorse City Council should also be acknowledged for having the courage to promote such innovative projects.

## IF YOU THINK IT IS TOUGH NOW, it is going to get tougher!

**Plan now to cope!** This is the message from Wilton Boyd, Director of Technical Services at Tamworth City Council and Cary Reynolds, Tomorrow Today Strategic Engineering Planning. It's no use sitting back bemoaning the state of the world, **invest in the time to set in place coping mechanisms.**

*In this issue the authors look at the issues and in the next issue, we will look at some of the strategies that Tamworth is putting in place to cope.*

The future will see:

- **Increased Litigation**

Professional indemnity insurance for medical practitioners has in the space of a decade or so risen from around \$2,000 per annum to \$70,000 per annum effectively removing some medical practitioners from practice. Engineering as a profession is now starting to feel similar pressures on its professional indemnity insurance and if we are not careful this increased litigation could result in a lot of those small consulting agencies also being removed from practice.

Tamworth City Council is, for example, currently being pursued through the courts by residents who live along the 60km length of the pipeline from one of its dams to the city's water treatment plant, essentially on the basis of not providing potable water from the main. This is a class action and as such requires only seven signatories to create the class.

Solicitors and barristers cost many times what current technocrats tend to costs and frequent use of these will soon eat away much of the engineering or the doing budget. One partial solution will be for our learning institutions to incorporate key aspects of law within the basic degrees we require of these technocrats. Alternatively the creation of specialist postgraduate courses (particularly correspondence courses) with engineering and contract law is a must, as part of the ongoing training that such staff must undertake.

- **Increased regulation**

This has been the experience of the USA and Europe, with such regulation accompanied by large fines and the potential loss of operating licences. Australia is trailing at present but will catch up. Old practices of sending poorly performing staff members to the landfill site or to the sewerage treatment plant as a quasi form of punishment can no longer be entertained. Particularly when it is realised that these are also potentially the areas of our operations which carry the greatest exposure to such fines.

- **Reduced Operational Budgets**

To cover the costs mentioned above. New skills will be required to deal with the new problems, particularly environmental, but the funds are not available to employ any of these additional skills.

- **Greater Media and Community Scrutiny**

Service providers often suffer a credibility gap in the eyes of their communities who are becoming better skilled at using the media to convey

Remember it is not the service you provide that is remembered, but the public's perception of that service!

▪ **General Industry De-skilling**

The old apprenticeships and training grounds in large government organisations no longer exist and the average age of technocrats is increasing. The range of skills required is becoming greater while the pool from which this can be drawn is shrinking.

▪ **Affordable asset replacement**

[Ageing assets are facing renewal] Many of these assets were initially installed in greenfield conditions but will need to be augmented in highly urbanised conditions and at many times the original cost. .... Water, sewerage and electricity as the more 'on property' oriented services, will arguably be the most affected. .. Landfill sites will be moved further from the township possibly replaced by new transfer stations. 'No waste' strategies will be well on the way to being implemented and potentially offer some for of system end treatment plant that allows all waste to be re-used.

[Other costs adding to renewal difficulties include} resource availability, government reform agendas, ability to attract industry which as the provider of employment is critical to the life cycle of most country towns and cities, contaminated sites, water trading and increased environmental costs, due diligence exposure, etc.

*In the next issue, Wilton Boyd and Cary Reynolds will tell us some of the strategies that Tamworth is using to cope with these tougher times: - Strategic Partnerships; Personal Skill Gain; Build Own Operate Schemes; Future Planning; Commercial Focus; Customer Charters; and Purchasing of Water*

*How can you cope with these coming costs? See what Tamworth is planning in the next issue.*

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