7	**SUBJECT:**	Tims Thicket Septage Facility: Proposed Upgrade
	CONTACT OFFICER/S:	Kyle Boardman/Allan Claydon
	AUTHOR:	Kyle Boardman
	FILE NO:	A0455

Summary

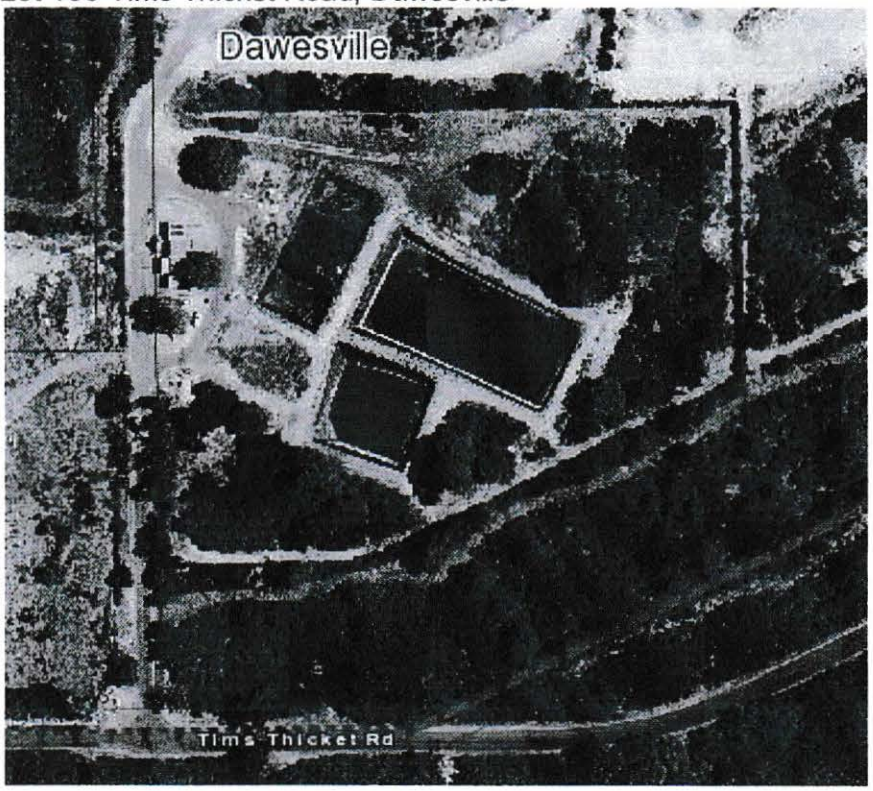
Council previously considered a report regarding the proposed upgrade of the Tims Thicket Septage Facility at its meeting on 20 June 2015, where it resolved to defer the report pending an Elected Members briefing on the environmental impacts of the current site and the proposed future upgrade.

An Elected Member briefing was subsequently held on 7 July 2015, where presentations were made addressing environmental matters that had been raised.

Based on the Elected Member briefing and the additional environmental information contained within this report, Council is now requested to endorse the upgrade of the Tims Thicket Septage facility and authorise officers to proceed with the proposal to upgrade the existing facility to meet DER requirements.

Location

Lot 180 Tims Thicket Road, Dawesville



Previous Relevant Documentation

- G 16/6/13 — 25/6/13 — Council resolved to formally close the Tims Thicket Septage Facility, effective from 1 October 2013.
- G 21/12/13 — 17/12/13 — Council resolved to continue the operation of the Tims Thicket septage facility for the foreseeable future.
- G 32/6/15 — 20/6/15 — Council resolved to defer consideration of this report to enable an Elected Member briefing to be held in July, at which time officers will respond to the questions raised. An officer from the Department of Environment Regulation was requested to also attend the briefing.

Background

The septage facility consists of a concrete receival tank, three anaerobic (plastic lined) ponds, a facultative (plastic lined) pond, an oxidative (plastic lined) pond and an overflow infiltrative area. The septage facility is designed to treat both septage and grease trap waste from Mandurah and the local region and has an annual design capacity of 6500 m^3. The facility is managed by Transpacific Cleanaway under the City's Strategic Alliance Waste Outsourcing Agreement.

The facility was constructed in 1995 and has generally served the local community well over the last 20 years. Volumes in late 2010 reduced significantly due to reduced disposal rates being offered at a privately operated waste treatment facility in the region. Council resolved in June 2013 to formally close the septage facility, but delayed the closure date until 31 October 2013 due to external influences (closure of treatment plants within Perth) and a short term lack of alternative facilities within Perth and the Peel region.

Council further resolved in December 2013 to continue the operation of the septage facility as the lack of alternative facilities was not a short term issue, and based on site usage it became apparent that there was need for this type of infrastructure within the region.

Due to the lack of alternative liquid waste facilities in the Perth Metropolitan area and the Peel region, the septage facility was well patronised during 2014 and reached its annual throughput of 5,000 m^3 in October 2014. An approach to the DER to temporarily increase the licence volume requirement was denied (even though the design capacity is 6,500 m^3) so the Waste Alliance had no option other than to temporarily close the liquid waste operations. The DER required the licensee to apply for a Work Approval to increase the annual throughput at the facility. Based on previous experience, the DER normally take about 6-8 months to process a Works Approval Application. and given that the annual throughput would reset on 1 January 2015, the Waste Alliance resolved not to proceed with this course of action.

Comment

A copy of the previous Council report which focussed on the business plan components of the Tims Thicket Septage Facility upgrade proposal is included. (Refer ***Attachment 1).***

A local resident raised specific questions at the Governance and Infrastructure Committee meeting on 16 June 2015 and the subsequent Council meeting on 23 June 2015. A written response to the questions raised is attached. (Refer ***Attachment 2 and 3***).

An Elected Member briefing was held on 7 July 2015 addressing the current septage site, the proposed upgrade and an evaluation of environmental monitoring data. Presentations were made by the City's Coordinator – Waste Management, Mr Ronan Cullen from Talis Consultants (Waste Management and Environmental Services Consultants) and Mr Paul Antony and John Grayson from Transpacific Cleanaway. Presenters also answered questions raised by Elected Members. A copy of the PowerPoint presentations are attached. (Refer ***Attachment 4***).

An officer from the Department of Environment Regulation was invited to attend the Elected Member briefing, but declined the City's invitation as they were unable to provide any site specific information.

The key points of the presentation at the Elected Members briefing can be summarised as follows:

- Site licensed as a *liquid waste treatment facility* by DER and Transpacific Cleanaway are the current licensee
- The *liquid waste treatment facility* licence has been suspended by the DER pending an outcome on the future of the Septage facility
- City is responsible for compliance with the environmental management commitments detailed in the original Consultative Environmental Review document for the site
- Septage facility was only licensed for the receival of septage and grease trap waste

- Five monitoring bores installed in 1995 (around the septage facility) and are sampled twice yearly (April and October) in accordance with the site licence
- 4 additional monitoring bores were installed in March 2005 (surrounding inert landfill) to monitor the possible impacts of the inert landfill on the groundwater aquifer. These bores are also sampled twice yearly
- Bore monitoring results have at times exceeded Australia and New Zealand Guidelines for Fresh and Marine Water Quality short term trigger values
- The ponds have been designed to enable effluent to overflow from the oxidative pond into an infiltrative area (environment) during the winter period. The quantity and quality of effluent must be measured during periods of flow so the nutrient loading into the environment can be calculated and included in the annual Monitoring report to DER
- Source of localised groundwater contamination is primarily due to pond overflow during the winter periods and leakage through damaged liners
- Closest residence is 1.2 km east of the septage facility
- Land immediately north west of the septage facility has been identified as a future Water Corporation Waste Water Treatment Plan for the region. This land is currently vested with the Water Corporation for the purpose of *Waste Water Treatment Works*
- Groundwater flows are predominantly in a westerly direction towards the Indian Ocean (for 10 – 11 months of the year) and in a easterly direction towards the Peel Harvey Estuary (for 1 – 2 months of the year)
- Septage site is located approximately 650 m from the ocean and 2.3 km to the Estuary
- DER require a detailed groundwater analysis of the site and this work must be completed and report submitted to DER by late August 2015
- Nearest registered bore (with Department of Water) is located 4.5 km to the south of the site
- Proposed upgrade requires a Works Approval from the DER and pond system requires redesign to negate the need to discharge effluent from pond overflow into the infiltrative area during winter months.

Consultation

- Waste Alliance Board members
- Department of Environment Regulation
- Contractors
- Waste/Environmental Consultants – Talis Consultants
- Transpacific Cleanaway

Statutory Environment

The Tims Thicket Septage Facility is currently licensed as a *liquid waste facility* by the Department of Environment Regulation (DER) under the provisions of the *Environmental Protections Act 1986*. The current licensee of the facility is the City's Waste Alliance partner, Transpacific Cleanaway.

An upgrade of the septage ponds will require the Licensee to submit a Works Approval Application to the DER. Based on previous experience, the DER normally take about 6-8 months to process a Works Approval Application.

The Tender for the purchase of equipment or services exceeding $100,000 will be prepared and evaluated in accordance of the requirements of Part 4 of the *Local Government (Functions & General) Regulations 1996.*

Policy Implications

Policy FS – P01 – Procurement of Goods or Services through Direct Purchasing and Procurement of Goods or Services through Public Tendering will be complied with.

Economic Implications

The following initial capital investment is required for the upgrade of the Septage facility:

	$'000
Pond liners	85
Earthworks	15
Desludging	100
Effluent removal & transfer	20
Fencing	45
Oxidative pond redesign	50
Groundwater assessment	30
Receival tank upgrade	100
Total investment	**445**

An assessment of cash flows has been undertaken and is attached. (Refer ***Attachment 5)***. The following points are noted:

- The assessment takes into account the longest expected life of the various components of the investment. In this case, pond liners have an expected life of 15-20 years.
- Net nominal cash flows return a positive Net Present Value (NPV)[1] of approximately $5.9 million.
- Project payback is estimated at approximately 13 months.

In addition, consideration has been given to the risks associated with revenue earnings. An analysis of revenue earnings shows that 33% is earned from non-local businesses which may be prone to moving their business to other more preferred locations. Assuming that the City enters into exclusive delivery agreements with local suppliers, the cash flows have been re-calculated to take into account locally-generated revenues only. On this basis, a positive NPV of approximately $3.5 million is returned with an estimated payback period of 21 months.

Under either scenario, there is a financial benefit in making the investment.

A summary of the key risks associated with this project are:

Risk	Comment
Failure to receive Works Approval from the DER.	The DER would need to provide reasonable grounds not to issue a Works Approval and the City would have right of appeal. The pond infrastructure will need decommissioning if the site is permanently closed.
Failure to secure viable waste volumes and subsequent revenue	The model assumes liquid waste volumes from local contractors only (67%) - although it is highly probably that the site will attract volumes from the southern metropolitan area.
Implementation of the Sewerage Infill program and the subsequent reduction of septage waste.	Local contractors service Mandurah and surrounding districts and it is felt that residential development within the Shire of Murray requiring onsite effluent disposal will offset any reduction due to the infill sewerage program.

This project has not yet been incorporated into the 2015/16 draft budget. It is proposed to fund the costs from the Tims Thicket Septage Reserve. At 30 June 2014, the reserve balance was $74,000. At 30 June 2015, the City will receive a substantial repayment, estimated to be approximately $562,000, from

[1] Because the value of money depreciates over time, it is necessary to understand the value of a project by expressing all the time-related values at one given point; that is, all future cash flows need to be expressed as if they all took place today. The calculation uses a discount rate which utilised the organisations weighted average cost of capital (WACC). Because inflation and price increases are included in the calculation, the discount rate also reflects the longer term impact of inflation on the WACC.

underspending will be credited to the Septage Reserve to assist in funding this project. The funding is identified under account code 1643.930227.

Strategic Implications

The following strategies from *City of Mandurah Strategic Community Plan 2013-2033* are relevant to this report:

Organisational Excellence:
- Deliver excellent governance & financial management

Conclusion

The Tims Thicket Septage Facility is now 20 years old and can no longer operate as it does not meet current DER requirements. Recent liner integrity testing (electrical sensitivity testing) has confirmed the pond liners to be in poor condition and in need of replacement.

The estimated cost to upgrade the facility is $445,000. This includes a number of changes to the pond design and receival area to meet new requirements imposed by the DER.

An Elected Member briefing was held on 7 July 2015, where presentations were made addressing environmental matters that had been raised.

Notwithstanding the information within this report, it should be noted that what has happened in the past is essentially irrelevant as the proposed septage facility upgrade is considered to be a new facility which will be subject to the DER issuing a Works Approval and a new licence with appropriate environmental conditions.

Based on the Elected Member briefing and the additional environmental information contained within this report, Council is now requested to endorse the upgrade of the Tims Thicket Septage facility and authorise officers to proceed with the proposal to upgrade the existing facility to meet DER requirements.

NOTE:

- ***Refer Attachment 1*** *June 2015 Council Report* -Tims Thicket Septage Facility Upgrade Proposal
  - ***Attachment 2 &3*** Written response to questions raised
  - ***Attachment 4*** PowerPoint Presentations
  - ***Attachment 5*** Cash Flow Assessment

RECOMMENDATION

That Council:

1. **Approves the project proposal to upgrade the septage pond infrastructure at the Tims Thicket Septage Facility to meet Department of Environment Regulation requirements.**

2. **Authorises staff to proceed with obtaining the necessary Works Approval for the upgrade of the septage facility.**

3. **Informs liquid waste contractors of Council's intention to apply to the Department of Environment Regulation for a Works Approval to upgrade the Tims Thicket Septage facility.**

4. **Subject to the issue of a Works Approval, endorses staff to explore the implementation of exclusive supply agreements with local liquid waste contractors for the Tims Thicket Septage Facility.**

Attachment 1

11	**SUBJECT:**	Tims Thicket Septage Facility: Proposal to Upgrade Facility
	CONTACT OFFICER/S:	Kyle Boardman/Allan Claydon
	AUTHOR:	Kyle Boardman
	FILE NO:	A0455

Summary

The Tims Thicket Septage Facility is located at Lot 180 Tims Thicket Road, Dawesville and was constructed in 1995. The facility treats liquid waste (septage and grease trap waste) from Mandurah and surrounding regions and is operated and managed by Transpacific Cleanaway under the City's Strategic Alliance Waste Outsourcing Agreement.

The facility is approaching 20 years of age and recent liner integrity testing (electrical sensitivity testing) has confirmed they are in poor condition and in need of replacement. The estimated cost to upgrade the facility is $445,000. This includes a number of changes to the pond design to meet new requirements imposed by the Department of Environment Regulation (DER).

Due to the lack of alternative liquid waste facilities in the Perth Metropolitan area and Peel region, the Tims Thicket septage facility was extremely well patronised during 2014 and reached its annual throughput of 5,000 m^3 in October 2014. An approach to the DER to temporarily increase the licence volume requirement was denied (even though the design capacity is 6,500 m^3) so the Waste Alliance had no other option than to temporarily close the liquid waste operations. Due to the results of the liner integrity tests, the septage facility has remained closed since November 2014, pending a review of the future of the facility.

Local septage contractors are now required to transport liquid waste collected within Mandurah to the Water Corporations Treatment Plant (Woodman's Point) in Naval Base and on-charge transport costs. Thus higher disposal costs are charged to customers.

A financial model has been prepared by officers which indicates the upgrade of the pond infrastructure at Tims Thicket Septage facility to be financially advantageous to the community and the City.

Council is requested to endorse the upgrade of the Tims Thicket Septage facility and authorise officers to proceed with the proposal to upgrade the existing facility to meet DER requirements.

Location

Lot 180 Tims Thicket Road, Dawesville

Previous Relevant Documentation

- G 16/6/13 25/6/13 Council resolved to formally close the Tims Thicket Septage Facility, effective from 1 October 2013.
- G 21/12/13 17/12/13 Council resolved to continue the operation of the Tims Thicket septage facility for the foreseeable future.

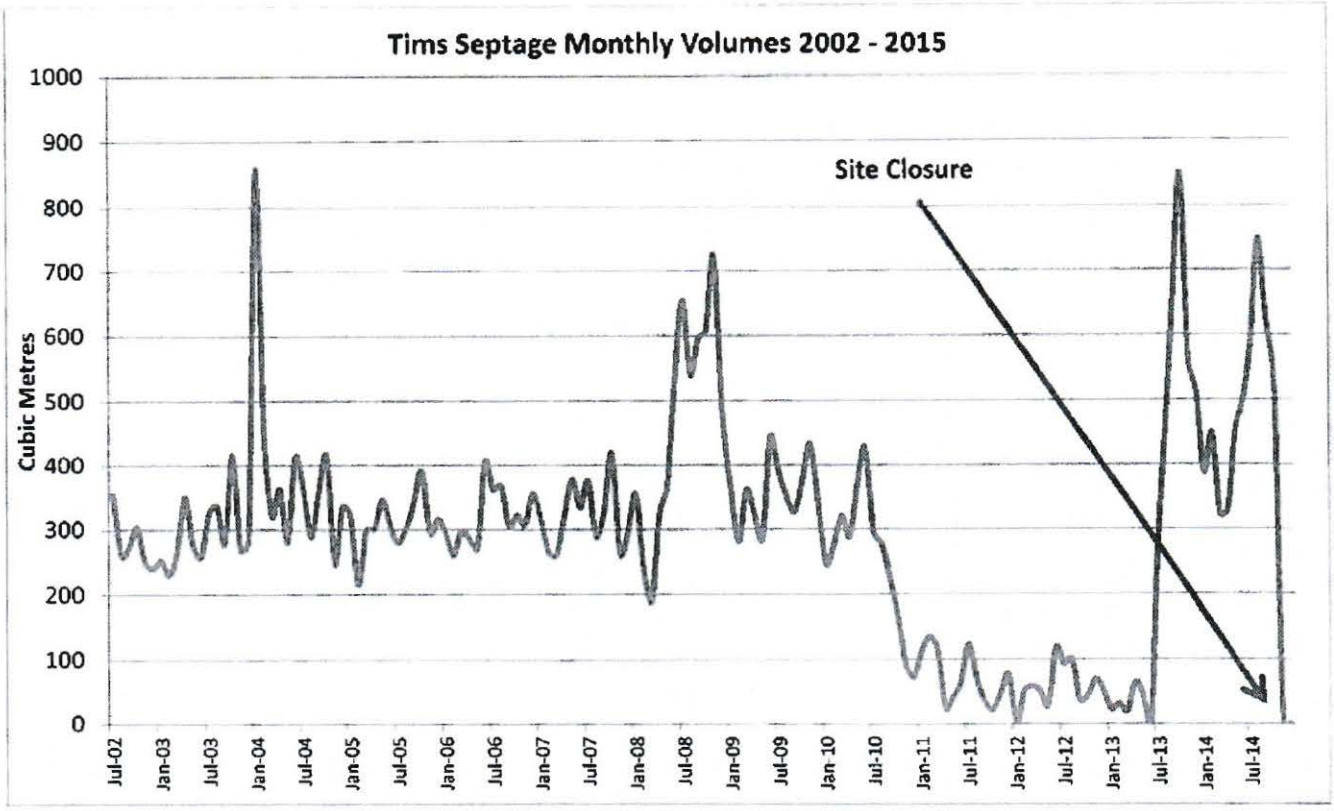
Background

The septage facility consists of a concrete receival tank, three anaerobic (plastic lined) ponds, a facultative (plastic lined) pond, an oxidative (plastic lined) pond and an overflow infiltrative area. The septage facility is designed to treat both septage and grease trap waste from Mandurah and the local region and has an annual design capacity of 6500 m^3. The facility is managed by Transpacific Cleanaway under the City's Strategic Alliance Waste Outsourcing Agreement.

The facility was constructed in 1995 and has generally served the local community well over the last 20 years. Volumes in late 2010 reduced significantly due to reduced disposal rates being offered at a privately operated waste treatment facility in the region. Council resolved in June 2013 to formally close the septage facility, but delayed the closure date until 31 October 2013 due to external influences and a short term lack of alternative facilities within Perth and the Peel region.

Council further resolved in December 2013 to continue the operation of the septage facility as the lack of alternative facilities was not a short term issue, and based on site usage it became apparent that there was need for this type of infrastructure within the region.

The chart below (June 2012 – Dec 2014) depicts monthly volumes received at the site and clearly shows the downtrend in 2010 and the increase in mid 2013:



It is important to note that the site temporarily closed on 31 October 2014 as it reached its annual liquid waste volume permitted by the DER licence.

Comment

The DER licence the septage facility and impose strict requirements on the liquid waste operations. The licence stipulates the annual volume (throughput) of liquid waste (calendar basis) that may be received at the site and it is an offence to exceed this volume amount without DER approval.

Due to the lack of alternative liquid waste facilities in the Perth Metropolitan area and the Peel region, the septage facility was well patronised during 2014 and reached its annual throughput of 5,000 m^3 in October 2014. An approach to the DER to temporarily increase the licence volume requirement was denied (even though the design capacity is 6,500 m^3) so the Waste Alliance had no option other than to temporarily close the liquid waste operations.

The Waste Alliance took this opportunity of temporary closure to de-sludge anaerobic pond 1 in readiness for reopening in early January 2015 (when the annual licence volume throughput is reset). The DER stipulated that the liner integrity of anaerobic pond 1 was to be independently tested and confirmed to be in a sound condition prior to the site re-opening.

Liner integrity testing was carried out by Geotest (using electrical sensitivity testing) and confirmed that the liner in anaerobic pond 1 was in poor condition and in need of replacement. Due to the poor results, further testing of the remaining ponds (ponds 1, 2, 4 and 5) was undertaken by Geotest and also confirmed they were in poor condition and in need of replacement. Pond 3 could not be tested as it is currently full – but it is assumed that it will also need replacing.

Due to the results of the liner integrity tests, the septage facility has remained closed since 31 October 2014. The DER have also suspended the septage licence for Tims Thicket and a Works Approval will be required before the septage site can re-open.

Discussions with the DER about potential upgrade of the pond infrastructure at the site have confirmed the following:

- A Works Approval will be required
- The infiltrative area can no longer be used as a temporary overflow from the oxidative pond. The pond system will need to be redesigned to cope with additional water inflows during winter.
- A ground water assessment of the entire site is required, and shall include an assessment of the current groundwater monitoring network and groundwater contamination status.

The estimated costs to replace all pond liners and associated infrastructure are summarised as follows:

Capital Expenditure	
New pond liners (all 5 ponds)	$85,000
Earthworks (anchor trenching & remedial works)	$15,000
New fence around ponds	$45,000
Oxidative pond redesign (no overflow)	$50,000
Receival tank improvements	$100,000
Desludging Costs (Pond 2 & 3)	$100,000
Effluent Removal & Transfer	$20,000
Groundwater Assessment	$30,000
Total	**$445,000**

Should Council determine not to proceed with the upgrade of the septage facility, the DER will require the City to decommission all pond infrastructure, including the removal of all pond contents and liners. The facility will also require some site rehabilitation.

An estimate for the pond decommissioning costs are as follows:

Desludging Costs (Pond 2 & 3)	$100,000
Liner Removal & Disposal	$20,000
Effluent Removal	$50,000
Site Rehabilitation	$50,000
Total	**$220,000**

The Tims Thicket Septage facility is ideally located to serve Mandurah and surrounding regions and is seen as a viable disposal site for the southern sections of the Perth metropolitan area. While there are liquid waste treatment facilities located in Waroona, Harvey and Bunbury, these sites restrict access to local operators only and have similar volume restrictions imposed by the DER. They also have water inundations issues in winter, which co-incides with the busiest time of the year. This restricts liquid waste operations. C-wise, a local composting facility, does receive and process grease trap waste from the region, but will not accept septage waste, which is the larger fraction (85%) of liquid waste produced in the region.

During the 2014/15 period (up to 31 October 2014), the septage facility was utilised by a total of 10 different liquid waste contractors. Four contractors were based in Mandurah and delivered approximately 67% of the waste to the Tims Thicket site. The other 6 contractors were based in Belmont, Cardup, Byford, Rockingham and Naval Base.

Due to the lack of liquid waste treatment facilities within the region, Mandurah contractors have no option other than to transport liquid waste to the Water Corporations Treatment Plant (Woodman's Point) in Naval Base and on-charge transport costs and the higher disposal costs to customers. This site is the main treatment plant for the southern metropolitan area and local contractors have advised that waiting times in excess of 2 hours are not uncommon.

A local liquid waste contractor has been in contact with the City expressing concern at the closure of the Tims Thicket Septage facility and the financial impact this is going to have on Mandurah residents requiring septic tank pump outs in the future. An estimated cost to have a septic tank system serviced (pumping out two tanks) is between $1,400 and $1,800, and this cost is likely to significantly increase to cover the additional transport and disposal costs for disposal at Woodman's Point.

The septage facility and inert landfill operate at the Tims Thicket Waste facility. Both operations utilise a common gatehouse and the site is manned by two staff, which is considered a minimum staffing level, regardless of whether the septage facility continues to operate. The cost to continue the ongoing operation of the septage facility is relatively minimal as costs are shared with the inert landfill operation. The only additional expenditure involved in the septage operation is the purchase of liquid lime to dose the anaerobic ponds to control pH and odours, bi-annual sampling of monitoring bores (statutory requirement), general maintenance of the ponds and the annual desludging of one anaerobic pond. The estimated annual operating cost for the septage operation is $65,000 (excluding labour as this is covered by the inert landfill operations).

It is clear that there is a lack of liquid waste treatment facilities within Mandurah and surrounding areas and that the Tims Thicket septage facility has successfully filled this void over the last 20 years. The cost to upgrade the facility is in the order of $445,000. The site has traditionally been used by local contractors only, however, over the last 2 years the site has become very popular with Perth contractors due to closures of Perth treatment facilities and the disposal fee differential between Perth and the outer regions.

While there is no guarantee to secure volumes of liquid waste from Perth, it is highly likely that the site will continue to be attractive to liquid waste contractors operating in the southern metropolitan area.

The analysis of revenue from the Tims Thicket Septage facility since 2007 is detailed in the table below:

Tims Thicket Septage Revenue Analysis

Year	Total Liquid Waste	Septage Waste	Grease Trap Waste
2007/08	$265,328.00	$201,120.00	$64,208.00
2008/09	$398,868.00	$314,682.00	$84,186.00
2009/10	$307,421.00	$225,983.00	$81,438.00
2010/11	$125,354.00	$101,281.00	$24,073.00
2011/12	$56,982.00	$49,639.00	$7,343.00
2012/13	$45,814.00	$39,107.00	$6,707.00
2013/14	$465,187.00	$430,017.00	$35,170.00
2014/15*	$213,592.00	$177,993.00	$29,156.00

** data for 2014/15 period is July – Oct 2014 only due to site closure*

It is important for the future financial viability of the septage facility that contractors, both local and Perth based, continue to utilise the site. While officers are confident that local contractors will utilise the site due to its convenient location and the lack of viable alternatives, there is still some risk in securing long term volumes and revenues for the site.

Preliminary discussions with local contractors have confirmed an acceptance to enter into exclusive delivery agreements with the City to commit liquid waste volumes so as to maintain the financial viability of the site. The legalities of these agreements should be further explored by officers, particularly with reference to our local contractors who primarily service Mandurah residents.

Financial Model

Council staff have detailed a financial model for the project to determine its financial viability. The financial model demonstrates significant benefits to the City and community. The model includes the following key components and assumptions:

- The removal and replacement of all pond liners
- The upgrade and redesign of the pond receival tank
- The redesign and expansion of the oxidative pond to prevent any further overflow of effluent into the infiltrative area.
- Revenues are based on local contractors using the facility only (conservative approach)
- Desludging, effluent removal and groundwater assessment costs being treated as operating expenditure
- All ponds being fenced to prevent animal intrusion and potential liner damage
- One anaerobic pond being desludged per annum

Consultation

- Waste Alliance Board, including Transpacific Cleanaway representatives
- Department of Environment Regulation
- Contractors
- Consultants

Statutory Environment

The Tims Thicket Septage Facility is currently licensed as a *liquid waste facility* by the Department of Environment Regulation (DER) under the provisions of the *Environmental Protections Act 1986*. The current licensee of the facility is the City's Waste Alliance partner, Transpacific Cleanaway.

An upgrade of the septage ponds will require the City to submit a Works Approval Application with the DER. Based on previous experience, the DER normally take about 6-8 months to process a Works Approval Application.

The Tender for the purchase of equipment or services exceeding $100,000 will prepared and evaluated in accordance of the requirements of Part 4 of the *Local Government (Functions & General) Regulations 1996.*

Policy Implications

Policy FS – P01 – Procurement of Goods or Services through Direct Purchasing and Procurement of Goods or Services through Public Tendering will be complied with.

Economic Implications

The following initial capital investment is required:

	$'000
Pond liners	85
Earthworks	15
Desludging	100
Effluent removal & transfer	20
Fencing	45
Oxidative pond redesign	50
Groundwater assessment	30
Receival tank upgrade	100
Total investment	**445**

An assessment of cash flows has been undertaken and is attached at ***Attachment 1***. The following points are noted:

- The assessment takes into account the longest expected life of the various components of the investment. In this case, pond liners have an expected life of 15-20 years.
- Net nominal cash flows return a positive Net Present Value (NPV)[1] of approximately $5.9 million.
- Project payback is estimated at approximately 13 months.

In addition, consideration has been given to the risks associated with revenue earnings. An analysis of revenue earnings shows that 33% is earned from non-local businesses which may be prone to moving their business to other more preferred locations. Assuming that the City enters into exclusive delivery agreements with local suppliers, the cash flows have been re-calculated to take into account locally-generated revenues only. On this basis, a positive NPV of approximately $3.5 million is returned with an estimated payback period of 21 months.

Under either scenario, there is a financial benefit in making the investment.

A summary of the key risks associated with this project are:

Risk	**Comment**
Failure to receive Works Approval from the DER.	The DER would need to provide reasonable grounds not to issue a Works Approval and the City would have right of appeal. The pond infrastructure will need decommissioning if the site is permanently closed.
Failure to secure viable waste volumes and subsequent revenue	The model assumes liquid waste volumes from local contractors only (67%) - although it is highly probably that the site will attract volumes from the southern metropolitan area.
Implementation of the Sewerage Infill program and the subsequent reduction of septage waste.	Local contractors service Mandurah and surrounding districts and it is felt that residential development within the Shire of Murray requiring onsite effluent disposal will offset any reduction due to the infill sewerage program.

This project has not yet been incorporated into the 2015/16 draft budget. It is proposed to fund the costs from the Tims Thicket Septage Reserve. At 30 June 2014, the reserve balance was $74,000. At 30 June 2015, the City will receive a substantial repayment, estimated to be approximately $500,000, from underspending on the Waste Alliance contract for the current year. The greater proportion of this underspending will be credited to the Septage Reserve to assist in funding the project.

Strategic Implications

The following strategies from *City of Mandurah Strategic Community Plan 2013-2033* are relevant to this report:

Organisational Excellence:

- Deliver excellent governance & financial management

Conclusion

The Tims Thicket Septage Facility is now 20 years old and can no longer operate as it does not meet DER requirements.

[1] Because the value of money depreciates over time, it is necessary to understand the value of a project by expressing all the time-related values at one given point; that is, all future cash flows need to be expressed as if they all took place today. The calculation uses a discount rate which utilised the organisations weighted average cost of capital (WACC). Because inflation and price increases are included in the calculation, the discount rate also reflects the longer term impact of inflation on the WACC.

Recent liner integrity testing (electrical sensitivity testing) has confirmed they are in poor condition and in need of replacement. The estimated cost to upgrade the facility is $445,000. This includes a number of changes to the pond design to meet new requirements imposed by the DER.

Local septage contractors are now required to transport liquid waste collected within Mandurah to the Water Corporations Treatment Plant (Woodman's Point) in Naval Base and on-charge transport costs and the higher disposal costs to customers.

A financial model has been prepared by officers which indicates the upgrade of the pond infrastructure at Tims Thicket Septage facility to be financially advantageous to the community and the City.

Council is requested to endorse the upgrade of the Tims Thicket Septage facility and authorise officers to proceed with the proposal to upgrade the existing facility to meet DER requirements – subject to the approval of the 2015/16 budget.

NOTE:
- Refer to Attachment 1

RECOMMENDATION

That Council:

1. **Approves the project proposal to upgrade the septage pond infrastructure at the Tims Thicket Septage Facility to meet Department of Environment Regulation requirements.**

2. **Endorses the inclusion of $445,000 into the 2015/16 capital budget to enable the upgrade of the septage facility, and acknowledges that the expenditure will be funded through the existing Tims Thicket Septage reserve.**

3. **Authorises staff to proceed with obtaining the necessary Works Approval for the upgrade of the septage facility subject to approval of the 2015/16 budget.**

4. **Informs liquid waste contractors of Council's intention to upgrade the Tims Thicket Septage facility.**

5. **Endorses staff to explore the implementation of exclusive supply agreements with local liquid waste contractors for the Tims Thicket Septage Facility.**

ABSOLUTE MAJORITY REQUIRED

ATTACHMENT 1

	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Initial investment																
Pond liners	85															
Earthworks	15															
Desludging	100															
Effluent removal and transfer	20															
Fencing	45															
Oxidative pond redesign	50															
Groundwater assessment	30															
Receival tank upgrade	100															
Operating costs		15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Desludging		50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Total outflow	445	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
Inflation			2.50%	2.50%	2.50%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Nominal cash outflows	445	65	67	69	71	73	75	77	79	81	83	85	88	91	94	97
Revenue		500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Price increases			4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Nominal cash inflows		500	520	541	563	586	609	633	658	684	711	739	769	800	832	865
Net flows	(445)	435	453	472	492	513	534	555	579	603	628	654	681	709	738	768
NPV	5,898															
Sensitivity analysis																
Revenue at 67%		335	348	362	377	393	408	424	441	458	476	495	515	536	557	580
Net flows	(445)	270	281	293	306	320	333	347	362	377	393	410	427	445	463	483
NPV	3,517															

ATTACHMENT 2

GI.3/6/15 **MR R GLASSON: TIMS THICKET SEPTAGE FACILITY: PROPOSAL TO UPGRADE FACILITY**

Mr Glasson asked the following questions pertaining to the above item which is report 11 on the agenda.

Question 1: The report is heavy on financial investigation, but there is no mention of environmental factors. The licences for inert fill requires Council to manage the land in conjunction with the management plan for Yalgoorup National Park as outlined in Ministerial Bulletin number 375. When did the council just base its judgement of these matters, just on the fiscal, what happened to the environmental consideration?

Response:

The report provided to Council on the Tims Thicket Septage Facility upgrade was based solely on financial grounds as it was providing Council with the Business Case for the upgrade of the facility. The environmental aspects of the upgrade will be dealt with by the Department of Environmental Regulation (DER) through a Works Approval application process and Council will need to satisfy the DER prior to the issue of this approval.

The DER licence the septage facility and impose environmental conditions on the licence, which includes bi-annual monitoring of the five monitoring bores surrounding the septage facility. The current licensee of the site is Transpacific Cleanaway. An annual environmental monitoring report is submitted by the Waste Alliance to the DER each year in accordance with the licence conditions, and the site is also regularly audited by officers of the DER to ensure compliance with the Environemental Protection Act 1986 and the site licence. The last DER audit was undertaken on 15 April 2015.

Ministerial Statement No. 375 (released in November 1994) approved the proposal to modify the boundaries of the Yalgorup National Park to allow for the construction of a septage treatment facility and limestone quarry. The statement imposed a number of conditions, which included compliance with environmental management commitments made by the proponent in the Consultative Environment Review document.

Environmental Management Commitment 1.3 required the City (in conjunction with CALM and NPNCA) to develop a management plan encompassing the area of land excised from the National Park (aside from that required for the limestone quarry and septage disposal facility) and the balance of Reserve 24198 and 33139. The management plan also had to be consistent with the management of Yalgorup National Park.

Council fulfilled its obligations in 1997 by engaging Halpern Glick Maunsell (Consulting Engineers and Environmental Scientists) to develop the Tims Thicket Reserve Management Plan in accordance with this commitment. The management plan specifically excluded the Tims Thicket Septage Facility and Limestone Quarry as there was no obligation in relation to the excised area.

As per the Elected Members request, additional information on the environmental impacts of the septage facility upgrade have been provided to Elected Members for consideration at the Ordinary Council meeting on 23 June 2015. A copy of this additional information will be made available to Mr Glasson.

ATTACHMENT 3

GI.4/6/15 MR R GLASSON: TIMS THICKET SEPTAGE FACILITY

With regard to the questions that had been asked at the Governance and Infrastructure Committee on 16 June, Mr Glasson advised that he had only seen the responses at 4.30 pm that day, and had not received the additional information circulated until his attendance at this meeting.

In reference to the additional information that had been circulated separately from the agenda in relation to the proposed upgrade of the Tims Thicket Septage Facility, Mr Glasson asked:

Question 1: "The Cities obligations filed in 1997 were 12 months later than the two years it was required to do this by 1996".

Response:

The Minister for Environment approved the proposal on 29 November 1994. Environmental Commitment 1.3 stipulated that the Management Plan would be developed within 2 years of the land exchange being formalised (not from the approval of the Minister). The Department of Land Administration wrote to the City on 8 June 1995 confirming the land exchange and amendments to the vesting of the required Reserves. The Management Plan was thus prepared in compliance with commitment 1.3 by Halpern Glick Maunsell and approved by the Department of Environmental Protection in 1997.

Question 2: "How many other monitoring bores in total are at the site? and why did you just show only 5 in the report? There are nine monitoring bores".

Response:

There are nine monitoring bores for the whole site containing the Tims Thicket Septage and Inert Waste Disposal facilities. There are 5 bores adjacent to the septage facility and 4 bores adjacent to the inert landfill. Given that the report was solely about the upgrade of the septage facility, the additional information was restricted to the 5 bores surrounding the septage facility only.

Question 3: "Why only two years of results shown in the graphs. You have 25 years of results, lets see the whole picture".

Response:

The Tims Thicket Septage facility has been in operation since 1995 and the 5 bores have been monitored over the life of the site. The DER changed the sampling parameters in 2013 so only the previous 2 years of data was shown reflecting the revised bore monitoring parameters. Additional information on environmental data was provided to Elected Members at the briefing on 7 July 2015. The previous results, although not relevant to the current situation, will be made available to the resident.

Question 4: "Trigger values are available for groundwater. There is a standard".

Response:

City officers have used their best endeavours to determine a standard for groundwater that would be applicable at the Tims Thicket site. The extent of the investigation included liaison with the environmental consultants, Transpacific Cleanaway Environmental Management staff, and the Department of Environment Regulation. The best available information we have received to date is to utilise the trigger values stipulated within the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. It is also important to note that the licence for the Tims Thicket Septage facility does not stipulate trigger values relevant to bore monitoring.

Question 5: "What regular audit by DER. Provide details all audits that DER has carried out in the last 10 years?"

Response:

DER officers carried out its latest formal audit of the facility on 15 April 2015 to ensure compliance with the licence. The DER wrote to the licensee requesting additional information to confirm compliance with licence conditions. This information was subsequently provided to the DER and advice to date is that they are satisfied with our responses and are currently waiting Manager signoff. It should be noted that the site is inspected both formally and informally (i.e. random inspections) by DER officers. Audit data is available from the DER. Current management arrangements are such that the licensee of the site is Transpacific Cleanaway and the audit information is exchanged between those two parties.

Question 6: "Why just nutrients N and P – what about heavy metals, pH and TDS?"

Response:

The site has been operational for 20 years and there has been a large amount of environmental data collected over this time. The two parameters that have shown spikes over the life of the facility are Nitrogen and Phosphorus. This is emphasised in the licence conditions relating to the overflow and infiltrative area, where the DER require the licensee to report on Nitrogen and Phosphorus quantities discharged to the environment through the infiltrative area. As a result, the additional information provided to Elected Members was limited to bore monitoring results relevant to Nitrogen and Phosphorus. All other chemical results are within acceptable parameters and this information can be provided to Elected Members if they require them.

The previous licence for the Septage facility required the five monitoring bores to be analysed for pH, Electrical Conductivity, Total Dissolved Solids, Nitrate-Nitrogen, Ammonium, Total Nitrogen and Total Phosphorus. The new licence recently issued in June 2015 expanded the bore monitoring parameters to include heavy metals and hydrocarbons. The next bore monitoring sampling will be undertaken in October 2015 and will include the expanded parameters stipulated in the new licence.

Question 7: "Exactly what action did Council carry out when trigger levels were recorded during monitoring."

Response:

The licensee of the septage facility is Transpacific Cleanaway. The DER licence requires the licensee to carry out bore monitoring in accordance with the licence and to report these findings in the Annual Monitoring Report submitted in February each year. The licence does not stipulate trigger values for bore monitoring, and as a result no action has been taken by TCL or Council to date as there has been no instruction or requirement from the DER (Environmental Regulator) to do so.

Question 8: "What cognizance does the Council take of the RRC's 5 site selection criteria for waste disposal and why are they being ignored both for this expenditure and the tipsite exchange facility?"

Response:

The site selection criteria was developed by the South East Metropolitan Regional Council (which was expanded in 2006 and renamed to Rivers Regional Council) to determine an appropriate site for the establishment of a Resource Recovery Facility to process municipal waste for the member Council's in the south east metropolitan area (in excess of 100,000 tonnes of waste per annum). The site selection criteria for a large regional resource recovery facility is significantly different for site selection criteria for a small septage treatment plant or domestic waste transfer station, so the RRC criteria is not considered to be applicable in this instance. Nonetheless an evaluation of the criteria has demonstrated that both the

septage facility and proposed transfer station predominantly meet the RRC site selection criteria. Refer to the table at the end of this response.

The land exchange that enabled the development of the Tims Thicket septage facility and limestone quarry was subject to a formal Consultative Environmental Review that was assessed by the Environmental Protection Authority, following statutory public consultation, and subsequently approved by the Minister for Environment. The proposed transfer station was referred to the Environmental Protection Authority in October 2014 for assessment. The EPA advised that the overall environmental impact of the proposal (transfer station) is not so significant as to require assessment by the EPA, and the subsequent setting of formal conditions by the Minister for Environment under Part IV of the EP Act".

The DER are currently reviewing the Works Approval application for the proposed transfer station and we are awaiting the outcome of that process.