101

Shire of York
[redacted]
York WA 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

I object to the proposed landfill at Allawuna Farm and feel that the proposal should not be permitted. It does not fit within the Shire of York Town Planning Scheme No.2, which states under the general agriculture zone "to ensure the continuation of broad acre agriculture as the principal land use in the district encouraging where appropriate the retention and expansion of agricultural activities." Landfill is not an agricultural activity.

The proposed landfill is not acceptable with the Shire of York's Local Planning Strategy which states "protection of sustainable agriculture and preserve and enhance the environment and natural resources. It is also against the objectives of York's Community Strategic Plan which has an objective of "Protect and Enhance Our rural Land and Spaces" and a priority to "establish land use strategy to ensure rural and farming land is protected. Landfill does not enhance or preserve but instead destroys our environment for future generations. Landfill should not be placed in our agricultural areas.

The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

DONT WANT TIP

Yours sincerely
NAME: Dennis Thornton
ADDRESS: [redacted] YORK
DATE: 15/3/14
SIGNATURE: D. Thornton

102

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

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RUBBISH DUMP TOO CLOSE TO WATERWAY.
MANY PEOPLE RELY ON WATER FROM MUNDARING WEIR. - FROM MUNDARING TO KALGOORLIE

IT WILL BE A COMPLETE ENVIRONMENTAL DISASTER.

Yours sincerely
NAME: J + P MULLER.
ADDRESS: [redacted] YORK.

DATE: 15 - 3 - 2014.
SIGNATURE: J. Muller

103

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

ROADS
WATER CATCHMENT

Yours sincerely
NAME: DENIS BLACK
ADDRESS: [redacted] YORK 6302
DATE: 15-03-14
SIGNATURE:

104

Shire of York
PO Box 22
York WA 6302

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

I am very concerned about the traffic and the contamination to our water and environment.

Yours sincerely

NAME: Joanne Russell

ADDRESS: [redacted] York

DATE: 15/3/14

SIGNATURE: Russell

105

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

Farming Stability is a huge concern, especially as farming areas are becoming ~~dry~~ dries and good farm land is very scarce. We cannot let this property be used for landfill when food is so important.

Yours sincerely
NAME: Gary Bond
ADDRESS: [redacted] York.

DATE: 15/3/14
SIGNATURE:

106

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

WATER WILL BE Contaminated
ROADS ARE ALREADY SUB STANDARD
ENVIRONMENT POLUTION.
FLORA + FAUNA Ruined HABITATS

Yours sincerely
NAME: PETER - ATKINS
ADDRESS: [redacted]
YORK
DATE: 15/3/14
SIGNATURE:

107

Shire of York
PO Box 22
York WA 6302

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

- Wildlife especially the Carnaby's + Eagles will be affected and I am very concerned how the fauna will survive with the rubbish

Yours sincerely
NAME: Elaine Alman
ADDRESS: [redacted]
York
DATE: 15/03/14
SIGNATURE: E Alman

108

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

- To much traffic
- Wakeboarding

Yours sincerely

NAME: L. Bonadd

ADDRESS: [redacted] York 6302

DATE: 15/03/14

SIGNATURE: L. Bonadd

109

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

Yours sincerely

NAME: Susan Lister

ADDRESS: [redacted]
York WA 6302

DATE: 15.3.14

SIGNATURE:

110

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

We have spent our whole life in York and are very concerned about the effects of the landfill on York, the tourism and how this will affect our economy. The contamination to the water and catchment area is not acceptable and the effects upon our environment especially to those people living close to the site. The landfill will affect the flora and fauna, the traffic on the road will be unacceptable. This landfill is something York does not need and the community does not want.

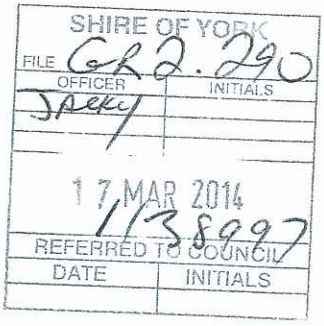
Yours sincerely
NAME: GLENYS + CYRIL SCALEIGH
ADDRESS: [redacted] YORK 6302

DATE: 15/3/14
SIGNATURE: G. & Scaleigh

Records

From: scans@kinetichealth.com.au on behalf of scans@ [kinetichealth.com.auscans@kinetichealth.com.au]
Sent: Monday, 17 March 2014 2:41 PM
To: Records
Subject: Landfill submission

Attachments: scans@kinetichealth.com.au_20140317_174129.pdf



scans@kinetichealth.com.au_201...

Reply to: scans@kinetichealth.com.au <scans@kinetichealth.com.au> Device Name: Not Set Device Model: MX-2610N
Location: Not Set

File Format: PDF (Medium)
Resolution: 200dpi x 200dpi

Attached file is scanned image in PDF format.
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http://www.adobe.com/

Scans Email

Kinetic Health

E: Scans@KineticHealth.com.au
W: www.kinetichealth.com.au

Submission on Planned Proposal - Allawuna Landfill Facility

Lots 4869, 5931, 9926 & 26934 Great Southern Highway

St Ronans, Shire of York

I am opposed to the Allawuna Landfill Facility on environmental, economic and safety grounds.

Environmental

1. Leachate contaminants in heavy rain

   - Severe rain fall events like we witnessed on January 6th, 2013 when 40mm of rain fell in the area in a 30 minute period, will result in spillages from the leachate ponds. The proximity to waterways makes this a huge risk.

2. Proximity to Water

   - The landfill is in very close proximity to both ground and surface water.
   - Common sense tells us that if we are going to bury a huge amount of rubbish, it should not be done near waterways. There is very little margin for error if there are heavy rains, earthquakes or the integrity of the liner/clay is further compromised.

3. Smell

   - SITA have modelled the odour emissions from this landfill, but as we all know, models have a margin for error. If a multi-million dollar project is on the line, this modelling will be lenient towards the companies interests.

4. Increase in vermin

   - I have consulted with farmers who live adjacent to this property and they voiced concerns in regards to increases in vermin.
   - Rubbish provides a steady food source for feral cats, foxes, mice, insects etc. The landfill will therefore attract these animals to the area. These animal populations will flourish with the adequate food source.
   - This will result in this vermin also moving into the adjacent properties and bush land, destroying crops, livestock and native flora/fauna species.

5. Clay / Thin plastic liner

   - Clay is critical in SITA's plans to contain the leachate produced.
   - However this is the kaolin clay that naturally occurs in the area. This type of clay is porous and has many channels/ cracks running through it from tree roots past and present. It appears the company will rely on this to be water proof. They do not intend to engineer a layer of clay under the landfill that can be relied upon to be water proof. A certain amount of leakage of leachate is permitted as no construction is fool proof. In full production this amounts to an allowance of about 400 litres per day, leaking straight into the water table below.

- Thin plastic will also be used to seal in the landfill. This plastic could easily be torn by sharp pieces of rubbish, earthquake activity, vermin or the heavy machinery that will be operated in the area. Holes in the plastic are an inevitability, leaving the clay to contain the leachate. As I mentioned earlier there are many issues with the clay also, making contamination a very probable if not inevitable result.

6. Active earthquake zone

- The hotspot that caused the Meckering earthquake in 1968 has, in the last 35 years, moved west and is now located under the York Shire. *(Geoscience Australia* http://www.news.com.au/national-news/australias-earthquake-hot-spots-revealed/story-fndo4eg9-1226519537825
- If an earthquake occurs, this will create holes and cracks in the liners/clay, which will allow leachate to move through the liner/clay and into the surrounding waterways.

7. Carbon Footprint vs rail

- It is widely accepted that rail is a more energy efficient way to transport materials.
- The fact that a rail based option has not been discussed publicly by the government and SITA is of serious concern.
- This landfill will have a lifespan of decades, so if an appropriate location could be found on a rail line, this will result in a significant reduction in the amount of greenhouse gasses released into the atmosphere.
- This will also remove the increase risk to motorists on the roads.

Economic

1. Loss of Tourism

- York relies heavily on tourism to support local businesses, thus creating jobs for local people.
- Tourists come to York for the history and because it is located amongst prime farmland and natural bush.
- The proposed landfill will do serious damage to our reputation as a popular tourist destination. Why would you choose to leave the city, only to tackle several road trains loaded with waste, then drive near a pit containing the entire Perth metro areas rubbish.
- Mount Observation provides a stunning view and example of Australian bush, if the proposal goes ahead, it will be over the road from this landfill. This greatly reduces the value of this area that personally is one of my favourite places to visit, not just in York but throughout the world.

2. Reduced perception of quality of Avon Valley products

- The Avon Valley relies heavily on a public perception that it can create natural, high quality products such as grain, meat etc.
- The introduction of the city's waste to the Avon Valley will do great damage to this reputation. Why would people be encouraged to buy products from this area if it now contains an incredibly large rubbish dump.
- Public opinion can be very fickle, so even if there is no scientific proof that the product quality has decreased, the consumer will still be more likely to choose products from a cleaner area.

Safety

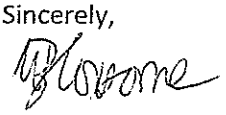
1. Road trains

- The road from York to Perth is already under pressure from the increased transport of grain on the road. The introduction of several road trains an hour will only further increase this pressure.
- The road itself is not designed for this load of trucks. This will increase the degradation of the road, increasing the risks of all who use this road.
- The frequency of overtaking lanes is also not designed for this load of trucks. This will result in a longer travel time to the city as you wait behind trucks. This will inevitably lead to people undertaking risky manoeuvres to get around the trucks, increasing the risks for all who use this road.

Recommendations

I am well aware that the economic bottom line underpins the project, as well as the state governments desire to solve the problem of current landfill reaching capacity. On an issue like this that will have long term environmental, economic and personal impacts on all who live in this area, I believe there should be a high degree of transparency. Local residents have proposed other sites, such as Koolyanobbing, where there is a current pit and rail line. I am aware this may not be economically viable, but the fact it has not been investigated and this information shared with the public is a serious concern. I know the rubbish has to go somewhere and I know nobody is willing to do this for free, but if there is another option with less risks and opposition, with perhaps a smaller profit margin, then I believe it should be investigated.

Sincerely,



William Bloxsome – 17/3/14

[redacted]rk, W.A., 6302

willobloxsome@hotmail.com

0487 944 007

112

Shire of York
PO Box 22
York WA 6302

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Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

I TRAVEL TO PERTH A LOT TO VISIT FAMILY & I AM CONCERNED ABOUT THE SIGNIFICANT INCREASE IN LARGE TRAFFIC AS A RESULT OF THE SITA PROPOSAL

Yours sincerely

NAME: LINDA GILES.

ADDRESS: [redacted] BROOME ST
YORK WA 6302.

DATE: 16/3/2014

SIGNATURE: Linda Giles

113

Shire of York
PO Box 22
York WA 6302

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

We object to the planning committee scheme which allows changes to agricultural activity to any other scheme especially to land fill. Not only would our water ~~cat~~ catchement be compromised but the amount of traffic on our lakes to York road would be dangerous with so many more trucks on the road. The odour from the tip over the years would probably attract wild pigs (which are already in the area) & other vermin to this site.

Yours sincerely

NAME: HELEN & NEVILLE GILES.

ADDRESS: [redacted] YORK WA 6302

DATE:

SIGNATURE: H. Giles
N. Giles

114

Shire of York
PO Box 22
York WA 6302

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apart from the obvious reasons my main concerns are the added dangers on our roads. There is way too much carnage on this road already. Jinkpen & Berry Brow are notorious for accidents. Way to many deaths as it is and increased trucks will only add to the carnage. Your family friends travell this road. What if it where your family that dies!!

Yours sincerely
NAME: Sharyn Dyer
ADDRESS: [redacted] YORK
DATE: 17/3/2014
SIGNATURE: S Dyer

10765

SHIRE OF YORK
FILE GRD. 290
OFFICER J Sexey | INITIALS
17 MAR 2014 1158969
REFERRED TO COUNCIL
DATE | INITIALS

115

Shire of York
PO Box 22
York WA 6302

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

My partner & I relocated from Perth to York to get a cleaner, healthier lifestyle in which to raise our children. I was raised in a small rural country town, & have missed that free-style living for the many years I was subjected to suburban living.
To open a huge landfill site near this beautiful part of W.A would contradict my reason for coming here. Why spoil a good thing??
I would probably pack up & leave if this goes ahead!!

Yours sincerely

NAME: HAIG WRIGHT

ADDRESS: [redacted]

DATE: 17/3/14

SIGNATURE: HWright

116

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

Relocated from the city to York for cleaner air.
Do not want tip out here.

Yours sincerely
NAME: Rebecca Davis
ADDRESS: [redacted], York

DATE: 16/03/14
SIGNATURE: Rebecca

117

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councillors

Re; Landfill Proposal by SITA on Allawuna Farm

As a resident of the York Community I object to the proposal of the Landfill at Allawuna.
This is a project that cultural respect for the land is endangering the homes and habitat of the Black Cockatoo and Flora and Fauna and the Vegetation of all living creatures and the honest working farmers we have in the Avon Valley area . The Christmas trees that grow through out that area is significant to Aboriginal culture because this is women business for they are the only ones who were aloud to collect the seeds from the tree .This show respect by Aboriginal men the elders in the their families when it was time to educate the younger siblings . As a child we were taught that the water streams and creek are so important to the survival of the land on which we live and for all living creatures that we share with.
York is the oldest in land country town and also a tourist destination for all travellers around the world and don't want to be recognised for the MECCA of the SITA rubbish tip.
There are mining holes in this big state of ours so why not use rail to take their rubbish and start to filling in large gapping holes that has cause damage to the earth crust.
We as a community value every source starting with the farmers planting the grain crops to ensure that they are earning living from the land and also educating our children the true value from generations to generations the importance of our life style and fighting for what is right and a safer and healthy life with in the York area.
We are a proud community sticking together in what we believe in.

Yours sincerely
Michelle Bateman

16/3/2014

[redacted]

118

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

I object to the proposed landfill at Allawuna Farm and feel that the proposal should not be permitted. It does not fit within the Shire of York Town Planning Scheme No.2, which states under the general agriculture zone "to ensure the continuation of broad acre agriculture as the principal land use in the district encouraging where appropriate the retention and expansion of agricultural activities." Landfill is not an agricultural activity.

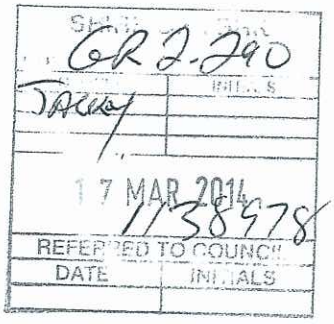
The proposed landfill is not acceptable with the Shire of York's Local Planning Strategy which states "protection of sustainable agriculture and preserve and enhance the environment and natural resources. It is also against the objectives of York's Community Strategic Plan which has an objective of "Protect and Enhance Our rural Land and Spaces" and a priority to "establish land use strategy to ensure rural and farming land is protected. Landfill does not enhance or preserve but instead destroys our environment for future generations. Landfill should not be placed in our agricultural areas.

The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

I am most concerned about:

1. The traffic impact on the road + likely increase in accidents
2. The impact to tourism and therefore to the mainstreet business, revenue for maintenance of heritage buildings
3. Impact to the water catchment
4. Decrease in tourism = Decrease in local employment in tourism sector.

Yours sincerely
NAME: Sandra Paskett
ADDRESS: [redacted] Ranmere Rd
York 6302
DATE: 14/3/2014
SIGNATURE:



119

The Shire of York
P O. Box 22
York. W.A. 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York.

I oppose the above named landfill proceeding for the following reasons.

As a coach driver, now retired, the company for which I drove tag axle buses would always advise first time drivers who were taking their passengers on a Wave Rock tour that the road between the Lakes to York had a very unusual affect on the coach. Therefore, we were to observe certain behaviours on steering between 10 km from the Lakes and approximately 12 km from York on return trips. While I'm not claiming to be a Main Road's engineer, the problems were left to right drag, wrong camber and a tendency to pull the coach to the opposite side of the road if not very careful.

Having been a passenger in a B double carrying hay, this proved to be the same situation.

The Lakes to York – an Australian icon favoured motor cycle ride in Motor Magazines and a regular vintage car route

This applies not only to weekend but mid-week touring. There already are grain trucks, BGC road trains in the first 5 km, B double straw/hay cartage trucks, Macky tucks 7 day export to Asia, 3 regular coaches per day, West Government road coaches, fly-in / fly-out drivers on The Lakes to York road. Then add to the mix that Gt Southern Highway is not a highway but a very low grade winding road, and you have a potentially very risky situation if the high number of additional road trains and traffic created by SITA are added. In my opinion, this would not be good, and would require the construction of a separate, straight, new road from The Lakes to the proposed site on Allawuna Farm.

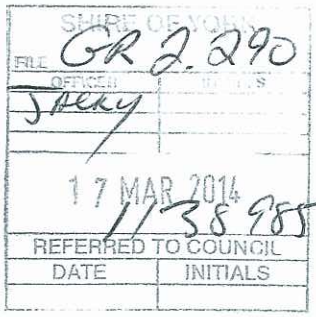
Ian James Hepton

[redacted] York Rd, York 6302
17 March, 2014

To The York Shire and Councillors

120

Re: Landfill proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 2693, Great Southern Highway, St. Ronan's, York.



Name: Ian Crombie

Address: [redacted] York 6302

Date: 17th March 2014

Signature:

As a ratepayer and resident of York, I object to the landfill proposal at Allawuna Farm for the following reasons.

Water Contamination: The close proximity of the underground freshwater aquifers will be subject to waste leeching, thus contaminating potable water which supplies both the Avon region and well as the Perth city and environs with valuable water.

The adjacent Thirteen Mile Brook drains into the Helena water system, which in turn supplies the Mundaring catchment region with necessary water for Perth City and its residents. The Six Mile Brook, also on the property drains to the east and delivers water into the Avon river system.

Air Pollution: With the estimated high dust dispersal, coupled with toxic airborne particles the surrounding farm sites and housing will be affected. These foreign elements will contaminate surrounding pastures, crops and animal feed lots as well as incapacitating those who inhale these materials. Not only the clearly visible dust, but perhaps more importantly the waste particles being distributed into damns and water sources that supply stock as well as horticultural and agricultural practices with much needed water. These waste toxins will fall onto nearby buildings, thus draining into rain water tanks, used for human consumption.

Waste Management: With the inevitable solid and liquid waste, such scavengers as Silver Gulls, rats and mice are bound to be prevalent. This not only increases the population of these unwanted pests, but also will attract native fauna, therefore exposing these creatures to noxious pathogens.
It only needs one Wedge-Tailed eagle to feed on a salmonella-stricken gull to introduce such disease into the entire bird chain.

Chemical Storage: Where are toxic chemicals to be stored?? It is common knowledge in the mining, soil and rock excavation business along with landfill projects that no membrane will hold these chemicals. Apart from the disastrous leeching, seeping predicament, what if somebody trespasses (particularly an unsuspecting child) onto the site and comes in contact or ingests these poisonous chemicals? Unsafe site and negligent!!

Site Management: The application of masses amounts of water to attempt to alleviate the dust problem will exacerbate the seepage problem.
With additional water the contaminated water has to go somewhere---the adjoining water courses or ground water.
Apparently there has been mention of fires to burn some of the refuse. Just imagine the catastrophe should a fire get out of control and wipe out the adjacent National Park and Reserve. During 6 months of the year there is a total fire ban, will SITA adhere to these laws, or will they be exempt and undertake their ignition on a regular basis?

Odour, Noise Emissions: Nearby farming properties as well as sites along the Gt Southern Highway will be exposed to revolting noxious odours. Not the sort of advertising for a country retreat, work place or announcement of fresh country air. This is not the location for a tip?
These offensive odours will be accompanied by noisy, rambling large trucks and trailers conveying the refuse along the designated route. Coupled with this noise pollution will be the excavating machinery, cranes, dumpers, pumps water trucks etc on the actual site. Not good enough!

Other Issues:

- York is a primary agricultural region, the western hub of the Wheatbelt
- York is used by thousands of travellers everyday as a main thoroughfare to the eastern Wheatbelt,
- York is the oldest inland town in WA. It is steeped in history heritage and the arts.
- York has a vibrant family orientated feel, emphasised by the successful educational, medical and sporting bodies within the shire.
- Devaluation of nearby properties
- Devaluation of housing or business with the Shire of York
- Drastic reduction in tourism – a major source of York's commerce, wealth and general interest

121

Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

I object to the proposed landfill at Allawuna Farm and feel that the proposal should not be permitted. It does not fit within the Shire of York Town Planning Scheme No.2, which states under the general agriculture zone "to ensure the continuation of broad acre agriculture as the principal land use in the district encouraging where appropriate the retention and expansion of agricultural activities." Landfill is not an agricultural activity.

The proposed landfill is not acceptable with the Shire of York's Local Planning Strategy which states "protection of sustainable agriculture and preserve and enhance the environment and natural resources. It is also against the objectives of York's Community Strategic Plan which has an objective of "Protect and Enhance Our rural Land and Spaces" and a priority to "establish land use strategy to ensure rural and farming land is protected. Landfill does not enhance or preserve but instead destroys our environment for future generations. Landfill should not be placed in our agricultural areas.

The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

A LAND FILL SITE SHOULD NOT BE SITUATED IN A DRINKING WATER CATCHMENT - NOT ONLY WILL WE HAVE A LAND FILL BUT ALSO ADDITIONAL TRAFFIC ON A MAIN HIGHWAY WITH LIMITED OVERTAKING OPPORTUNITIES BUT SHOULD THERE BE AN UNCONTROLLED INCIDENT THEN WE WILL HAVE A HIGHER CHANCE OF POLLUTED DRINKING WATER.

THE IDEA IS ILL CONCEIVED. A LACK OF PLANNING IN REGARDS TO TRAFFIC ACCESSING A TOURIST TOWN IS REGRETTABLE AND WITH THE CLOSURE OF STATE RAILWAY NETWORK LUDICROUS.

Yours sincerely

NAME: PETER OLSSEN

ADDRESS: York

DATE: 15/03/2014

SIGNATURE:

122

Kim and Ann Wood
[redacted] York WA 6302

17 March 2014

The Shire of York
PO Box 22
York WA 6302

To The York Shire and Councillors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York.

As residents of York we object to the proposed landfill at Allawuna Farm as it does not fit with York's Community Strategic Plan, in particular the objective of protecting and enhancing our rural land and spaces and ensuring rural and farming land is protected.

Also under York's local planning strategy it states; "protection of sustainable agriculture and preserve and enhance the environment and natural resources". We do not believe that the landfill will enhance the environment, in particular the area in which this is proposed, next to a water catchment area. It will cause contamination to Mundaring Weir catchment area and the water we all drink throughout the Wheatbelt and out to Kalgoorlie.

Odour cannot be measured, but the gateway to York will stink. Methane Gas is odourless and has serious health effects.

We object to the extra large trucks that will be driving along the Lakes Road which is already a dangerous and very narrow road.

The seismic activity and its effects upon the landfill.

Fire – who will be responsible for landfill fires and who will fight them? SITA state that it will be local volunteers.

We object as we do not believe it will be of any benefit to the community of York as SITA is a foreign owned Perth based business that will not take local rubbish and is coming from Perth in trucks from Perth with rubbish from Perth. There will be no economic benefit to York. Tenders will be called for on all work at the site and there is NO assurance as to any member of the York community winning these tenders. Landfill is not an agricultural activity and is detrimental to the environment. Land that is unpolluted now will be forever polluted and unusable as farming property.

This proposal is not providing facilities for tourists and travellers or any recreation uses and will have a detrimental effect on tourism in York due to the extra trucks on the already over burdened road.

Please do not allow this to happen in our historic town.

K Wood E.A Wood

123

The Avon Valley Residents Association Inc.
PO Box 687 York WA 6302

The Shire of York
PO Box 22
York WA 6302

Monday 17th March 2014

Attention: Shire Planner

Dear Jacky,

Re: Allawuna Farm Landfill Development Application by SITA Australia.

Please accept our submission on the above proposal. We will present information on this proposal under the following headings:

- History of the Proposal
- Environmental Information - Water
- Town Planning Scheme No 2
- Policy Implications

The main focus will be on the planning and environmental grounds upon which this proposal should be assessed and planning consent refused accordingly. *I will also detail the initial presentation of incorrect and misleading topographic and hydrological data by the proponent to the EPA and its ongoing perpetuation over a prolonged period without correction right up to and including this application.*

History of the Proposal to the Present Time

Early in 2013 the applicant referred the proposal to the EPA. The base mapping upon which the project has been engineered was in gross error. Every report that relied on this ground information was similarly in error. This included the Appendix 6 Baseline Groundwater Monitoring Report and construction plans in the Allawuna Landfill Proposal Drawings file. The datum for the data presented was reported in the documents as Grid Datum: GDA Zone 50 and Height Datum: AHD.

In the EPA submission (and subsequent appeal) the levels are in error by some 24-30m in both the engineering drawings and the groundwater monitoring report. If constructed to those lines and levels the entire landfill structure would have been below the existing ground. Then and now the applicant has not provided any sections depicting the landfill in relation to adjoining properties.

The EPA, Appeal Convenor and the Minister for the Environment have made decisions based on false technical data that is critical to this application adjacent to a public drinking water source area.

Subsequently a works approval application was lodged with the DER in February 2014. The applicant had now become aware of the irregularity and corrected the land surface model and the engineering construction drawings. *They have not corrected the Groundwater Monitoring Report but have submitted it unchanged to the DER,* thus perpetuating the impression the water table is 24m to 30m lower than it actually is, and inviting the DER to make a decision based on the same deficient data.

The effect of this is to artificially increase the separation distance between the base of the landfill and the water table. In truth the opposite is true, when the groundwater contours are amended 60% of the landfill base either does not meet the separation distance criteria or is actually in the aquifer.

The implication of correcting the groundwater contours by some +24m to +30m to reflect the true AHD value is significant. This erroneous data is not of a minor nature.

It is now obvious that the landfill is located within the Helena River catchment, a public drinking water source area.

A development application was lodged with the Shire of York (SoY) in late December 2013.

To ascertain the veracity of this information I invite any interested parties to view the differing versions of this application that are currently on the websites of the EPA, the DER and the SoY.

Environmental Information - Water

The groundwater component is integral to a landfill application as the pollution of the aquifer is certain to occur to varying degrees. This borne out by the experience on the Swan Coastal Plain and is the reason for not allowing any more such applications there.

Incorrect and misleading groundwater information has been lodged with the EPA and the DER as described above. As it is quite clear that no groundwater information was included with the SoY development application then none was made available for public scrutiny during the advertising period closing today the 17th March 2014.

As this is a requirement for planning consent under the Town Planning Scheme, it appears the Shire of York does not have the information required to assess this proposal under the TPS2 Part 8.1 (c) and Part 8.5 (i, m, w, z).

In support of the need to verify this information AVRA has engaged experts in geology and hydrogeology to correct the misrepresentation perpetuated by the applicant. This has also confirmed their earlier reports and conclusions as to why this site is not suitable for a landfill.

The Works Approval Application submission to the DER contains the geological and hydrogeological reports and is attached as Appendix A. Appendix A is to form part of this submission.

Town Planning Scheme No 2

- **Omnibus 50**
  This is not relevant or applicable as it was not approved at the time of the development application.
- **Clause 3.1.2 & 3.2.4**
  That the Soy chooses to interpret the proposal as a "use not listed" does not make it the correct interpretation. The use is clearly noxious industry despite the semantics being played with the vague TPS. We have written advice from the WAPC to this effect. The SoY is the only local authority in WA to view it differently. All the agencies responsible for a landfill's licensing and regulation classify it as a noxious industry. The applicant itself regards the proposal as noxious industry, their alternate of a "use not listed" is a sham to cast it in a more favourable light. Allawuna should be re-zoned to Special Purpose to qualify for consideration, just as the SoY's waste station has been re-zoned to Special Purpose.
- **Clause 4.15.1 & 4.15.2**

(a) This will not ensure the continuation of agricultural use on the land. Further applications for expansion in size and for higher waste classifications to handle more toxic material will follow within the first few years of operation.

(b) This proposal is of no benefit to the district. It is a result of expedience by the applicant bought on by Perth's failure to plan for the future. It is detrimental to the environment by it's very location, not forgetting the height of the landfill will be the same as Mt Observation.

(c) The applicant fully realises the potential impacts on tourism by trying to assauge the damage by using unmarked trucks and site entry. The trucking will only increase in volume as Perth grows.

(d) This proposal will have a far reaching effect on the local amenity and "brand" of the district. Tourism, small business, heritage values, lifestyle and agriculture are all at risk by locating this landfill at the gateway to York. Perceived or not, evidence the total opposition to the proposal from all strata's of the community.

- **Clause 8.1 & 8.5**
  The proponent provided no environmental information to the SoY, particularly the groundwater component that is critical to a project of this type and size adjacent to a public drinking water source area.The community has had no opportunity to comment on this fundamental part of the application. *The SoY has not been given the information required to assess this proposal as required under the TPS2 and for this reason alone should refuse planning consent under Clause 8.6 of the TPS.*

- **Clause 8.5**
  Traffic generation – If the prospects of the York to Lakes Road being upgraded to a Roe Highway standard this may not be an issue. It is certain that this will not happen in the short term. The applicant still does not include the empty returning trucks in their statistics. The applicant does not include the trucking for the stated 1.5 million tonne of imported capping material. The applicant points out the expanding population figures for Perth but not the subsequent increase in trucking. The applicant uses light vehicle numbers to dilute the figures. The true increase in *road train traffic* is in the order of 120%.

- **Clause 8.11**
  Planning consent should not be granted pending approval of further detail or information. The applicant has provided grossly incorrect and misleading technical information to the EPA. The applicant has knowingly submitted the same uncorrected groundwater information to the DER. The applicant has withheld the critical groundwater information from the SoY. Considering the selective amendment of certain aspects of the applicants documentation it beggars belief that these actions are not concerted and calculated to mislead. I again invite the SoY to examine the lodged documents on the EPA and DER websites to ascertain the veracity of this information.

Policy Implications

State Planning Strategy 1997

- Makes no reference to noxious industry (landfill) on agricultural land.

Draft State Planning Strategy 2012 draft

- Belatedly acknowledges the need for future planning of waste disposal, but does not promote an ad hoc approach by private developers on unsuitable land and based on expedience.
- Acknowledges that existing buffers are inadequate.
- *It is currently a draft document and not applicable to this application.*

Avon Arc Sub-Regional Strategy 2001

- This strategy promotes everything except metropolitan waste.
- The applicant endeavors to link regional waste with metropolitan waste. It is an absurdity to locate a waste facility at the extreme western edge of the area that it is to service. The viable distance for travel for the light regional waste trucks in use is around 40km. Would Cunderdin be happy to travel 120km while York travels 20km ?
- The regional waste issue should play no part in the assessment of this application.
- The Avon Arc Strategy is similar in every aspect to the York Community Strategic Plan. The York Community Strategic Plan is not challenged by the applicant.

SoY Local Planning Strategy 2007

- This strategy makes no reference to metropolitan waste.
- The applicant makes the comparison of a metropolitan waste disposal site with an extractive industry. The difference is that mine sites and quarries have to lodge rehabilitation bonds and remediate the site upon completion. Waste dumps create pollution and in the event of large scale contamination there is no going back, the district has to live with it. Similar noxious industries such as a piggery or chicken farm can be closed down and the land re-mediated in the event of disaster, not so a waste disposal of this magnitude.
- This fragile attempt to comply with this strategy is compounded by the complete lack of any effort to comply with the York Community Strategic Plan.

York Community Strategic Plan

- From above it is heartening to see the applicant admit by omission that this proposal does not comply with the SoY vision for the future.
- *The proposal should be refused on this ground alone.*

SoY Town Planning Scheme No 2

- Discussed above – this proposal does not qualify for approval under the existing zoning or any other clause of the scheme.

Statement of Planning Policy No 2

- Section 5.4 of SPP 2 Environment and Natural Resources states:

(iii) Ensure that land uses that may result in land contamination such as storage of chemicals, waste, other toxic materials or liquid fuel are not permitted unless it can be demonstrated that the proposed activities will not result in contamination of land or adverse effects on future land use.

- With reference to Appendix A (attached) we consider that the landfill operation will not meet this provision We consider that the environmental impacts of this landfill will give rise to undue and adverse amenity impacts. This will result in the contamination of the underlying aquifer that drains to the Helena Catchment, a public drinking water source area.

Economic

- There is no economic benefit to York from this landfill. It is a private operation run for the benefit of it's shareholders. The only benefits from landfills for the surrounding communities are those operated by the local authorities themselves.
- The 8-10 site employees will be existing SITA employees. The truck fleet and drivers will be sub-contract and based in Perth.
- Infrastructure will be tendered out and the same few experienced and capable contractors based in Perth will vie to win the work.
- This application should stand alone to be assessed without considering a regional waste solution as discussed in the Avon Arc Sub-Regional Strategy above. Why would the SoY support this location for a regional tip that funnels every rubbish truck in the wheatbelt through the York townsite ?
- The economic effect will be a net negative for the SoY considering it's historic standing.

Social

- A large scale metropolitan waste dump with a guaranteed expansion both in size and class of waste accepted ie toxicity.
- A proposal with inherent environmental, traffic and amenity issues.

- A community known for it's heritage, history, tourism, small business, lifestyle and a vibrant agricultural future. A getaway for tree changers, day trippers and visitors.
- There is no comparison between these two regimes.

Environmental

- Comment on potential pollution from noise and deterioration of air quality we will leave to other submissions to address.
- Comment on the pollution of the above ground water we will similarly leave to other submissions to address.
- The applicant points to the qualities of the clay to prevent the filtration of the leachate to the underlying aquifer. They provided only one clay sample for testing, did not state where it was taken from, and declared it would take 178 years to penetrate.
- See Appendix A for Rockwaters Pty Ltd calculations, and by the applicants own information the correct figure is 13 years for the leachate to reach the aquifer.
- This is borne out by the applicant's own figures on the existing contamination of the aquifer by fertiliser chemical traces. This land has only been cleared since the 1960's and intensive chemical application has only been applied since some 20 to 30 years ago. It is quite apparent that the filtration rates are a lot quicker than the applicant has the ability to correctly calculate.
- If pollution is now apparently unacceptable to Perth, why would you place a landfill in a location that drains into the Helena and Mundaring Catchment ?
- If pollution is now apparently unacceptable to Perth, it should not be deemed acceptable for the SoY.

Liner Leakage Rates

- No manufacturer of landfill liners will guarantee that they will not leak. The accepted maximum rate is about 10 litres/day/ha.
- This is due to poor weld seams, installation defects, pin holes, slices and punctures and generally tears caused by machinery and cutting materials dumped in the landfill.
- On a site this size that equates to 180,000 litres a year. If this is the accepted rate it is not a stretch to believe the actual rate will be higher, based on experience on the Swan Coastal Plain.
- The rainfall being much less here than on the coastal plain equates to less dilution of the leachate and greater pollution rates.

Rural Dependence on Water

Unlike the metropolitan area we have no water on tap. Rainwater and underground water are the only option for those in rural areas. Any contamination of the underground water will have an irreversible effect on the viability of living on the land, both for humans, stock and agriculture for food production.

Summary

I believe the proposal to locate this scale of landfill in a valley with a high water table and a direct flow of underground water into the Helena River catchment, a public drinking water source area, is unacceptable.

To consider a proposal that:

- provides for no groundwater separation is unacceptable.
- does not comply with any of the Policy Implications is unacceptable.
- fails to provide the information required under the TPS2 is unacceptable.
- is advertised to the community deficient in critical information is unacceptable.

for all of these reasons we respectfully invite you to recommend that this application be refused planning consent and this decision be carried forward to the DAP.

.

Yours faithfully,

Denis & Bev Hill
For the Avon Valley Residents Association

Attachments:

Appendix A ..... The AVRA Submission on the Works Approval Application to the DER by SITA Australia.
Attachment 1 and 2 included in this DER Submission are Reports by Landform Research and Rockwater Pty Ltd

Appendix A

The Avon Valley Residents Association Inc.
PO Box 68 York WA 6302

Cristina Angel - Regional Leader, Industry Regulation,
Swan Region, Dept. of Environment Regulation
Locked Bag 33, Cloisters Square WA 6850

Friday 7th March 2014

COPY

Dear Cristina,

Re: Allawuna Farm Landfill Works Approval Application by SITA Australia.

Please accept my submission on the above proposal. I will present information on this proposal under the following headings:

- Previous History of the Proposal
- Groundwater Contours
- Water Table – Construction Levels
- Underground Water Flow
- Liner Leakage Rates
- Rural Dependence on Groundwater

My focus will be on the groundwater component, construction levels and the effect this proposal will have on the environment. ***I will also detail the initial presentation of incorrect and misleading topographic and hydrological data by the proponent to the EPA and its ongoing perpetuation over a prolonged period without correction right up to and including this application.***

Previous History of the Proposal

Early in 2013 the applicant referred the proposal to the EPA which included the Appendix 6 Baseline Groundwater Monitoring Report and construction plans in the Allawuna Landfill Proposal Drawings file. The datum for the data presented was recorded as Grid Datum: GDA Zone 50 and Height Datum: AHD.

In the EPA submission (and subsequent appeal) the levels are in error by some 24-30m in both the engineering drawings and the groundwater monitoring report. If constructed to those lines and levels the entire landfill structure would have been below the existing ground.

Fast forward to the current DER works approval application and the applicant appears to have discovered the error and corrected the engineering drawings to reflect the true natural surface contours more closely. All the levels have been adjusted approximately +30m.

Groundwater Contours

The original Groundwater Monitoring Report has not been corrected and has been presented to the DER unchanged as part of this application. The original bore (numbers 1 to 6) ground levels are incorrect, as are the presented groundwater contours. The new bores (numbers 9 to 14) appear to have correct position and height attributed to them but are simply appended to the report without being incorporated into it.

The applicant must be fully aware of the problem as they have amended the old bore heights and plotted them with the new bore information on drawing ALLA-WA-32 that is not part of the Groundwater Monitoring Report. The applicant has not presented a plan with the groundwater, natural surface and landfill base overlaid. *The applicant has presented no environmental or groundwater information in the Development Application to the Shire of York contrary to the Town Planning Scheme No 2 and Part 8.1 (c) and Part 8.5 (i, m, w, z).*

An inspection of the bore logs will indicate a 27m difference in ground levels on two bores close together on opposite sides of a creek ? Bores low in the landscape have higher height values than bores up slope of them ?

The implication of correcting the groundwater contours by some +24m to +30m to reflect the true AHD value is significant.

See a further report (Attachment 1) by Landform Research on the updated underground water contours and direction of flow. ***It is now obvious that the landfill is located within the Helena River catchment, a public drinking water source area.*** The catchment boundary requires amendment to capture this area similarly as it has been extended on the north side of Great Southern Highway adjacent to Allawuna Farm. That extension captures freehold agricultural land east of Great Southern Highway and Berry Brow Road.

Landform Research in previously submitted reports spoke of the likelihood of underground water flow into the drinking water catchment. To date I have not seen this addressed by the DER or DoW ?

Water Table – Construction Levels

The correct groundwater contours when applied to the cell base drawings indicate that the base of part of Cell 4 and all of Cell's 5-9 are either in the water table or lack the required clearance from it. The eastern side of the base of Cell's 10 and 11 are affected similarly. The collection sumps also have no clearance from the water table.

None of the bore readings presented reflect the highest winter water table reached in September/October. Bore #6 for instance was overflowing in the 2013 winter.

Note also that Rockwater Pty Ltd in previously submitted reports alluded to the lack of sufficient information on the water table separation from the landfill base.

Rockwater Pty Ltd as well reported on the incorrect calculation of the filtration rate through the only clay sample provided by the applicant. To date I have not seen this addressed ?

See Attachment 2 from Rockwater Pty Ltd.

Underground Water Flow

See Attachment 1 by Landform Research for the flow and route of the underground water (palaeo channel) directly into the Helena River catchment.

Liner Leakage Rates

No manufacturer of landfill liners will guarantee that they will not leak. The accepted maximum rate is about 10 litres/day/ha. This is due to poor weld seams, installation defects, pin holes, slices and punctures and generally tears caused by machinery and cutting materials dumped in the landfill. On a site this size that equates to 180,000 litres a year. If this is the accepted rate it is not a stretch to believe the actual rate will be higher, based on experience on the Swan Coastal Plain. The rainfall being much less here than on the coastal plain equates to less dilution of the leachate and greater pollution rates.

Rural Dependence on Groundwater

Unlike the metropolitan area we have no water on tap. Rainwater and underground water are the only option for those in rural areas. Any contamination of the underground water will have an irreversible effect on the viability of living on the land, both for humans, stock and agriculture for food production.

Summary

For the above reasons I believe the proposal to locate this scale of landfill in a valley with a high water table and a direct flow of underground water into the Helena River catchment, a public drinking water source area, is unacceptable. To consider a proposal that provides for no groundwater separation is similarly unacceptable and I invite the DER to reject this application entirely.

Yours faithfully,

Denis & Bev Hill
For the Avon Valley Residents Association

Attachments:

1. Report by Landform Research 4th March 2014
2. Report by Rockwater Pty Ltd March 2014

Cc: Hon. Colin Barnett MLA
Hon. Mia Davies MLA
Hon. Paul Brown MLC
Hon. Albert P Jacob MLA

Nigel Mantle, Department of Water
Steve Appleyard, Department of Environment Regulation
Alan Kietzmann, Department of Environment Regulation
Anthony Sheehan, Environmental Protection Authority
Patrick Pearlman, Environmental Defenders Office
Kelly Faulkner, Appeals Convenor
Shire of York

Copy for Your Information

The Avon Valley Residents Association Inc.
PO Box 687 York WA 6302

Hon Colin Barnett MLA
Premier
1 Parliament Place
WEST PERTH WA 6005

Monday 10th March 2014

COPY

Dear Sir,

Re: Allawuna Farm Landfill Works Approval Application to the DER by SITA Australia

Attached please find a copy of the submission on the above proposal. I have copied this to your office as I know you have a keen interest in the progress of this application to dump metropolitan waste in the Shire of York and the Avon Valley.

I write to you now as it has only just become clear since this application was lodged with the DER that the original base mapping was in gross error resulting in the applicant supplying incorrect and misleading information to the EPA and Appeal Convenor during the referral process that started in early 2013.

The EPA and Appeal Convenor made decisions based on false technical data that is critical to this application adjacent to a public drinking water source area.

The applicant has now become aware of the irregularity and corrected the land surface model and the engineering construction drawings. They have not corrected the Groundwater Monitoring Report but have submitted it unchanged to the DER, thus perpetuating the impression the water table is 24-30m lower than it actually is, and inviting the DER to make a decision based on the same deficient data.

The effect of this is to artificially increase the separation distance between the base of the landfill and the water table. In truth the opposite is true, when the groundwater contours are amended 60% of the landfill base either does not meet the separation distance criteria or is actually in the aquifer. There is no data provided showing the interaction of the landfill and water table with adjoining properties

Similarly, and more importantly it clearly demonstrates that this section of Allawuna Farm is inside the Helena catchment, a public drinking water source area.

I trust that you will ensure that the responsible agencies examine this issue in the light of the attached submission and this new information.

Yours faithfully,

D Hill B Hill

Denis & Bev Hill
for the Avon Valley Residents Association Inc.
Note: Contact if a digital version of this report is required.

Attachment 1

Landform Research
Land Systems - Quarries - Environment
ABN 29 841 445 694

COMMENTS ON THE GENERAL GEOLOGY OF PROPOSED LANDFILL SITE – ALLAWUNA, YORK

4 March 2014

Background

SITA have undertaken site studies of the Allawuna property at York, with a view to potentially locating a landfill on site.

The information on the proposal is taken from the advertising conducted by the DER that was presented on the DER website, in addition to local knowledge, aerial photographic interpretation, digital elevation model, map examination and review of the published geology. No access to the landfill site has been conducted and was not sought.

I have been requested by some residents of York to provide comments on the geology and hydrogeology of the proposed landfill.

The comments are not to be taken as support or opposition to the proposal, but rather as an interpretation of the data provided by Bowman Bishaw and ENV.

The data presented here does not appear to have been provided in the documentation by the proponent that I have reviewed.

Findings

From the data presented by Bowman Bishaw and ENV, I believe that the groundwater is directly connected to the Helena Catchment through a palaeochannel connection. The sediments of the palaeochannel appear to be highly laterally permeable. Flow rates are significant with groundwater contour gradients varying from 2% to 15%.

Flow rates in the sandy aquifer at the interface of the granite regolith and basement under the proposed landfill are normally fast in such situations, based on the gradient of the groundwater and nature of the aquifer.

From the data provided, known geology and local knowledge the palaeochannel within the Helena Catchment is about 350 metres from the edge of the proposed landfill.

Lindsay Stephens BSc Geology), MSc (Plant Ecology) 25 Heather Road Roleystone WA 6111
Mem Aus Geomechanics Soc – MEIANZ – FIQA Tel 9397 5145, landform@iinet.net.au

The Site

The proposed landfill is located on the western edge of the York Shire, on the most western agricultural land that adjoins State Forest 13 and the Helena Catchment that feeds to Mundaring Weir Water Supply.

The site lies at the top of the adjoining surface water catchment that drains to the Avon Swan River System, just east of the drainage divide.

Information Used

- Bore Logs for Holes 1 to 14 (Bowman Bishaw and ENV) (attached). Holes 9 – 14 have only recently become available on DER Website.
- Baseline Groundwater Monitoring Report, Proposed Allawuna Landfill, Shire of York, ENV October 2012, (DER website).
- Construction Specification Allawuna Farm Landfill, Bowman Bishaw, January 2014. (DER website).
- Works Approval Submission: Construction and Operation of Allawuna Farm Landfill, Bowman Bishaw, January 2014.
- 1 : 250 000 Perth Geological Map, Geological survey of WA.
- Helena River Salinity Situation Statement, Department of Water May 2007, Report WRT 34.
- Available aerial photography.

Comments on the information available on the DER website in relation to the project.

Information was previously available from the Office of the EPA website.

It is noted that whilst there are new drill holes constructed, the Hydrogeological Report has not been updated to include the new drilling data.

None of the bore logs are correlated geologically.

No mention appears to have been made of Palaeochannels either within the 2012 submissions, or the more recently submitted materials.

There have been several changes to the contours presented in the documentation with variations by up to 25 to 30 metres.

The materials presented do not appear to have been examined to determine whether they are sedimentary, transported or in situ.

The water table in the bore log for Hole 3 appears to be incorrectly plotted by ENV on their Figure 2 of the Groundwater Monitoring Report. The water table in Bore Hole 3 appears to be up slope and about 7 metres AHD higher in elevation than Bore Hole 4.

Bore Hole 2 is ignored in all documentation. The water table was not intersected down to 30 metres. The description of the bore log would suggest palaeochannel sedimentary sediments.

The water table must be below the 30 metres of Bore Hole 2, proving the divide to the Helena catchment at this point is formed from remnant palaeochannel sediments.

No examination of the local geology is presented in any documents. The geology is very brief and consists of published information that only in part refers to the local geology.

There appears to have been no local mapping of the geology or regolith. For example the western bore holes appear to be located in a sedimentary sequence filling an ancient valley or palaeochannel. The eastern materials appear to be located on in situ regolith on granitic basement.

No information is presented on whether the regolith materials are "in situ", "transported" or "sedimentary".

Geology

From published information, DOW Report WRT 34 and local knowledge, the Allawuna area is a mixture of granite basement, palaeochannel remnants and laterite peneplain remnants.

The granitic basement on which the landfill is to be constructed is typically highly undulating with outcrop at or close to the surface, with other locations having deep regolith as indicated in the bore hole data.

The valley of Thirteen Mile Brook appears to be palaeochannel remnants from the known geology and Borehole 2. That is an ancient valley filled with sediments. A concept section of the palaeochannel granite basement interface is presented by DOW and included as Figure 4.

The evidence presented, and published geological mapping, suggests that west of Thirteen Mile Brook is a sedimentary valley fill and east of the Brook is regolith on granite basement. These geological materials have different geotechnical and hydrogeological attributes.

The regional structural geology has been interpreted from aerial photography. These are shown on Figure 6, and provide the lines of weakness along which the palaeo-streams were able to erode. The structural control of the watercourses and valleys is obvious on DOW mapping (Figure 1), shown by the straight lines of the valleys.

From all the collected material I have provided sketch concept sections of the local area which are presented in Figure 5, based on the published information and material provided by the proponent on DER website. It is unclear why the proponent did not provide such geological material.

Palaeochannels

Palaeochannels are simply ancient valleys that have been filled by sediments. The sediments are typically sands and clays.

The valleys were formed millions of years ago and were then filled by stream and lake deposits.

The Yilgarn Craton was then tilted and uplifted allowing for erosion of the valley fill deposits. In the York and western Wheatbelt, Bolgart to Katanning, the palaeochannels are represented by sediments that have not been eroded. They can be lake beds with later infilled river channels cut into them and are often only represented on a hill in an elevated position where erosion has been reduced.

Where the valley fill sediments have been removed, the valley can be cut back to the original valley form prior to infill e.g. to the west and east of the site. Valley fill sediments appear to be left in this location because it sits near the drainage divides.

Extensive kaolin clay beds lie in the Bolgart, Maitland and Kokeby areas and river sediments at Action Sands/Goods Road, The Lakes and various other places. (Figure 3)

Palaeochannel sediments typically do not support dams, and were often in the past accessed by wells. That seems to fit locally. Where are the dams west of the Brook? Except in the south outside the palaeochannel. (Figure 6)

All the Drill holes presented by the proponents' holes east of Thirteen Mile Brook are similar and are typical of what could be present on a deeper weathered granite base. Those west appear to be sedimentary in origin.

The problem is that the bore logs have not been examined geologically. With a detailed look at the grains in form and composition it should have been possible to determine the origin of the sediments in the bore holes. For example, is the site sedimentary clays west of the Brook and deep in situ regolith east of the Brook?

Sedimentary materials are likely to be lenses and horizontal aquifers that may require consideration depending on the landfill design and location and might become an issue if there was potential leakage.

Hydrogeology

From the available materials there is sufficient data to draw the contours of the groundwater. This was completed originally by ENV in their "Baseline Groundwater Monitoring Report" dated October 2012.

That report is again presented in support of the Works Approval and is available on the DER website.

The groundwater contours shown in Figure 2 of the report are wrong and do not take into account the new drill holes nor the correct AHD elevations. ENV ignored Bore Hole 2.

Compare ENV Figure 2 to the attached Figure 7. Note that the attached Figure 7 uses 5 metre groundwater contour intervals.

Note in Figure 7 how the groundwater contours are depressed along the valley of Thirteen Mile Brook and at Bore Hole 2. This indicates deep aquifers that are free draining to the west.

It is unclear why Bore Hole 2 has been ignored and why no updated hydrogeological information is presented. Bore Hole 2 proves the presence of palaeochannel sediments forming the low divide to the Helena catchment.

From the groundwater contours a section has been drawn along the contour gradient. This shows and explains the seepages within the Helena catchment, which arise from groundwater flowing through the surface catchment divide. DOW has monitoring bores installed on these seepages.

Conclusions

The proposed landfill lies 800 east from the low catchment divide to the Helena Catchment and only 400 metres from the edge of the palaeochannel. (Figure 7).

There is a direct link between the palaeochannel and the seepages within the Helena Catchment. (Figures 7 and 8).

Groundwater gradients are 2% to 15% which are significantly sloping and indicate fast westward flows.

The depressed elevation of the groundwater at Bore Hole 2 indicates fast westwards flow of the groundwater within the palaeochannel and vertical seepages to the palaeochannel from the valley of Thirteen Mile Brook.

Permeability

Only one permeability test was conducted on the granite regolith. The location and depth of the sample does not appear to be provided. The regolith materials are very changeable in all the bore holes and one sample could not be representative.

No lateral flow rates appear to be presented for the palaeochannel.

Lindsay Stephens
6 March 2014.

Attached

Figure 1	Drainage of the Helena catchment
Figure 2	Subcatchments of the Helena Catchment
Figure 3	Palaeochannel sediments in the Helena Catchment
Figure 4	DOW Sketch of palaeochannel – granite interface.
Figure 5	Concept sketch sections of the geology
Figure 6	Structural geology of the local area and Helena Catchment
Figure 7	Allawuna groundwater plots, contours and flows.
Figure 8	Hydrogeological Section across the Helena catchment – Allawuna divide

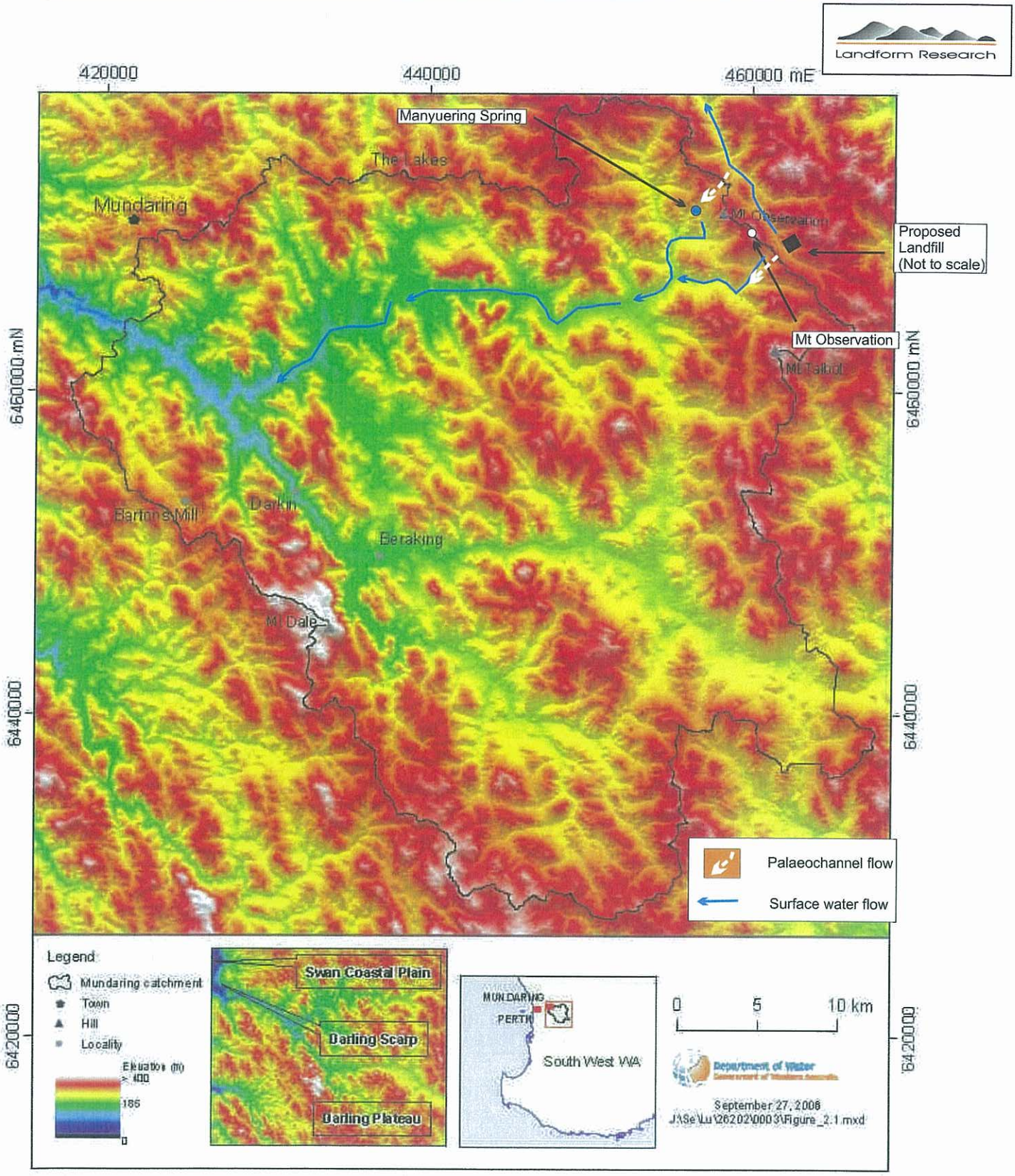


Figure 2.1 Topography and physiographic divisions

Mapping does not show the palaeochannel flows under the surface water drainage divide

Surface water flows outside the Helena Catchment.

Palaeochannel flow most likely flows into the Helena Catchment

Figure 1

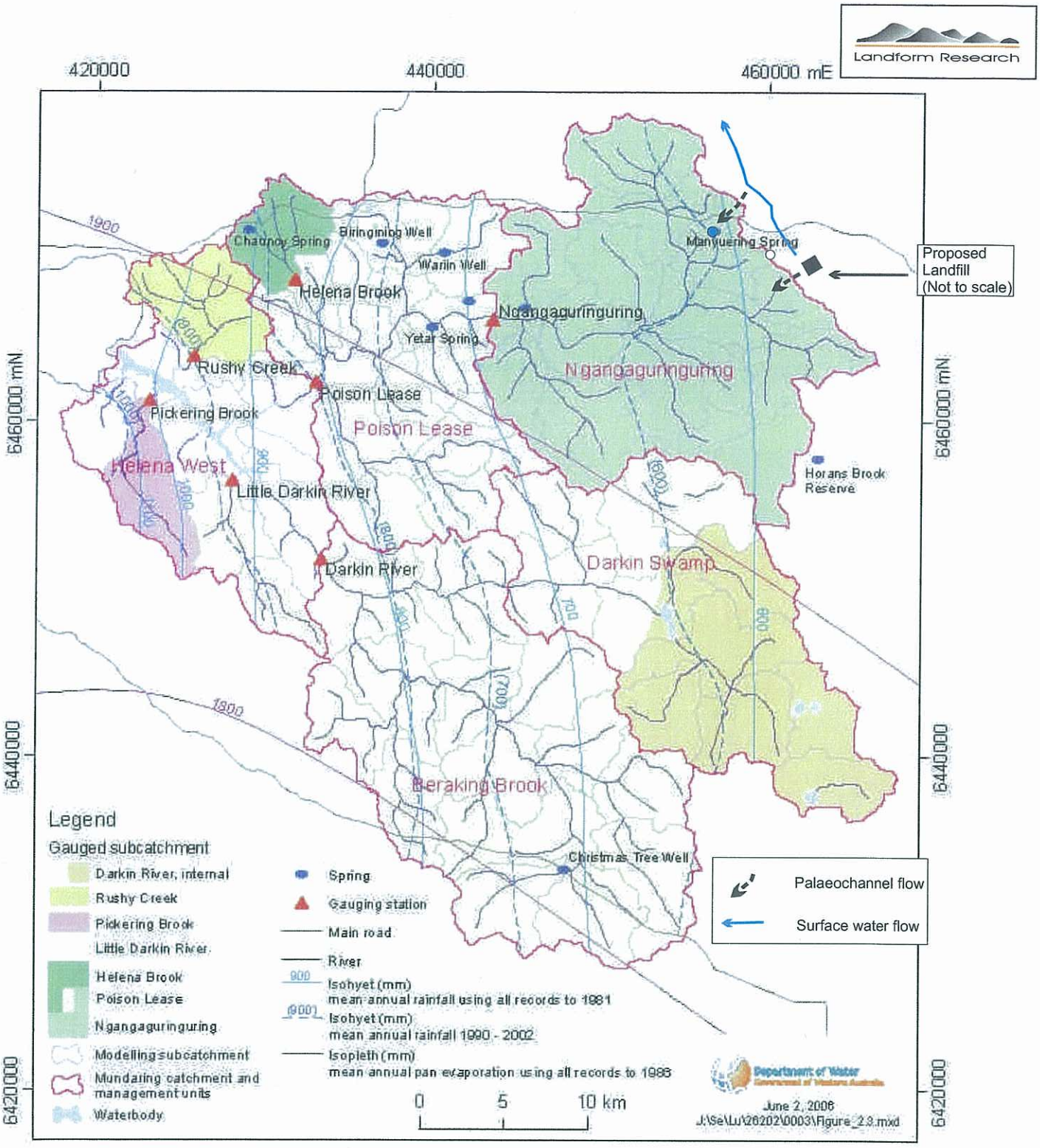


Figure 2.2 Hydrology, subcatchments, gauging stations, rainfall and potential evaporation

Mapping does not show the palaeochannel flows under the surface water drainage divide

Surface water flows outside the Helena Catchment.

Palaeochannel flow most likely flows into the Helena Catchment

Figure 2

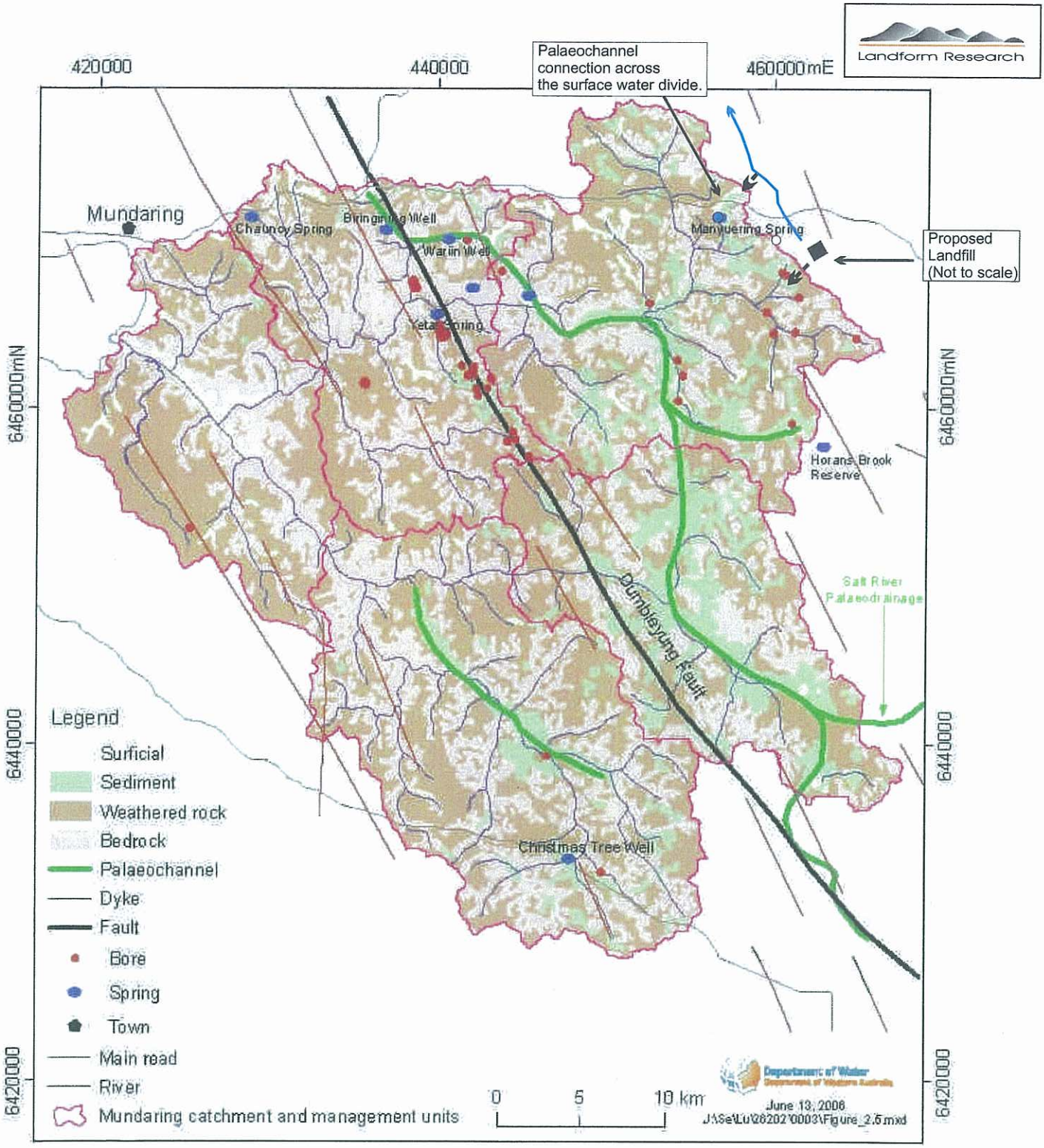


Figure 2.5 Hydrogeology

Notice the palaeochannel connection from the valley outside the Helena Catchment to Manyuering Spring, shown in green as sediment. Manyuering Spring probably receives water from the connection to the palaeochannel underlying and parallel to the stream to the north east, outside the Helena Catchment.

Figure 3

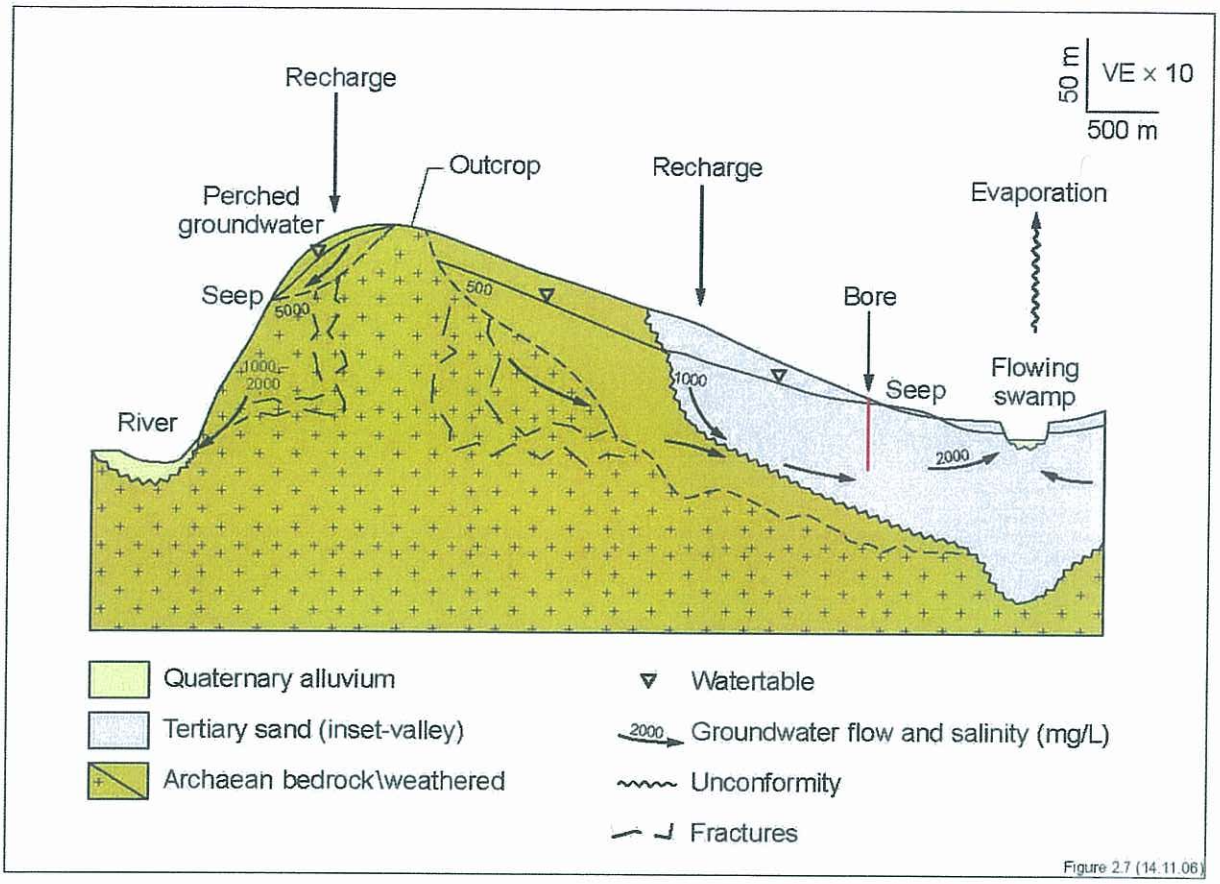


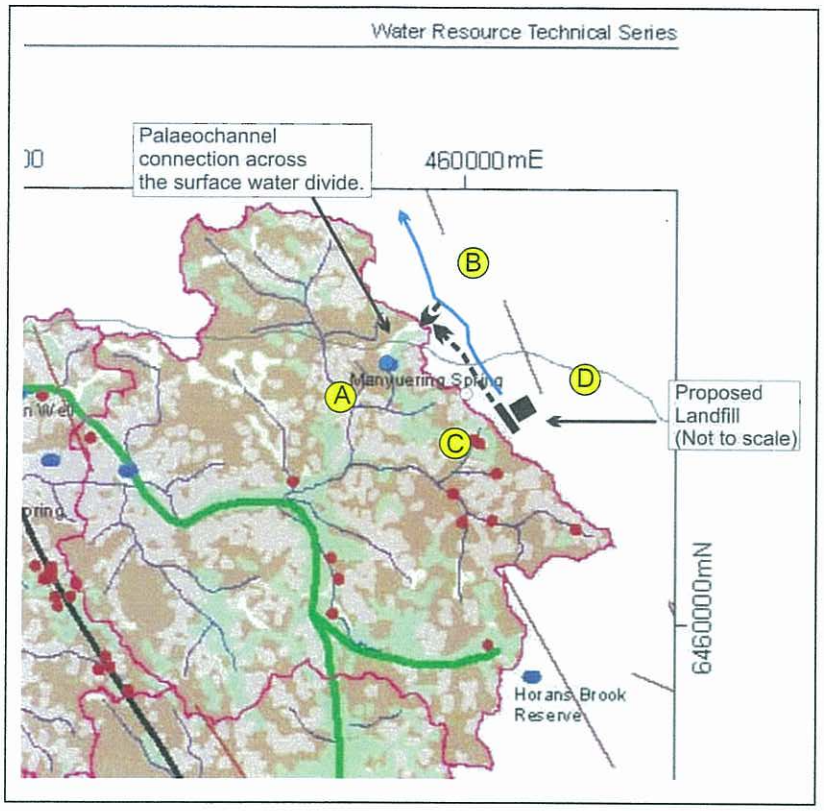
Figure 2.7 Diagrammatic section of hillside seeps and valley floor springs near the Ngangaguringuring gauging station

colluvial (Qrc & Qrcs) deposits, and are widespread but not extensive within valleys, broad flats, wetlands, some lower slopes, high in the landscape (Qa), and associated with stream channels (Qas & Qs). These aquifers are recharged by direct infiltration of excess rainfall or runoff. They also transmit upward discharge from the weathered and/or fractured rock aquifers and sedimentary aquifers. Groundwater loss is mainly through evapotranspiration. These aquifers form a minor water source only in the higher rainfall areas towards the south-west of the catchment. The salinity of the groundwater varies significantly depending on the long-term rainfall.

2.6.2 Sedimentary aquifers

The unconfined to semi-confined sedimentary aquifers (Ts mapped mostly as Qra, Qas & Czs) are now recognised as significant sources of saline water in the Helena subcatchment (Fig. 2.5). The largest of these minor local aquifers extends north-north-west through Goonaping, Darkin and Little Darkin swamps (Appendix A2.1, Photo 35). The sediments comprise mostly sand and gravel deposited in palaeovalleys and topographic depressions eroded into weathered bedrock and are suspected to be Late Eocene in age (Table 2.2). The discrete occurrences appear to have been connected with ancestral drainages east of the catchment (Commander et al. 2001; Salama 1997). These sediments extend north-west for about 50 km across the east of the Mundaring catchment (about half in the each of the Darkin and Helena subcatchments). In

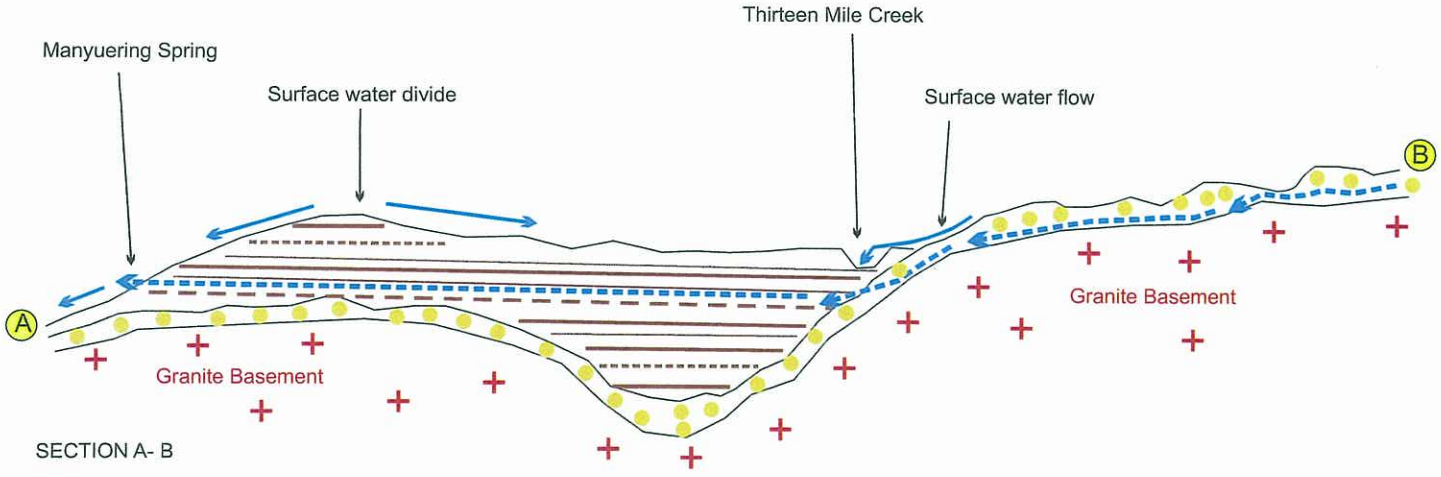
Figure 4



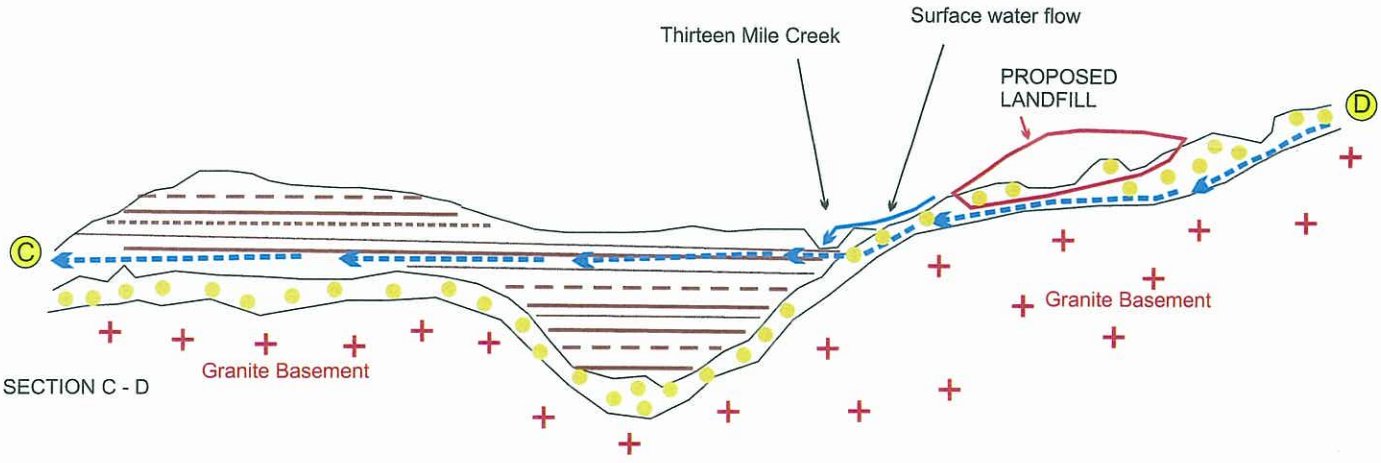
CONCEPT SECTION LINES

INTERPRETED FROM GEOLOGICAL AND HYDROGEOLOGICAL DATA

- Groundwater flow
- Surface water flow
- Palaeochannel, sandy clays sands and other sediments
- Granite basement
- Weathered granite, in situ regolith and soils



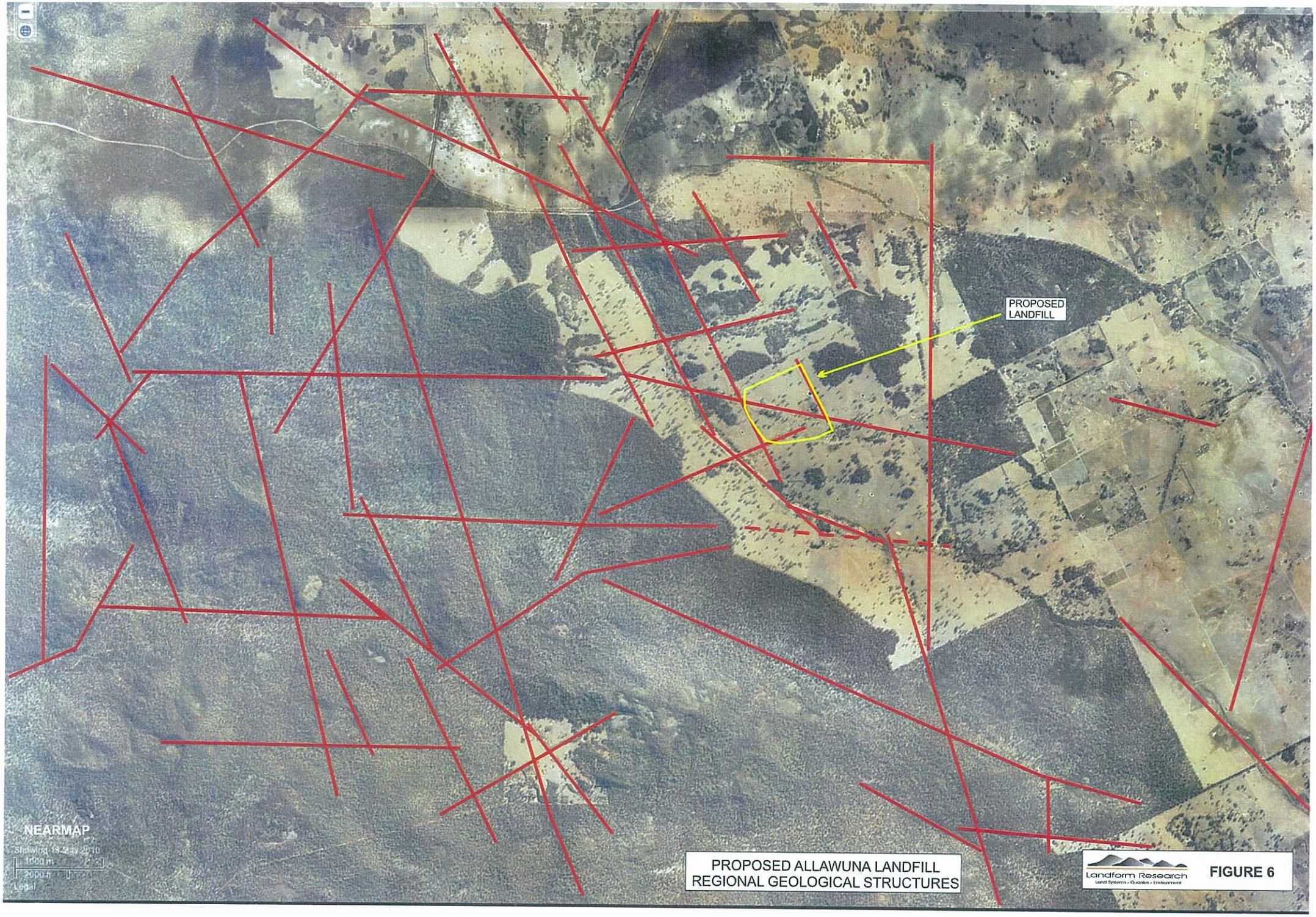
SECTION A- B



SECTION C - D

Landform Research

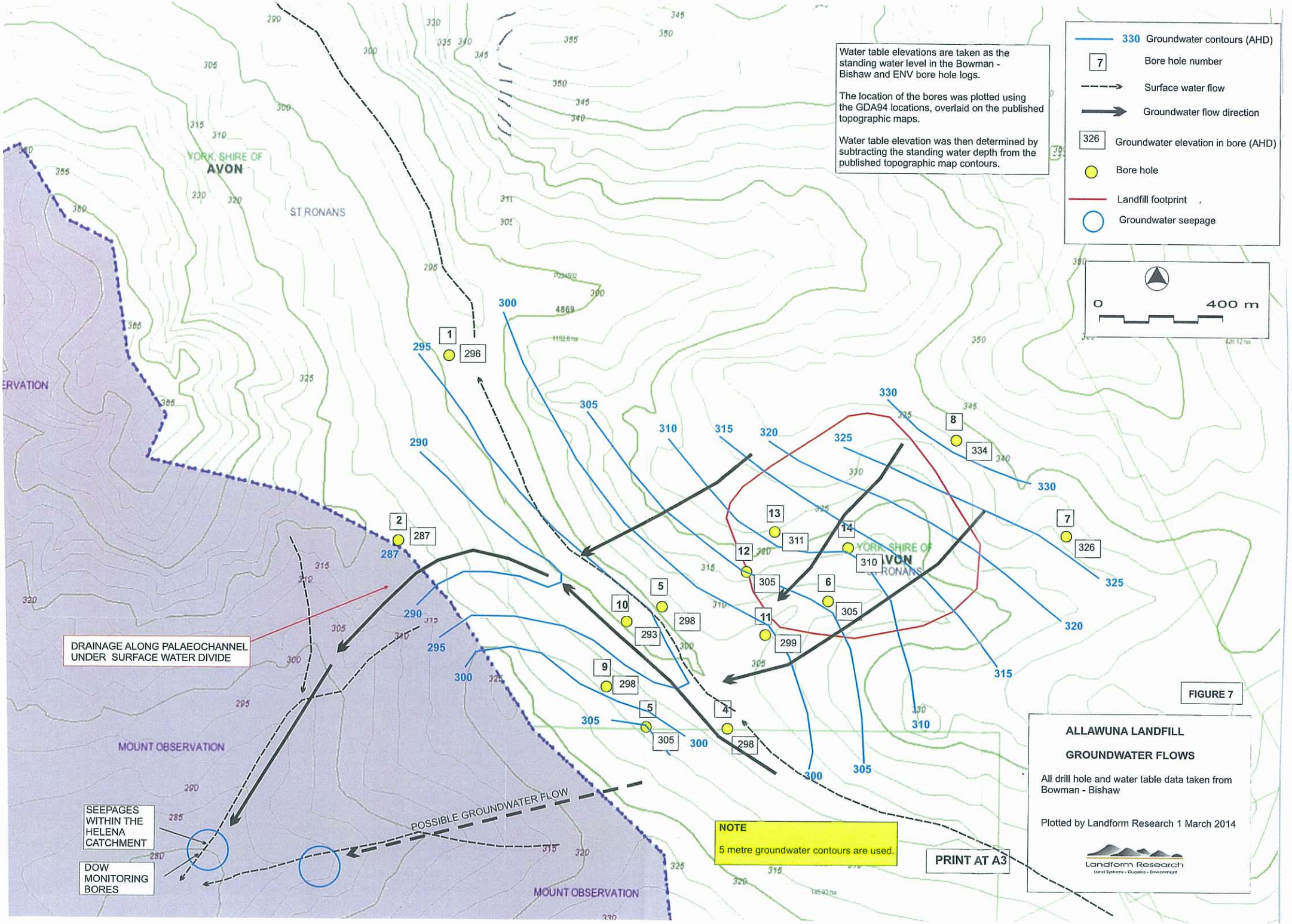
Figure 5

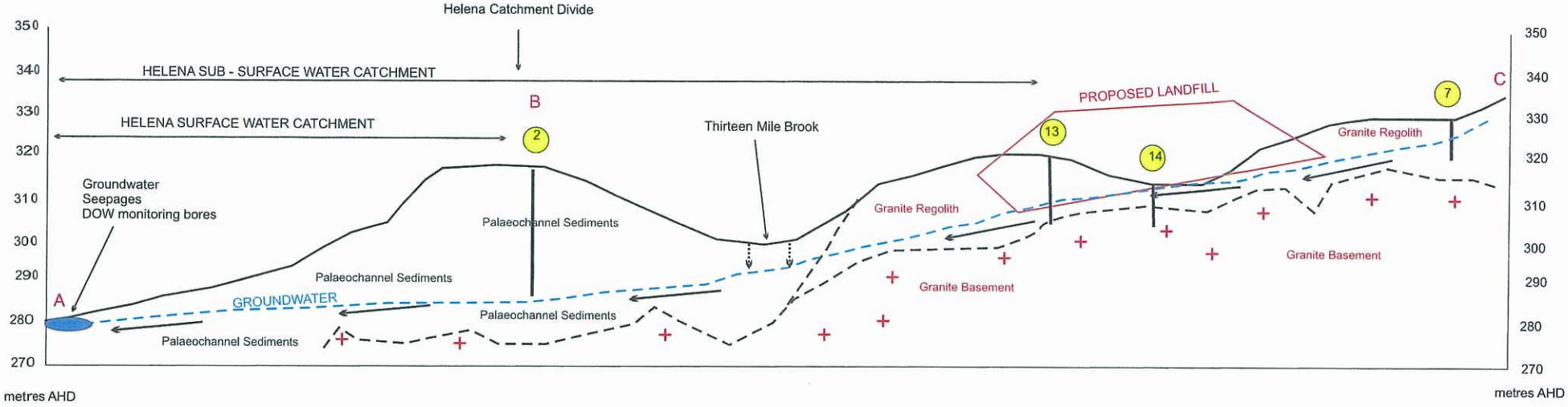


PROPOSED ALLAWUNA LANDFILL
REGIONAL GEOLOGICAL STRUCTURES

Landform Research
Land Systems - Quarries - Environment

FIGURE 6


Water table elevations are taken as the standing water level in the Bowman - Bishaw and ENV bore hole logs.
The location of the bores was plotted using the GDA94 locations, overlaid on the published topographic maps.
Water table elevation was then determined by subtracting the standing water depth from the published topographic map contours.
330 Groundwater contours (AHD)
7 Bore hole number
Surface water flow
Groundwater flow direction
326 Groundwater elevation in bore (AHD)
Bore hole
Landfill footprint
Groundwater seepage
0 400 m
YORK SHIRE OF AVON
ST RONANS
MOUNT OBSERVATION
DRAINAGE ALONG PALAEOCHANNEL UNDER SURFACE WATER DIVIDE
SEEPAGES WITHIN THE HELENA CATCHMENT
DOW MONITORING BORES
POSSIBLE GROUNDWATER FLOW
NOTE
5 metre groundwater contours are used.
PRINT AT A3
FIGURE 7
ALLAWUNA LANDFILL
GROUNDWATER FLOWS
All drill hole and water table data taken from Bowman - Bishaw
Plotted by Landform Research 1 March 2014
Landform Research

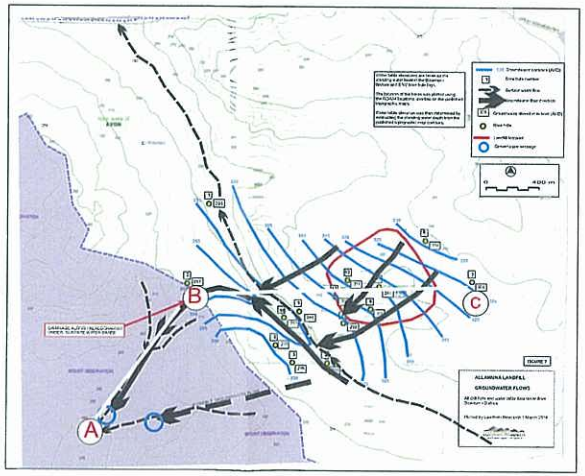


0 400 m

Water table plotted from Bore Holes 2, 13, 14 and 7 in addition to groundwater seepage

Groundwater flow

HYDROGEOLOGICAL SECTION A - B - C



PRINT AT A3

Landform Research

MARCH 2014

Figure 8

Rockwater
PROPRIETARY LIMITED

Attachment 2

COMMENTS ON WORKS APPROVAL APPLICATION FOR ALLAWUNA FARM LANDFILL, SHIRE OF YORK

MARCH 2014

REPORT FOR
AVON VALLEY RESIDENTS' ASSOCIATION

(Report No. 428.0/14/01)

76 Jersey Street Jolimont 6014 Western Australia ABN: 43 008 804 653
Postal: PO Box 201 Wembley 6913 Western Australia
Ph: 61 8 9284 0222 Fax: 61 8 9284 1785
Email: consult@rockwater.com.au www.rockwater.com.au

TABLE OF CONTENTS

Figures

Appendices

1 PREAMBLE

These comments refer to the Works Approval Application for the construction and operation of Allawuna Farm Landfill in the Shire of York. They complement previous written comments by Rockwater, presented in Appendices I and II hereto, applicable to the Referral Document and the EPA Statements of Reasons, respectively.

Hydrogeological aspects are covered herein. Information is derived from the Referral Documents (Bowman & Associates, 2013), the Works Approval Application (Bowman & Associates, 2014), and the topographic map and data provided by Landform Research. Figure 1 shows the proposed landfill, including floor elevations, and static water levels taken from monitoring-bore data. Figure 2 shows a diagrammatic cross section through the landfill site.

2 SEPARATION TO GROUNDWATER

2.1 WESTERN CELLS: 1, 2, 3, 10, & 11

In the Works Approval Application (Section 4.4, p24) it is stated that the base surfaces of Cells 1 and 2 have been designed to maintain a minimum separation of 3 m from the depth of the confined groundwater. This appears to be the case for all the western cells, as indicated by the lithological logs for monitoring bores MB06, MB12, MB13 and MB14, (ENV, 2012, and Bowman & Assoc., 2014). After the excavation of up to 4 m of material from the ground surface, the planned base surface (of the landfill) is indicated to remain 3 m or more above the water-yielding strata and lesser distances above the static water levels.

It is noted that testing has not been conducted to determine the permeability of the sub-base material that overlies the water-yielding material. The impedance to downwards percolation of leaking fluids (if any) has not been rigorously tested.

2.2 EASTERN CELLS: 4 TO 9

After excavation of the eastern half of the landfill site (cells 4 to 9), the base surface of the landfill will be as much as 3 m lower than the static water levels over the area indicated in Figure 2. It is noted that the depiction is based on extrapolated water-level data. It indicates that there is potential for static water levels to be locally higher than the base surface of the landfill, giving rise to hydraulic heads directed upwards on the landfill liner. This is understood to be undesirable.

There has been no test-drilling within the eastern cells, therefore the depths of water-bearing strata are not known. Should they be less than about 3 m below the present ground surface aquifer material could be penetrated by the excavation.

Given the objective of leaving 3 m separation between the landfill base and groundwater, the present investigations have not established this for the eastern cells of the site.

3 DEFICIENT ITEMS

1. The groundwater elevations presented in Figure 2 of the Referral Document are incorrect, being too low by about 20 m or more, as a result of incorrect ground-surface elevations. For example, the ground elevation at monitoring bore MB06 is stated in Table 1 of the Document to be 283.35 m AHD, whereas the published topographic map shows ground elevation of about 307 m AHD at this location. The elevations of the bore collars (TOC) for monitoring bores MB09 to MB14 in Appendix 2 of the Works Approval Application appear to be correct. In Figure 1 of the present report, the elevations of the water levels in MB05 to MB08 have been calculated from map-derived ground elevations.

2. There has been no hydrogeological testing of the strata beneath the eastern half of the landfill footprint. Test holes (say, three) need to be constructed within the footprint, for hydrogeological evaluation. Samples should be taken for measuring the permeability of the material that lies immediately beneath the planned landfill base.

3. Additional monitoring bores, (say, three) need to be constructed around the perimeter of the proposed landfill to more-accurately define the static water level elevations. The permeability of the strata should be measured by recognised methods.

4. Monitoring bores MB01 to 08 need to be re-surveyed so that accurate water-level contour maps can be prepared. Errors of about 20 m elevation in the 2012 data are unacceptable and have not been corrected.

5. The travel-path of subsurface seepage (if any) and rate of flow from the site need to be the subject of a focussed investigation prior to further consideration of approval of the site for refuse-disposal. The investigation should establish whether or not there is a palaeochannel to the south and west of the site, this being a definite possibility based on topography, drilling results, and the groundwater contours, as described by Landform Research (2014).

Dated: **7 March 2014** **Rockwater Pty Ltd**

J R PASSMORE
Principal

REFERENCES

Bowman and Associates, 2014 - Works Approval Submission: Construction and operation of Allawuna Farm Landfill. Report for SITA Australia Pty Limited.

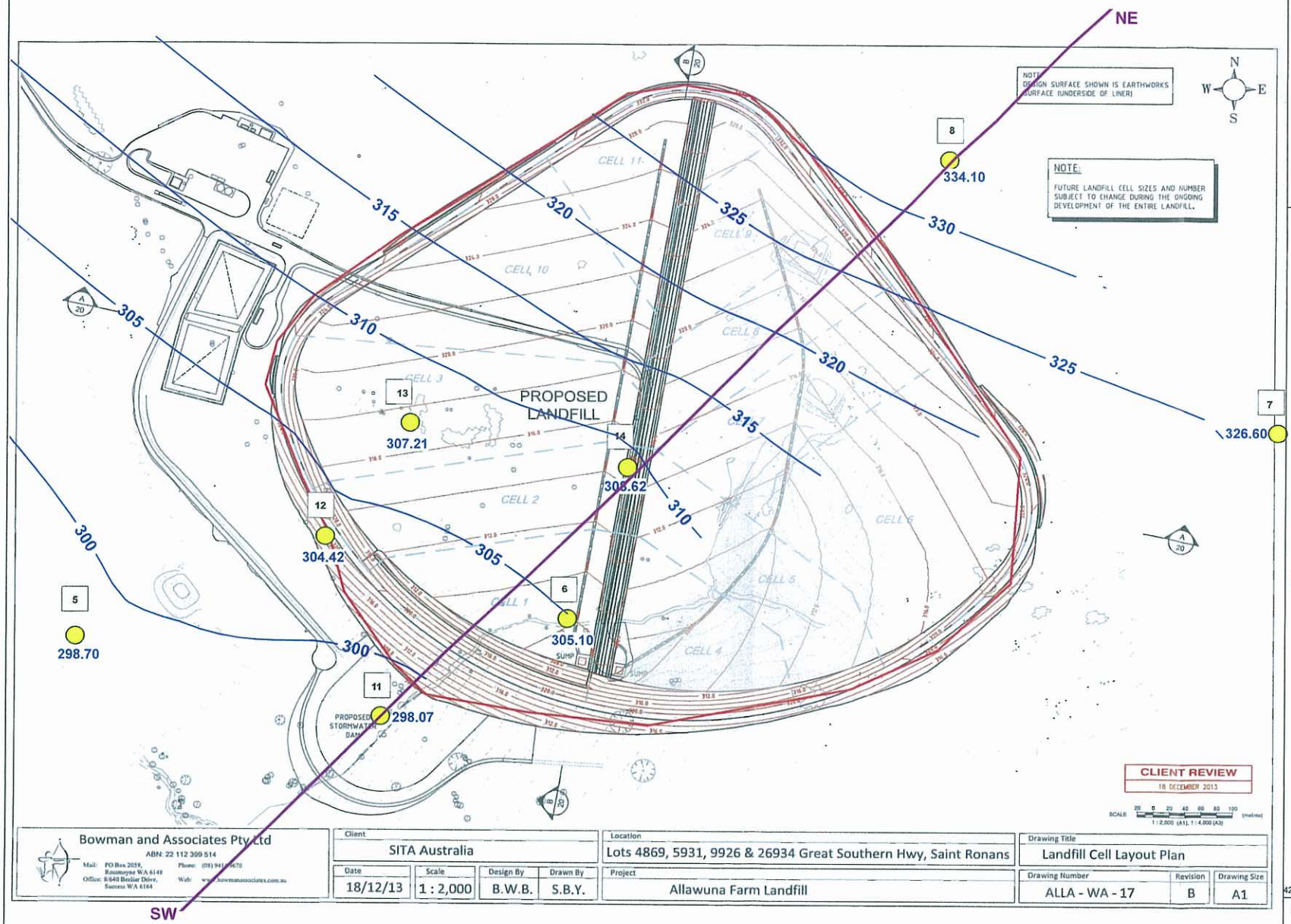
ENV Australia, 2012 - Baseline groundwater monitoring report. Proposed Allawuna Landfill, Shire of York. Report for Bowman and Associates Pty Ltd.

Landform Research, 2014 – Comments on the general geology of the proposed landfill site – Allawuna, York. Report for Avon Valley Residents' Association, March 2014.

FIGURES

Figure 1

ALLAWUNA FARM LANDFILL LOCALITY PLAN



LEGEND

- 7 — Groundwater Monitoring Bore
- 326.41 — Static Water Level Elevation (m AHD); Revised Data
- Cross-section (as shown in Fig. 2)
- Area where landfill base will be lower than the Static Water Level

SCALE

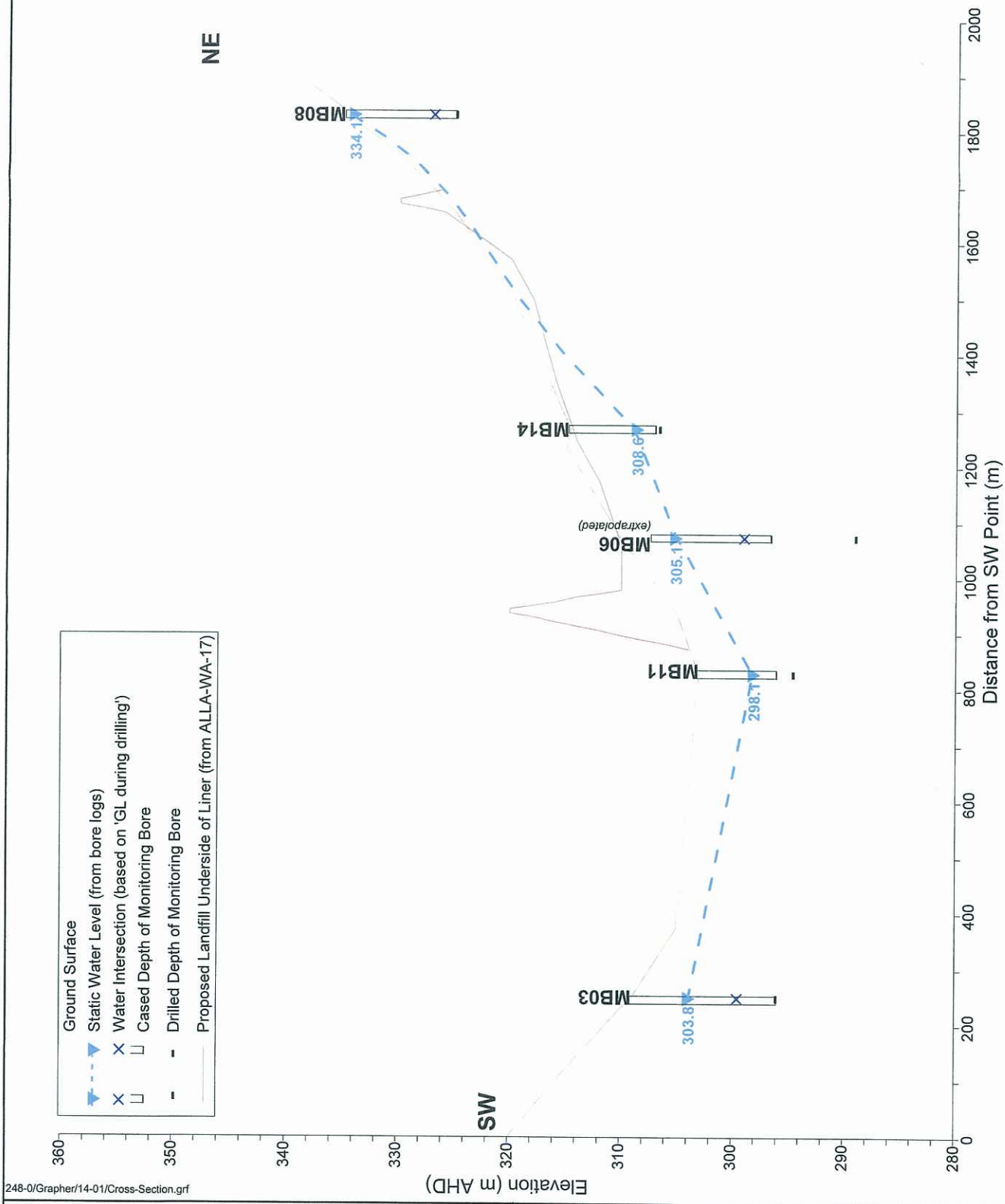
0m 100m 200m

Bowman and Associates Pty Ltd	ABN: 22 112 399 514
Client	SITA Australia
Location	Lots 4869, 5931, 9926 & 26934 Great Southern Hwy, Saint Ronans
Drawing Title	Landfill Cell Layout Plan
Date	18/12/13
Scale	1 : 2,000
Design By	B.W.B.
Drawn By	S.B.Y.
Project	Allawuna Farm Landfill
Drawing Number	ALLA - WA - 17
Revision	B
Drawing Size	A1

428-0/Surfer/14-01/Locality Plan.srf

CLIENT:	Avon Valley Residents' Association
PROJECT:	Allawuna Farm Landfill
DATE:	March 2013
Dwg. No:	428-0/14/1-1

Figure 2



248-0/Grapher/14-01/Cross-Section.grf

Client: Avon Valley Residents' Association

Project : Allawuna Farm Landfill

Date : March 2014

Dwg. No: 428-0/14/1-2

CROSS-SECTION
SOUTH-WEST TO NORTH-EAST

Rockwater

APPENDIX I

Rockwater
PROPRIETARY LIMITED

76 JERSEY STREET, JOLIMONT, WESTERN AUSTRALIA, 6014
PO BOX 201, WEMBLEY, WESTERN AUSTRALIA, 6913
TELEPHONE: (08) 9284 0222 INTERNATIONAL: 618 9284 0222
FACSIMILE: (08) 9284 1785 EMAIL: consult@rockwater.com.au
A B N. 43 008 804 653

AVON VALLEY RESIDENTS' ASSOCIATION

COMMENTS ON PROPOSED ALLAWUNA LANDFILL SHIRE OF YORK

APRIL 2013

1 ENVIRONMENTAL ASSESSMENT OF LANDFILL SITES – HYDROGEOLOGICAL ASPECTS

The Department of Environment, Western Australia, uses Publication 788.1 of EPA Victoria (2010) to assess the siting, design, and operation of landfills. This Publication states that:

- the recommended minimum requirement for separation of wastes from the long-term groundwater level is 2 metres, for aType 2 landfill;
- the environmental assessment must examine the impact of the landfill on the air, groundwater, surface water and noise environments, based on at least two to three years of data;
- an environmental assessment should contain (in addition to other items), a hydrogeological assessment in accordance with Hydrogeological Assessments (groundwater quality), EPA (Victoria) Publication 668.

2 HYDROGEOLOGICAL COMPLIANCE FOR ALLAWUNA AREA

2.1 Pit-Base to Groundwater Separation

The Referral Document for Allawuna (Bowman & Associates, 2013) states that the base of the landfill has been designed to maintain a minimum separation of 3 metres from the depth of the "confined groundwater". Separation is illustrated on Figure ALLA-EPA-08, in two sections (A and B), in westerly and northerly directions, respectively.

Representations of the groundwater surface (trace) are drawn on both the sections. They are labelled "approx" and are apparently diagrammatic rather than based on actual

measurements. Precise data for the pit-base to groundwater separation have not been presented.

2.2 Data for the Landfill Site

As reported in the "Baseline Groundwater Monitoring Report" (Env, 2012), six groundwater monitoring bores were installed in the vicinity of the landfill site, in August 2012. They have provided hydrogeological information from around the site, but only one monitoring bore (MB06) was constructed within the perimeter of the proposed landfill. This is inadequate for determining the nature of the strata beneath the landfill and the details of the pit-base to groundwater separation.

Information from bore MB06 (Env, 2012) indicates that static water level in this bore was 0.02 m (2 centimetres) below ground surface on 22/8/2012. Thus, all the earth materials below ground surface here are, or have the potential to be, saturated, in winter. Unless the upper 2 or 3m of sub-surface material has extremely low permeability (about $1x10^{-9}$ m/s) there cannot be said to be the required separation between the pit-base and the groundwater.

It is noted that:

1. testing of the earth material below the proposed pit floor has not been undertaken to determine if it can be regarded as essentially impermeable (eg: permeability of $1x10^{-9}$ m/s or less);
2. the elevations of groundwater levels within the proposed pit perimeter need to be determined by means of additional monitoring bores;
3. unless the sub-pit floor material proves to be essentially impermeable, the elevation of the pit floor should be set at 2m (at least) above the winter (high) groundwater levels as measured in monitoring bores.

2.3 Conclusions on Hydrogeological Compliance

The hydrogeological testing has not been adequate. For example:

1. There are insufficient monitoring bores within the pit perimeter;
2. There has been no permeability testing of the material on which the landfill basal liner (GSL) is proposed to be placed and which lies less than 2 m above winter static water level.

2.4 Some Additional Items

1. A sub-surface channel of stream deposits, i.e. a palaeochannel, is considered likely to exist approximately beneath the location of Thirteen Mile Brook, leading north-north-westerly towards Bakers Hill (communication from Mr R Gozzard, Geological Survey of WA). In this case, there may be a channel containing several metres of sandy permeable sediments beneath Thirteen Mile Brook, lying about 400m south-west of the proposed landfill perimeter. If leachate was to seep to the palaeochannel, which is down-gradient from the proposed landfill, it would enter the more permeable material (as interpreted) and flow more readily to the north-north-west.
2. The presence of a palaeochannel is somewhat supported by the groundwater levels reported for bores MB03 (value: 275.127 m AHD) and MB04 (value: 274.233 m AHD) for 22/08/2012, reported in ENV (2012) (Table 1). These levels indicate a trough in the groundwater levels at Thirteen Mile Brook; this is consistent with there being more-permeable material beneath the brook. PLEASE NOTE: the contour lines in Figure 2 of ENV (2012) do not accurately reflect the groundwater levels measured in bores MB03 and MB04.
3. The palaeochannel might be represented by the clayey sand and gravelly sand intersected to 5m depth in bore MB01 (Appendix A, ENV (2012)) or the palaeochannel might lie further to the east.
4. Additional testing for palaeochannel sediments is required to be undertaken, plus measurements of their permeabilities and groundwater levels.

3 CONCLUSIONS

Neither the baseline groundwater monitoring report (ENV, 2012) nor the EPA referral document (Bowman, 2013) contains sufficient evaluation of the hydrogeological conditions at the proposed landfill site, and environs, to fulfil compliance with environmental assessment.

There is insufficient evaluation and information on the separation of the pit-base and the static water levels in the sub-surface material. Additional test holes and monitoring bores need to be established within the proposed landfill pit perimeter.

There is insufficient evaluation and information on the postulated palaeochannel lying about 400m to the south of the proposed landfill pit perimeter.

Dated: **22 April 2013**

Rockwater Pty Ltd

Roger Passmore
Principal Hydrogeologist

REFERENCES

Bowman, 2013 - EPA Referral Document: Allawuna Landfill. Report for SITA by Bowman & Associates, March 2013.

ENV, 2012 - Baseline Groundwater Monitoring Report, Proposed Allawuna Landfill, Shire of York. Report for Bowman & Associates Pty Ltd, October 2012.

APPENDIX II

Rockwater
PROPRIETARY LIMITED

76 JERSEY STREET, JOLIMONT, WESTERN AUSTRALIA, 6014
PO BOX 201, WEMBLEY, WESTERN AUSTRALIA, 6913
TELEPHONE: (08) 9284 0222 INTERNATIONAL: 618 9284 0222
FACSIMILE: (08) 9284 1755 EMAIL: consult@rockwater.com.au
A.B.N. 43 008 804 653

AVON VALLEY RESIDENTS' ASSOCIATION

COMMENTS ON EPA STATEMENT OF REASONS

JULY 2013

In the report by Rockwater Pty Ltd on hydrogeological aspects of the proposed Allawuna Landfill (Rockwater, 22 April 2013, for Avon Valley Residents Association) it was stated that there had been insufficient evaluation of the hydrogeological conditions at the site. This applied especially to actual measurements of static (groundwater) levels (GWL's) to allow proper determination of the distance between GWL's and the pit base.

The insufficient investigation of groundwater levels was not addressed in the EPA Statement of Reasons. It was stated that the base of the landfill will be designed to maintain a minimum distance of 3 metres to groundwater, which will be confirmed by **future bore drilling**.

It is inadequate to leave this item to future work. The elevation of the groundwater levels beneath the waste cells should have already been measured in a number of monitoring bores within the area to be filled.

It is premature to state that clays effectively separate the surface and groundwater systems when limited data have been presented on the permeability of such clay. The material is claimed to have a permeability of 2×10^{-10} m/s, but this is based on the analysis of only one sample, from a non-specified location 'Allawuna' (SITA report, Appendix C). The permeability of the natural material beneath the waste cells may vary greatly, thus affecting the effectiveness of this material in inhibiting leachate percolation (should there be membrane rupture). If there is more-permeable material beneath the cells, it would take much less time than the Department of water's estimate of more than 100 years for leachate to reach the confined aquifer.

The velocity of groundwater/leachate flow laterally in the aquifer, between monitoring bores MB06 and MB05, has been calculated incorrectly in the SITA report (page 51) to be 178 years. The said calculation utilises hydraulic conductivity (k) of 0.6 m/d and hydraulic gradient (i) of 10.484 ÷ 640 (= 0.0164). The equation $Q = ki = 0.6 \times 0.0164$ m/d, determines a rate of groundwater flow of 0.01 m/d. However, this value is the **volume of flow through a square metre cross section of aquifer under the existing hydraulic gradient**, as described in groundwater text-books. The actual **velocity** of flow is this value divided by the effective

porosity of the aquifer material. The aquifer at the landfill site is likely to have an effective porosity of about 0.05 (or less), therefore the ground water velocity is calculated to be 0.01 ÷ 0.05 = 0.2 m/d. At this velocity it would take 4,700 days i.e. 13 years for leachate to travel 640 metres. Thirteen years differs greatly from the 178 years calculated by the proponent; there is potential for leachate to flow further down-gradient to an aquifer that is likely to exist beneath Thirteen Mile Brook.

I consider that the lack of adequate field-testing – to establish groundwater levels and sub-strata permeability is valid ground for the EPA's decision to be appealed. This is reinforced by the calculation herein that the velocity of flow of groundwater beneath and beyond the landfill site is likely to be about fourteen times greater than that calculated by the proponent, raising the possibility of contamination of aquifer beneath Thirteen Mile Brook.

Dated: **12 July 2013**

Rockwater Pty Ltd

Roger Passmore
Principal Hydrogeologist

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Shire of York
PO Box 22
York WA 6302

To The York Shire and Councilors,

Re: Landfill Proposal by SITA on Allawuna Farm – Lots 9926, 4869, 5931 and 26934 Great Southern Highway, St. Ronan's, York, WA.

I object to the proposed landfill at Allawuna Farm and feel that the proposal should not be permitted. It does not fit within the Shire of York Town Planning Scheme No.2, which states under the general agriculture zone "to ensure the continuation of broad acre agriculture as the principal land use in the district encouraging where appropriate the retention and expansion of agricultural activities." Landfill is not an agricultural activity.

The proposed landfill is not acceptable with the Shire of York's Local Planning Strategy which states "protection of sustainable agriculture and preserve and enhance the environment and natural resources. It is also against the objectives of York's Community Strategic Plan which has an objective of "Protect and Enhance Our rural Land and Spaces" and a priority to "establish land use strategy to ensure rural and farming land is protected. Landfill does not enhance or preserve but instead destroys our environment for future generations. Landfill should not be placed in our agricultural areas.

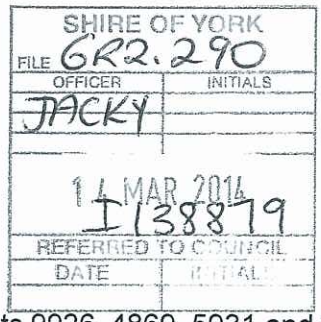
The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

* contamination of water ways.

Yours sincerely
NAME: Wendy Hoffmann
ADDRESS: [redacted] YORK

DATE: 11/3/14
SIGNATURE: [signature]

Shire of York
PO Box 22
York WA 6302



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The landfill will not benefit York in anyway and I ask that the proposal not be accepted.

well my childrens children will live here!

Yours sincerely
NAME: Michael Pierce
ADDRESS: [redacted] York

DATE: 14/3/2014
SIGNATURE: M Pierce