



Eastern Metropolitan Regional Council
1st Floor Ascot Place, 226 Great Eastern Hwy,
Belmont, Western Australia 6104
PO Box 234, Belmont, Western Australia 6984

Enquiries: Mr Adam Johnson
Direct Line: 08 9424 2223
Our Ref: EMRC-73683

9 January 2008

Mr Jonathon Throssell
Chief Executive Officer
Shire Of Mundaring
cnr of Hodgson & Jacoby Streets
Mundaring WA 6073

Dear Jonathon

RE: REQUEST TO SITE A WASTE WATER TREATMENT PLANT AT THE RED HILL WASTE MANAGEMENT FACILITY

In mid 2007 the EMRC received a request from Greg Rowe of Greg Rowe and Associates regarding the possibility of a waste water treatment plant (WWTP) being established on land at the Red Hill Waste Management Facility.

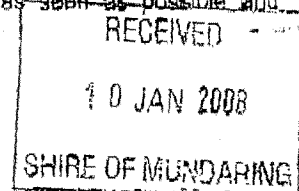
A report was taken to the Ordinary Meeting of Council on 13 December 2007, and Council resolved that:

1. *THE EMRC NOT DEVELOP A WASTE WATER TREATMENT PLANT AT THE RED HILL WASTE MANAGEMENT FACILITY.*
2. *THE EMRC ENTER INTO NEGOTIATIONS WITH WATER CORPORATION TO LEASE LAND FOR THE PURPOSES OF ESTABLISHING A WASTE WATER TREATMENT PLANT AT THE RED HILL WASTE MANAGEMENT FACILITY.*
3. *THE EMRC CONSULT WITH MEMBER COUNCILS IN RELATION TO THE POSSIBILITY OF SELLING/LEASING A PORTION OF LAND TO WATER CORPORATION FOR THE PURPOSES OF DEVELOPING A WASTE WATER TREATMENT PLANT*

In order to facilitate the consultative process, we attach the report to the 13 December 2007 meeting of Council. This report sets out the EMRC's considerations in relation to the WWTP, and includes the Executive Summary of a report prepared by URS Corporation. URS Corporation was commissioned by the EMRC to review the primary advantages and disadvantages to the EMRC if the proposal were to proceed. The full report runs to 62 pages, and is available upon request.

Should it assist in your considerations of the proposal, we can arrange for a briefing to be held at the EMRC offices. This briefing would include representatives of the proponent, as well as a representative from URS Corporation. This would enable a frank discussion of the advantages and disadvantages of the proposal. We suggest that the briefing be held on Tuesday 5 February 2008 at 2pm for approximately 1 to 1 ½ hours duration.

Please advise if the proposed briefing would be of value to you, and if so, the names of attendees for the session. Should the tentative briefing arrangements detailed above not be convenient then your assistance in providing alternative dates and times would be greatly appreciated. Alternatively, should the briefing not be required, and you are able to make your decision on the proposal with the information provided, then we would appreciate your advice regarding the proposal ~~as soon as possible and~~ preferably before the end of March 2008.



TEL (08) 9424 2222 FAX (08) 9277 7598 EMAIL mail@emrc.org.au WEB www.emrc.org.au

Member Councils: Town of Bassendean, City of Bayswater, City of Belmont, Shire of Kalamunda, Shire of Mundaring, City of Swan

This paper is 100% Australian made and 100% recycled using pre-consumer and post-consumer waste

Should you have any questions regarding this matter, please do not hesitate to contact Mr Adam Johnson, Executive Manager, Waste Management directly on 9424 2223.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Peter Schneider', written in a cursive style.

PETER SCHNEIDER
Acting Chief Executive Officer

Att: Council report item 9.3 - Request to Site a Waste Water Treatment Plant at the Red Hill Waste Management Facility and attachments

9.3 REQUEST TO SITE A WASTE WATER TREATMENT PLANT AT THE RED HILL WASTE MANAGEMENT FACILITY

REFERENCE: COMMITTEES-7012

PURPOSE OF REPORT

The purpose of the report is to advise Council of the outcomes of a detailed investigation conducted into the request to site a waste water treatment plant at the Red Hill Waste Management Facility.

KEY ISSUES AND RECOMMENDATION(S)

- A request to locate a plant to treat waste water and effluent at Red Hill has been received from the Stoneville and Parkerville developments' Town Planning Consultants.
- This request has been investigated in detail by EMRC officers in conjunction with environmental consultants URS Corporation.
- This investigation indicated that there are a number of potential environmental impacts associated with the proposal. These can all be either mitigated or eliminated.
- The proposal is positive financially, enabling the EMRC to earn funds from biosolids disposal and avoid the development of an estimated \$1m water storage dam.
- A number of social risks may be associated with the proposal, and in particular, the potential that Red Hill is associated with land developments in the area. This could transfer opposition from particular community groups to development in the Perth Hills into opposition to the Red Hill operations in particular.
- The investigation into a waste water treatment plant at Red Hill also indicated that it would not be able to receive leachate from the Red Hill landfill, and that Water Corporation would not consider any landholding other than outright ownership of the subject land.
- A parcel of land does exist at the Red Hill Waste Management Facility, north of the proposed Perth-Adelaide Highway, that may meet the requirements for a waste water treatment plant and could be developed into a parcel of land for sale.

Recommendation(s)

That:

1. The EMRC not develop a waste water treatment plant at the Red Hill Waste Management Facility.
2. The EMRC not enter into negotiations with Water Corporation to lease land for the purposes of establishing a waste water treatment plant at the Red Hill Waste Management Facility.
3. The EMRC consult member Councils in relation to the possibility of selling a portion of land to Water Corporation for the purposes of developing a waste water treatment plant.

SOURCE OF REPORT

Executive Manager, Waste Management Services

BACKGROUND

In mid 2007, Greg Rowe of Greg Rowe and Associates contacted the EMRC on behalf of the owners of the proposed Parkerville and Stoneville developments with a view to understanding if the EMRC were prepared to operate a waste water treatment plant to service these developments, or provide land for the operation of such a plant. Treated effluent from the plant would be available to the EMRC for use at the Red Hill Waste Management Facility.

Item 8.3 continued

At its meeting held on 28 June 2007, Council resolved:

"THAT THE EMRC OFFICERS UNDERTAKE A DETAILED INVESTIGATION INTO THE PROPOSAL TO LOCATE A SEWAGE TREATMENT FACILITY WITHIN THE RED HILL WASTE MANAGEMENT FACILITY SITE AND REPORT BACK TO COUNCIL AT A FUTURE DATE."

In response to this resolution, a project brief was prepared for consultants. The brief called for a review of the primary advantages and disadvantages for the EMRC if the proposal were to proceed. The brief was provided to three consultancies on 9 August 2007, and a consultancy was let to URS Corporation on 30 August 2007.

In conjunction with the URS Corporation review, two meetings were held with the Red Hill Community Liaison Group on 5 September 2007 and 24 October 2007, where the primary purpose of the meeting was to discuss the proposed waste water treatment plant. A representative of URS Corporation was at these meetings.

A meeting was held on 12 September 2007 with EMRC officers, representatives from Greg Rowe and Associates, WorleyParsons (waste water engineers for the Parkerville development) and Water Corporation to discuss the waste water treatment plant proposal.

REPORT

The waste water treatment project has been considered because it has the potential to generate water for use at the Red Hill Waste Management Facility, both in existing and future operations. Estimates of water consumption indicate that the site generally uses about 6 million litres per year (ML/year). During landfill construction this can increase to an estimated 30 ML/year. A Resource Recovery Facility would require about 50 ML/year, making the maximum site water requirement in the order of 80 ML/year.

Site water needs can be currently met, primarily using current Midland Brick water storages north and south of Toodyay Road. These storages are insecure in the long term, and current site water storages contribute minor and unreliable volumes of water. The development of single water storage on site to supply the maximum site water requirement would need to be four metres deep on average and cover an area of 2.7 hectares. Whilst the land is available at Red Hill for such a structure, this is a substantial dam and its construction could cost in the vicinity of \$1m. A detailed design and pricing would enable more precision on this cost estimate.

The waste water treatment plant (WWTP) could be expected to generate up to 1,050 ML/year in treated effluent, and require a total site area of one hectare. This incorporates an allowance for developments in Stoneville and Gidgegannup. Since the Red Hill site requirements would make up less than 10% of the water generated, other uses for the treated effluent would need to be developed. The proposal is for treated effluent to be used in the Swan Valley to replace groundwater currently being used for irrigation.

In the event that the proposed WWTP were established at a site other than Red Hill, then the EMRC may still have access to treated effluent. This would require the EMRC establishment of a pipeline to take treated effluent into site from the main treated effluent pipe. The cost for the off-take pipeline would depend on the location of the main pipe, which could cost approximately \$50,000 (if the main pipe was located on Toodyay Road) and an additional \$500/metre for additional distances.

The quantity of biosolids generated from the WWTP has been estimated at 440 wet tonnes per year. This is not a large amount, and could be handled through composting and blending at Red Hill to generate a product for sale. The reuse of processed biosolids in agriculture is the most common means of managing Perth's waste water treatment plant biosolids.

The report from the URS Corporation (Executive Summary attached, attachment 1) in relation to primarily environmental and technical aspects of the proposal concludes:

Item 9.3 continued

Overall, the risks associated with the EMRC leasing land to Water Corporation for development of an on-site WWTP outweigh known on-site requirements for reuse water supplies or the estimated revenue resulting from such an arrangement. Item 9.3 continued

The opportunity to sell to Water Corporation a site which has previously been developed (closed landfill cell) or which may become isolated from current on-site activities by the Perth-Adelaide Highway is a potentially attractive proposition, particularly if on-site development will require significant additional water consumption and the cost of reticulating from a distant WWTP is prohibitive.

In particular, the URS Corporation report states that potential environmental impacts from a WWTP are odour, night-time noise and the consequences of catastrophic failure leading to a release of sewage to the environment. A release of sewage would cause the greatest environmental impact if it were to flow into the John Forrest National Park adjacent and to the south of the Red Hill Waste Management Facility.

Buffers of 400 metres around a WWTP are sufficient to control the impacts of odour emissions from abnormal events, whilst typical operations can be sustained with much smaller buffers. Impacts from night-time noise can be minimised by locating the WWTP away from housing, and sewage release to John Forrest National Park can be prevented by siting the WWTP out of the John Forrest National Park catchment. The land within Lot 1 and Lot 2 that is north of the proposed Perth-Adelaide Highway (see attachment 2) meets all of these objectives. In particular, the land is not within the John Forrest National Park catchment, and thus a sewer spill could not flow into the National Park. This is not the case with the currently proposed WWTP sites for the Stoneville and Parkerville developments, both of which are within the John Forrest National Park catchment.

Community concerns reflect those raised in the URS Corporation report, with additional emphasis placed on the undesirability of consolidating a number of waste facilities at the one site, the potential encouragement of urbanisation that might follow from the establishment of a WWTP, the equity concerns arising out of those who generate the sewage not dealing with its consequences (other than through a sewer connection), and the potential that a small plant might become a large plant over time.

The consolidation of waste facilities is related to the risk that the consolidated facilities will lead to a greater concentration of environmental impacts. The converse argument is that consolidating potential impacts reduces the area subject to these risks. Both arguments are valid, just as concerns of equity can be counterbalanced by the net environmental gains that are realised by siting a single treatment facility for a range of sites. The resolution of these concerns is more a matter of land use planning than it is the domain of a technical assessment of a particular waste water treatment proposal.

The potential growth of the plant is only a concern where the WWTP grows beyond what has been studied. The URS Corporation report was intended to consider the WWTP at its largest potential size, and thus take growth into account.

Concerns relating to the urbanisation that might follow from a WWTP being established in the area, whilst genuine and not to be discouraged, are a matter for the relevant planning authority to take into account when deciding on applications for new subdivision.

Other comments received were from a farmer in the Swan Valley who is keen to receive treated effluent provided it doesn't lead to contamination of his land. As water constraints in the Swan Valley increase, this sort of response is likely to become more prevalent. To this end, enabling a WWTP in the vicinity of the Swan Valley creates the potential for significant positive outcomes (depending upon decision of Water Corporation in relation to waste water reuse). This need not be at Red Hill.

In discussions with Water Corporation, it became clear that Water Corporation will not establish a WWTP on leasehold land. This is because Water Corporation requires secure tenure to enable operations for over 100 years. Furthermore, Water Corporation requires 24 hour access to the site.

Item 9.3 continued

This report assumes the EMRC is not interested in owning and operating a WWTP, preferring to leave this to Water Corporation, and since Water Corporation requires freehold ownership of land on which a WWTP is located, the EMRC would not be able to exercise significant control over the nature of the waste water treatment plant proposal. The development of that land would still be subject to the usual planning and environmental approvals, and are all avenues where the EMRC could influence the shape of the proposal.

If Water Corporation and the developers considered that a site at Red Hill was preferred for a WWTP, then the subject land would need to be sold to Water Corporation. After consideration of three alternatives, the most suitable area for a waste water treatment plant is land on Lot 1 and Lot 2, but north of the proposed Perth-Adelaide Highway. The barrier imposed by the proposed Perth-Adelaide Highway means that this land is unavailable to the EMRC for any waste management use, and is currently held as buffer land. Of this land, 2.0 hectares is available on Lot 1, and 2.8 hectares on Lot 2.

It is likely that, irrespective of whether the WWTP was on land that had been leased or sold by the EMRC, its establishment would be associated with the EMRC, particularly if there is substantial community resistance to the proposal. It is important to note that the WWTP, rightly or wrongly, is strongly associated with urbanisation of the Perth Hills. Community opposition to the developments in the Perth Hills may be attracted to Red Hill, and could lead to Red Hill operations being substantially curtailed or closed. In the event that Red Hill was closed, the EMRC would incur substantial costs and delays in the establishment of a new site and waste management infrastructure. It should be noted that landfills are generally considered to be critical infrastructure, and there are no known examples of a landfill closing as a result of community opposition.

A further impact may arise from the siting of a WWTP near a main road, where any odours detected from the road may be erroneously connected to the Red Hill Waste Management Facility, causing unwarranted attention on the Red Hill operations. This could lead to expensive odour studies being required simply to eliminate Red Hill as the source of the odour.

Item 9.3 continued

Based on the above discussion, the key advantages and disadvantages along a triple bottom line approach for the option of selling land on Lot 1 and Lot 2 can be summarised in the table below:

	Environmental	Social	Financial
Advantages	<ul style="list-style-type: none"> Enables environmental sound treatment of effluent 	<ul style="list-style-type: none"> Enables progression of some currently stalled land developments 	<ul style="list-style-type: none"> Earns EMRC money from sale of land and disposal of biosolids
	<ul style="list-style-type: none"> Provides secure source of water for Red Hill 	<ul style="list-style-type: none"> Potentially provides security of water supply for Swan Valley Irrigators 	<ul style="list-style-type: none"> Saves costs of development of water storage dam
	<ul style="list-style-type: none"> Enables the development of a WWTP outside the John Forrest National Park catchment 		
Disadvantages	<ul style="list-style-type: none"> Potential odour impacts 	<ul style="list-style-type: none"> Significant public opposition to development in Perth Hills may impact on EMRC 	<ul style="list-style-type: none"> May need to pay for water from WWTP
	<ul style="list-style-type: none"> Potential night-time noise impacts 	<ul style="list-style-type: none"> Negative environmental impacts associated with WWTP may be connected to Red Hill 	<ul style="list-style-type: none"> Closure of Red Hill would have substantial impacts on EMRC and member Council financial viability
	<ul style="list-style-type: none"> Potential sewage spills into Strelly Brook Catchment 	<ul style="list-style-type: none"> If Red Hill were closed, the member Councils may have a short-term problem of accumulating waste 	

STRATEGIC/POLICY IMPLICATIONS

A WWTP servicing Stoneville, Parkerville and possibly Gidgegannup at some future date could assist in reducing the environmental impact of liquid waste disposal in the vicinity of Red Hill. It would also provide water for current and future developments at Red Hill, removing the current reliance on Midland Brick water storages, and enable the EMRC to avoid the need to build a large dam on site in the future. The WWTP need not be at Red Hill, however the EMRC would need to establish a treated effluent pipeline in the event that it wished to access treated effluent.

Item 9.3 continued

The proposal may attract community opposition based on its connection to development in the Perth Hills, and this opposition may impact on the ability for the EMRC to continue operating the Red Hill Waste Management Facility.

FINANCIAL IMPLICATIONS

Some income would be earned from the sale of the land to Water Corporation. The cost of constructing and operating the WWTP would be borne by the developers and Water Corporation.

The proposal would generate income in the form of waste disposal fees for the biosolids. At a disposal price of \$66.00/tonna, the EMRC could receive an income stream, excluding GST and the landfill levy, of \$29,000 per year for biosolids disposal. This would probably be earned irrespective of the location of the WWTP.



Item 9.3 continued

The WWTP could provide treated effluent for site use at a yet to be determined price, though presumably less than the price for the supply of irrigation water of around 50 c/kL. At the irrigation water price, the annual site requirements would cost \$45,000 per year. This would offset the construction of a water storage dam at Red Hill.

SUSTAINABILITY IMPLICATIONS

The proposal would enable any additional development undertaken in the reasonable proximity of the WWTP to be connected to sewer, and thus reduce the use of septic tanks and their consequential risks to groundwater and surface water quality.

The proposal could also provide a long term supply of water to the Swan Valley farming sector, increasing that area's resilience to drought, and making groundwater available for environmental flows and other uses to which treated effluent is not suited.

These sustainability implications would be realised from the plant irrespective of its location. Locating the WWTP at Red Hill means that environmental risks associated with spills from the WWTP flowing into John Forrest National Park are avoided, as a Red Hill WWTP would be outside the John Forrest National Park catchment area.

MEMBER COUNCIL IMPLICATIONS

Member Council	Implication Details
Town of Bassendean	} Could impact on waste disposal costs
City of Bayswater	
City of Belmont	
Shire of Kalamunda	
Shire of Mundaring	Could impact on waste disposal costs but allows for additional development in Parkerville and Stoneville.
City of Swan	Could impact on waste disposal costs but allows for additional development in Gidgegannup.

ATTACHMENT(S)

1. Executive Summary of URS Corporation report *Waste Water Treatment Plant Review* (Ref: Committees-7189)
2. Plan of Red Hill Waste Management Facility (Ref: Committees-7112)

VOTING REQUIREMENT

Simple majority



Item 9.3 continued

RECOMMENDATION(S)

That:

1. The EMRC not develop a waste water treatment plant at the Red Hill Waste Management Facility.
2. The EMRC not enter into negotiations with Water Corporation to lease land for the purposes of establishing a waste water treatment plant at the Red Hill Waste Management Facility.
3. The EMRC consult with member Councils in relation to the possibility of selling a portion of land to Water Corporation for the purposes of developing a waste water treatment plant.

The Chief Executive Officer pointed out that the attached plan highlighted land that could be sold for Water Corporation purposes, however member Council feedback was being sought as to whether the land should be disposed of.

TAC RECOMMENDATION(S)

MOVED MR LUTEY

SECONDED MR COTEN

That:

1. The EMRC not develop a waste water treatment plant at the Red Hill Waste Management Facility.
2. The EMRC not enter into negotiations with Water Corporation to lease land for the purposes of establishing a waste water treatment plant at the Red Hill Waste Management Facility.
3. The EMRC consult with member Councils in relation to the possibility of selling a portion of land to Water Corporation for the purposes of developing a waste water treatment plant

CARRIED UNANIMOUSLY

Cr Zannino moved and Cr Godfrey seconded that the third recommendation that 'the EMRC consult with member councils in relation to the possibility of selling a portion of land to water corporation for the purposes of developing a waste water treatment plant' be deleted.

Cr Zannino advised that he did not think it would advantage anyone as a lot of new development would be occurring in the near future in Gidgegannup and Mundaring and he does not think the EMRC needed the extra burden of a Waste Water Treatment Facility at Red Hill and could not see what Red Hill would use it for.

Cr Klein advised that she did not think it would be an extra burden if the EMRC is to be environmentally friendly.

COUNCIL RESOLUTION

MOVED CR ZANNINO

SECONDED CR GODFREY

THAT RECOMMENDATION 3 'THE EMRC CONSULT WITH MEMBER COUNCILS IN RELATION TO THE POSSIBILITY OF SELLING A PORTION OF LAND TO WATER CORPORATION FOR THE PURPOSES OF DEVELOPING A WASTE WATER TREATMENT PLANT' BE DELETED.

MOTION LOST

5/7

Item 9.3 continued

Cr Magro proposed an amendment to recommendation 3 that the word 'leasing' be added after the word 'selling' as he would not support valuable EMRC land being sold to the water corporation.

The Chief Executive Officer advised that EMRC officers had met with senior officers of the Water Corporation and their only option had been for ownership not leasing.

COUNCIL RESOLUTION

MOVED CR MAGRO

SECONDED CR PULE

THAT RECOMMENDATION THREE BE AMENDED TO PROVIDE THE OPTION OF SELLING OR LEASING BY THE ADDITION OF THE WORD 'LEASING' AFTER 'SELLING'

CARRIED

The Chief Executive Officer suggested that point two be amended to delete the word 'not' after 'EMRC'.

COUNCIL RESOLUTION

MOVED CR MAGRO

SECONDED CR PULE

THAT POINT TWO BE AMENDED TO DELETE THE WORD 'NOT' AFTER 'EMRC'.

CARRIED

COUNCIL RESOLUTION

MOVED CR ZANNINO

SECONDED CR GODFREY

THAT:

1. THE EMRC NOT DEVELOP A WASTE WATER TREATMENT PLANT AT THE RED HILL WASTE MANAGEMENT FACILITY.
2. THE EMRC ENTER INTO NEGOTIATIONS WITH WATER CORPORATION TO LEASE LAND FOR THE PURPOSES OF ESTABLISHING A WASTE WATER TREATMENT PLANT AT THE RED HILL WASTE MANAGEMENT FACILITY.
3. THE EMRC CONSULT WITH MEMBER COUNCILS IN RELATION TO THE POSSIBILITY OF SELLING/LEASING A PORTION OF LAND TO WATER CORPORATION FOR THE PURPOSES OF DEVELOPING A WASTE WATER TREATMENT PLANT

CARRIED

Cr Zannino departed Council Chambers at 7.05pm.