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

WATER MANAGEMENT PLAN
M70/1319 and M70/1320
LAKE CLIFTON

WA LIMESTONE

1.0 Proposal

It is proposed to excavate sand from M70/1319 and M70/1320. The site lies within the Peel Region, south of Mandurah and north of the Bunbury Region. The location is within the McLarty Plantation of State Forest.

The total area proposed for excavation is 324 hectares.

The tenements are located between 1.5 and 3.0 km east from Lake Clifton across Forrest Highway.

It is covered by pine plantation operated by the Forest Products Commission.

The resource is essentially a ridge of sand with limestone lenses covered by sand. The land surface ranges up to just over 50 metres AHD in the north on M70/1320, dropping to 20 metres AHD along the western boundary and 10 metres AHD in the south eastern corner.

The sand forms thick dunes and lenses above and between the limestone. The variations occur because of the changes in the proportion of calcium carbonate and quartz sand during the formation of the original dunes.

The ridge is part of the Spearwood Land System with the limestone being ascribed to the Tamala Limestone.

The sand is quartz sand containing small amounts of clay and iron oxide staining yellow in colour.

Gozzard, 1987, Limesand and Limestone resources between Lancelin and Bunbury, Western Australia, Geological Survey of Western Australia, Record 1987/5 provides good descriptions of the limestone. Deeney (undated) provides a good summary of the geology.

M70/1319 and M70/1320 are covered by pines that are in rotation between planting growth and harvesting. There have been discussions between WA Limestone, the proponent, and Forest Products Commission (FPC) who own the pines with respect to the extraction of sand and limestone. The extraction will take place over 50 plus years fitting in with the rotation of the pine plantation.

At the end of excavation the land will be retuned to productive pine plantation. The FPC have requested that a minimum of 4 metres of sand remain for the growth of pines.

Based on current data WA Limestone have determined that a 5 metre separation to the water table is appropriate as an end use landform.

During excavation, and through further discussions and site assessments, a modification to the Mining Proposal may be made to reduce the separation to the water table from the 5 metres. Based on the current level of information a separation of 5 metres would appear to be a conservative separation to the water table, and that is what is proposed at this time.

Based on current contours this will result in a proposed approximate floor elevation of 6 metres AHD on the western boundary, rising to 10 metres AHD in the north and south east. Water monitoring bores will be installed to monitor groundwater, and groundwater under the pines planted on the lowered floor, to provide continuous evaluation of the water table over the 50 plus years life of the operations.

The batter slopes would then rise gently up the existing natural land surface outside the excavation area at slopes of 1 : 6 no greater than horizontal to vertical that will be suitable for the continued plantation activities.

2.0 Environmental Factors to be Considered

The main environmental factors relating to water are the quality and volume of the water table.

This relates to the water table under the proposed excavations and any water bodies, resources or wetlands that may be affected by excavation and a lowering of the land surface.

As the land will be returned to pine plantation, there will be no change to the land use. The only change will be the lowering of the final land surface.

In addition consideration is required for the protection of water quality during excavation.

Water quality during excavation is protected by normal excavation management practices which are discussed later.

The main water bodies are the lakes of the Yalgorup System including Lake Clifton and the small wetland to the south east, Domans Swamp.

There are no significant water users down water table gradient. Only one dwelling exists in that area.

3.0 Lake Clifton

Lake Clifton lies 1.4 km to the west across Forrest Highway. West of Lake Clifton is Lake Hayward and Lake Newnhan and further west from those is Lake Preston.

All the lakes are included in the Yalgorup National Park which stretches from and including Lake Clifton, across Lakes Hayward and Newnhan and includes Lake Preston.

The Yalgorup lake system is significant for waterbirds and is recognised under the international Ramsar Convention and the lakes have High Conservation significance. They are listed on both State and Commonwealth databases.

Lake Clifton is 1.4 to 3.0 km down hydraulic gradient from M70/1320 and M70/1319. and up groundwater gradient from the proposed excavation. The excavation area lies within the Lake Clifton catchment, *(EPA Guidance No 28, Protection of the Lake Clifton Catchment 1998).*

Rock-like structures known as thrombolites can be seen on the edge of Lake Clifton. The thrombolite-building micro-organisms of Lake Clifton appear to be associated with upwellings of fresh groundwater that are high in calcium carbonate entering from the east.

The Thrombolites are listed as a Threatened Ecological Community on State Databases and as a Critically Endangered Community under the Commonwealth *EPBC Act 1999.*

The micro-organisms living in this shallow lake environment are able to precipitate calcium carbonate from the waters as they photosynthesise, forming the mineralised structure that is the thrombolite. (Modified from DEC website). Therefore any changes to the water flow regime to Lake Clifton may have the potential to impact on the thrombolites

Most thrombolites occur as a line along the north eastern edge of the lake where groundwater flows are more significant.

In order to protect the thrombolites the EPA released Bulletin 864, *Final criteria of environmental acceptability for land use proposals within the catchment of Lake Clifton*, which aimed to direct and regulate developments within the catchment of Lake Clifton to minimise any risk of impacts. EPA Bulletin 864 has been used in this assessment and the proposal found to comply with the Bulletin.

EPA Guidance 28, *Protection of the Lake Clifton Catchment*, which relates to Lake Clifton also applies. This also directs and guides the nature of developments within the catchment. Extractive Industries are not listed as a landuse requiring management with respect to Lake Clifton. Therefore the project complies with EPA Bulletin 864.

In summary, both documents;

- Do not list extractive industries as a significant risk.
- Provide that water balance post-development is similar to pre-development.
- Do not introduce or increase nutrient loads.
- Do not directly impact on the lakes or thrombolites.

Quarries are well known for non polluting operational activities. They are the only industry permitted in Groundwater Source Protection Areas such as on the Gnangara Mound. Quarries do not use nutrients but do use fuels and lubricants

The management of the quarry is discussed in the body of the Mining Proposal and later.

The proposed excavation comprises 324 hectares with 15 hectares open at any one time. That area constitutes a very small proportion of the catchment of Lake Clifton. For the total plantation/excavation area, <5% of the catchment. For the active excavation at any one time <0.3%.

Moreover the proposed excavation lies between 1.4 to 3.0 km east from the southern most portion of Lake Clifton away from the thrombolites and not up groundwater gradient from them.

The thrombolites rely on fresh groundwater percolating upwards at the eastern edge of the lake for their formation. Water from under the proposed excavation will not contribute to those freshwater flows as it is too far south. Any such water flows will just contribute to the general water of the lake which will significantly diluted. Groundwater will also be diluted on its lateral flow to the lake.

The water balance of the proposed excavation and lowering the ground surface is discussed later.

4.0 Site Hydrogeology

4.1 Surface Water

There is no surface drainage due to the porosity and permeability of the limestone, with precipitation draining to the water table. It has been estimated that perhaps none of the rainfall will currently reaches the water table under growing pines, based on research conducted by Wood 2011.

Domans Swamp lies east of M70/1319 at an elevation of 10 metres AHD. As the swamp is close to the maximum water table it is interpreted to be based with organic matter and potentially some clay that forms an area of reduced drainage in winter and a wet area.

There is no surface water on the mining tenements.

4.2 Groundwater

Groundwater in this area is well understood and has been researched. Firstly by Deeney (undated).

The site lies lies between 1.4 to 3.0 km east from the southern most portion of Lake Clifton and 4 km east from the saline Lake Preston, north of the Yanget Groundwater Mound. Transmissivity is estimated by Deeney (undated) as 500 m^2/day.

The hydrology is well known and, for example, is shown in Figure 5 of EPA Bulletin 788. It is also discussed by the Environmental Protection Authority in Bulletins 512, 788, 821 and 818 for example.

The site is underlain by a sequence of limestone and sand of the Tamala Limestone. It is a highly porous sequence with fast vertical movement of water to the ground water table and then slower lateral flow of groundwater to the west.

There are two aquifers under the site, the superficial aquifer and the deeper Leederville Formation. The only aquifer relevant to the operations is the superficial aquifer.

Data presented in the Coastal and Lakelands Planning Policy utilizes Deeney and confirms the groundwater, showing the flow lines on this ridge system.

From evidence of the soils, drilling, vegetation to the east and Deeney (undated) the water table lies at about 1 - 2 metres AHD on the western boundary rising to 5 – 6 metres AHD in the north east and 9 – 10 m in the south east near Domans Swamp. See Figure 3 in Deeney (undated). Groundwater flow is east to west with a seasonal variation of 0.5 to 1.5 metres. Deeney (undated).

The Design Concept of the excavation is a minimum floor level of 5.0 metres above the highest known water table which will comply with Department of Water Guidelines for quarries of a 2 metre separation for quarries.

4.4 Recharge and Water Balance

As the site is plantation, and will be returned to plantation, there will be little change to recharge or evapotranspiration at the end of excavation. The final land surface will be lower, but the recharge will be similar.

Lake Clifton relies on lateral superficial groundwater recharge for its water supply although as discussed above the water entering the lake from this location will not be contributing to the thrombolites because it is too far south. It will contribute to the overall lake water.

The local area and tenements have no surface drainage because of the permeable and porous nature of the sand and limestone. Drainage is vertically down to the water table and then laterally to the west.

In such a geological and geomorphological situation the movement of groundwater and any mounding is dependant on the lateral flow distances, the nature of the aquifer and the head of water (normally in metres AHD).

The issues with reduced groundwater are reductions in rainfall in recent years, although the past two years have shown more promise. This has led to reductions in recharge volumes.

The groundwater recharge was considered by the Environmental Protection Authority in Bulletins 512, 788, 821 and 818, in relation to Lake Clifton, and whilst these do not specifically refer to the extraction of basic raw materials or the Harvey Estuary, the changes to recharge relating to lot size, land use and vegetation are directly applicable. The EPA Bulletins 512, 788, 821 and 818 relate to the same limestone ridge some 10 km to the north with the same geology and geomorphology.

The EPA did not list extractive industries as significant risks to water quality. They are one of the few industries permitted within water resource catchment areas.

Wood S, 2011, Development of a system to Optimise Water Recharge and Timber Production from Pinus pinaster Aiton Plantation on the Gnangara Water Mound, Research Thesis Notre Dame University provides an excellent summary of the information relating to the growth of pine plantations on deep sands on the Swan Coastal Plain.

His research shows that pines grow better north of Gnangara in lower rainfall. What was not considered in that study was soil quality.

The northern areas have better soils of yellow sands and earthy sands than the Gnangara soils which are leached white sands. The sands on site are yellow earthy sands and it is proposed to use those sands to form the reconstructed soils at the end of excavation.

The conclusions drawn with respect to the soils is supported by the data presented by Wood 2011.

The restoration of the soils on site will be dark yellow earthy sands with inherently higher capability for plant growth, moisture and nutrient retention than the existing soils. The soils at the end of excavation will therefore be better suited to the growth of pines.

Data presented by Wood 2011 shows that for pines on deep sands there is no recharge to groundwater at Gnangara. That is, all the precipitation is taken up by the pines.

For *Banksia* Woodland the recharge can be around half of rainfall.

Wood 2011, also found that sands such as those on site have a field capacity of equivalent to 75 mm per metre of soil. Of that 50 mm is able to be used by the pines. The only time that water can be added to the ground water is from heavy winter rainfall when water is able to pass the root zone and then it could travel to the water table. For a soil 30 metres above the water table, which applies to much of the site, currently the water held within 30 metres of soil profile would be 75 x 30 = 2 250 mm which is over double the annual rainfall of 900 mm.

The rooting depth of pines is generally 3 – 4 metres. Wood 2011 found that on the three test sites, and even the one at Gnangara where the water table was 5 metres deep, the pines do not utilise the water table. The research was conducted using water use based on Leaf Area Index and showed that there was no difference to the other research sites that were growing on sands that had a greater depth to the water table.

Therefore if a soil depth of 5 metres is available the pines will not utilise the water table. Forest Products Commission require 4 metres of sand beneath the pines on the final constructed land surface.

WA Limestone proposes to leave a separation of 5 metres to the water table across the site. As this is a long term operation, >50 years, monitoring of the water table in conjunction with Forest Products Commission will be conducted to determine if the separation distance can be reduced at some point in the future. At this stage the Mining Proposal is to only go to a separation of 5 metres to the water table.

With respect to the water balance as a result of mining, the recharge varies across the plantations as they are harvested, replanted and then felled. In mature plantation there is no recharge. However on cleared land and growing plantation the recharge could be up to 40% to 60% when there is no vegetation on site. The same would apply to the excavated pit.

As there is only likely to be 15 hectares maximum open at any one time this represents less than 5% of the tenement area and is not significant with respect to differences between the plantation under rotation and harvesting.

Similarly as the pines are not likely to reach the water table after mining, with a 5 metre separation to the water table there will be no change to the overall recharge before excavation or after excavation and the replanting of pines.

As there will be no change to the recharge to the superficial aquifer there will be no impacts from water balance changes on Lake Clifton or the Yalgorup Lakes.

The only change will be from climate change and rainfall variation.

A bore will be applied for on site, but there may be no allocations available. If any allocation becomes available the Department of Water will ensure that only allocations that are sustainable will be issued with respect to the catchment of Lake Clifton and the thrombolites.

WA Limestone holds a water licence at Clifton to the north for 12 500 kL and has an equivalent amount pending. That water will be used for site dust control if no water allocation is available. The Clifton allocation lies within a different groundwater subarea.

5.0 Wetlands

There are no wetlands on site. The Yalgorup Lakes lie to the west and will not be impacted from either recharge variation or nutrients.

Domans Swamp lies to the south east, outside the excavation area. That swap receives its water from the east and south. As the ridge of sand extends west from the swamp a minimal flow may move from the ridge to the swamp.

However this is not likely to occur because any water falling on the sand ridge will infiltrate vertically into the ground and then be take up by the pines or travel west.

A line of drill holes was completed along Doman Road at the western edge of the swamp, and none of these holes intersected impermeable or slowly permeable materials that would direct water to the lake.All holes were deep sand in that location.

6.0 Salinity

Groundwater salinity locally is measured by Deeney (undated) as 500 – 1000 mg/L TDS.

There is no evidence of the potential for sodium chloride being an issue with excavation. Firstly the limestone is part of the Tamala Limestone coastal limesand dunes, formed from sand being blown inland. It is actually deposited on land, not in the ocean. The age of the Tamala Limestone is normally in the range of 25 000 and 100 000 years (various studies by the WA Geological Survey).

For example

Playford, P E, 1988, *Guidebook to the Geology of Rottnest Island*, Geological Survey of Western Australia Excursion Guidebook No 2.
Playford, P E, A E Cockbain and G H Low, 1976, *Geology of the Perth Basin Western Australia*, Geological Survey of Western Australia Bulletin 124.

The age has provided a long period of time for any sodium chloride to be removed. If there was any sodium chloride it would show up in groundwater which constantly is replenished by rainfall permeating through the sand and limestone. Local residents drink this water.

The low levels of sodium chloride are well known and are, for example, included in Abeysinghe P B, 1998, *Limestone and Limesand Resources of Western Australia*, Geological Survey of Western Australia, Mineral Resources Bulletin 18 of the area Mandurah - Lake Preston where Na_2O levels are assessed as between 0.12% and 0.29% in the samples quoted. This and other documents list the composition of Tamala limestones. As noted above limestones are composed of calcium carbonate and beach sand, predominantly ($CaCO_3$ and SiO_2).

Any water used on site will be tested prior to use for salinity and other total dissolved solids.

7.0 Acid Sulfate

There has been an increased interest in acid sulfate soils since the release of WAPC Planning Bulletin 64 and DEC/DER 2013, Identification and investigation of acid sulfate soils and acidic landscapes.

However the interest has been over-reactive, with assessments sought and risk applied in many areas where there is no geological risk or evidence of acid sulfate potential or actual conditions.

Definitive survey procedure is produced in DEC 2013, *Identification of Acid Sulfate Soils and acidic Landscapes* and within document Acid Sulfate Soil Management Advisory Committee NSW, 1998, *Acid Sulfate Manual.* This information forms the basis for much of the assessment procedures in Australia, including those adopted by the Western Australian Planning Commission and the Department of Environmental Regulation.

The *Acid Sulfate Manual* adopts the procedure of reviewing the published data followed up by field assessment, which has been completed for this site. If a geological risk is determined, then a Preliminary Acid Sulfate Assessment is conducted.

The site has been visited by Lindsay Stephens of Landform Research on a number of occasions, and the faces and limestone observed.

On this site the sandy soils and limestone are highly oxidised, hence the presence of the yellow brown goethite coatings. The base of the pit is at an elevation 6 metres above the groundwater under the site which lies at 2 metres AHD, and demonstrates the oxidised conditions present.

The site is underlain by limestone which has a high calcium carbonate content and is used to neutralise acidic soil conditions.

No peat or organic matter has been intersected in the pit, is present in the faces or floor, and none is likely on an elevated sand ridge with no potential for acid sulphate conditions to form.

8.0 Water Quality

The extraction of limestone is a clean operation similar to sand excavation in the nature of the risk to groundwater. No chemicals are used apart from normal lubricants, which is similar to sand excavation. Sand excavation is one of the few industries that are permitted to operate in a **P**riority 1 **P**ublic Drinking Water Source Area, indicating the clean nature of the activity. See Department of Water *Land Use Compatibility in Public Drinking Water Source Areas.*

8.1 Water Protection Policies

The protection of water, whether groundwater or surface water, is an important part of the management of quarries. Different types of quarries have different potential impacts which are listed below in general terms. Not all potential impacts will apply to this quarry and the main impacts affecting this site are also listed.

Guidance on the quality of water can be found in;

- *Western Australian Water Quality Guidelines for Fresh and Marine Waters, EPA Bulletin 711, 1993.*
- *ANZECC, 1992, Australian Water Quality Guidelines for Fresh and Marine Waters.*

A number of documents provide guidance on the management and disposal of surface water that can lead to waterways, wetlands and underground water systems. These mainly apply to urban development but the methods are also applicable to the quarrying industry.

- *Engineers Australia 2003, Australian Runoff Quality, National Committee on Water Engineering.*
- *Stormwater Management Manual for Western Australia, Department of Environment WA, 2004.*
- *Guidelines for Groundwater Protection in Australia, ARMCANZ, ANZECC, September 1995.*

Documents specific to the mining and quarrying operations are the DOW – DMP Water Quality Protection Guidelines for Mining and Mineral Processing.

- *Overview*
- *Minesite water quality monitoring*
- *Minesite stormwater*
- *WQPN 28 Mechanical servicing and workshop (2006)*

- *Mine dewatering*
- *WQPN Landuse Compatibility in Public Drinking Water Source Areas (2004)*
- *WQPN 15 Extractive Industries near sensitive water resources.*

Limestone and sand excavation does not affect the quality of water in the shallow ground water system because the only chemicals used are normal fuels and lubricants; a fact that is recognised by the Department of Water who permit extractive industries even in Priority 1 Groundwater Protection Areas.

The proposed sand and limestone excavation complies with all the documents above. The most relevant document is WQPN 15 *Extractive Industries near sensitive water resources.* The location of the sand and its proposed excavation complies with all Advice and recommendations, of the policy (Numbers 1 – 62).

8.2 General Management

All spills are to be cleaned up in accordance with WA Limestone normal operational procedures and DOW – DMP Guidelines.

Documents specific to the fuel and maintenance are the DEC – DOIR Water Quality Protection Guidelines for Mining and Mineral Processing;

- Mechanical servicing and workshop facilities
- Above-ground fuel and chemical storage

Fuel will not be stored on site but will be brought to the site by mobile tanker which will refuel excavation equipment directly.

- All relevant policies will be complied with.
- All major servicing of vehicles will be conducted off site.
- Vehicle washdown is not proposed.
- Waste oil and other fluids derived from the routine maintenance of mobile machinery, will be transported off site.
- Accidental spill containment and cleanup protocol will be implemented.
- Rubbish generated is to be recycled wherever possible and removed from site.

8.3 Refueling Management

All earth moving equipment is fuelled from a dedicated fuel and oil dispensing vehicle, which visits the site as required. No oil or fuel is stored on the property.

WA Limestone operations are consistent with *DOW (WRC) – DMP Water Quality Protection Guidelines 2000.*

Fuel Management Plan

Sand and limestone has high absorbency, and any lubricant spills are plainly visible as they remain on the surface and are easily isolated and contained.

- Refuelling is carried out using mobile tankers or fuel from the on site fuel storage. This will normally take place on the floor of the pit or designated area where any spills will be contained.

- Fuel and maintenance will be carried out in accordance with the DOW – DMP Water Quality Protection Guidelines for Mining and Mineral Processing, Mechanical servicing and workshop facilities and Above-ground fuel and chemical storage.

- Soils and limestone hardstand such as those on this site are adsorptive. The main risk of contamination is the minor drips that occur during the removal of hoses etc. Any minor spills or leaks that are undetected at the working face will normally be picked up as the limestone is excavated and removed off site with the resource. Minor spills on the floor of the pit are broken down by soil microbial material in the same manner that soils contaminated by oil are remediated.

- Refuelling and lubricating activities are 6 plus metres above the water table, and equipment for the containment and cleanup of spills is to be provided.

- Spillage will be contained in plant and working areas by shutting down plant or equipment if the plant or equipment is the source of the spill (provided it is safe to do so).

- All significant adverse incidents (such as a fuel spill of >5 litres) in one dump, are to be recorded, investigated and remediated. A record is to be kept of incidents, and DOW, and Forest Products Commission notified within 24 hours of an incident.

- In the event of a spill or adverse incident, activities will be stopped in that area until the incident is resolved.

- Any spills will be contained by the excavation. Soil, sand or limestone and resource will quickly be placed around the spill to contain it in as small an area as possible. When contained, the contaminated material will be scooped up and removed to an approved landfill or other approved site.

8.4 Servicing and Maintenance

The main risk of contamination comes from tank or hose rupture on earth moving machines. A spill kit containing absorbent granules is located on site for emergency use. A commitment is made to notify Department of Water, Forests Products Commission and the Shire of Waroona of any spill greater than 5 litre. DER Guidelines suggest 100 litres but this is felt to be too high.

Sand and limestone contaminated by large spills will be removed from the site to an approved disposal area.

Minor servicing is conducted on site. However all major servicing is conducted off site.

All waste products are either recycled or taken to an approved waste disposal site. Excavation of limestone is a chemically clean operation and does not use chemicals apart from lubrication materials and fuels.

All spills are to be cleaned up in accordance with the summarised procedures following.

Documents specific to the fuel and maintenance are the DOW – DMP Water Quality Protection Guidelines for Mining and Mineral Processing

- *Mechanical servicing and workshop facilities*
- *Above-ground fuel and chemical storage*

The following actions will be used where applicable and as the opportunity presents to maintain water quality on this site.

- All major servicing of vehicles will be conducted off site at the WA Limestone Bibra Lake Facilities.

- Minor servicing will be conducted in dedicated areas having a minimum of 5 metres separation to the water table. No potential chemical pollutants, fuel or oils are stored to be on site. The mobile service vehicles will transfer all lubricant wastes by vacuum pumps to a storage tank on the service vehicle from which they will be recycled at the WA Limestone facilities.
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- Waste oil and other fluids derived from the routine maintenance of mobile machinery will be collected by the mobile service vehicle and transported off site and disposed off at an approved landfill site. Grease canisters, fuel filters, oil filters and top-up oils will be stored in appropriate containers and removed.

- Vehicle washdown is not used or proposed.

- Regular inspections and maintenance of fuel, oil and hydraulic fluids in storages and lines will be carried out for wear or faults.

- Servicing plant and equipment will be in accordance with a maintenance schedule.

- Accidental spill containment and cleanup protocol will be implemented. This will normally take the form of scooping up the contaminated material and removing offsite to an approved waste facility.

- Rubbish generated is to be recycled wherever possible and periodically disposed of at an approved landfill site.

- Any illegally dumped materials will be removed promptly to an approved landfill or other suitable site, depending on the nature of the material.

- The site will be maintained in a tidy manner by removing all rubbish regularly offsite.

8. Monitoring

A minimum of four monitoring bores will be established on site, two in the east and two in the west. These will be monitored six monthly for hydrocarbons, salinity and water table elevation.

The bores will provide data on any changes to the ground water system as a result of the plantations and excavations.

Any water brought to site for dust suppression will be routinely tested for salinity and other dissolved solids.

Water Management - Applicable Legislation / Policies

DOW – DMP Water Quality Protection Guidelines for Mining and Mineral Processing

- *Overview*
- *Minesite water quality monitoring*
- *Minesite stormwater*
- *WQPN 28 Mechanical servicing and workshop (2006)*
- *Mine dewatering*
- *WQPN Landuse Compatibility in Public Drinking Water Source Areas (2004)*
- *WQPN 15 Extractive Industries near sensitive water resources. (Not strictly relevant to the site but the methodology is useful).*
- *Health Act 1911*

Commitments to Water Management

- WA Limestone has in place a site code outlining requirements for operators and drivers.
- WA Limestone conducts training programs on pollution minimisation practices.
- The proposed operations comply with all Government Policies.

REFERENCES

See the Mining Proposal Page 52 for a list of references.