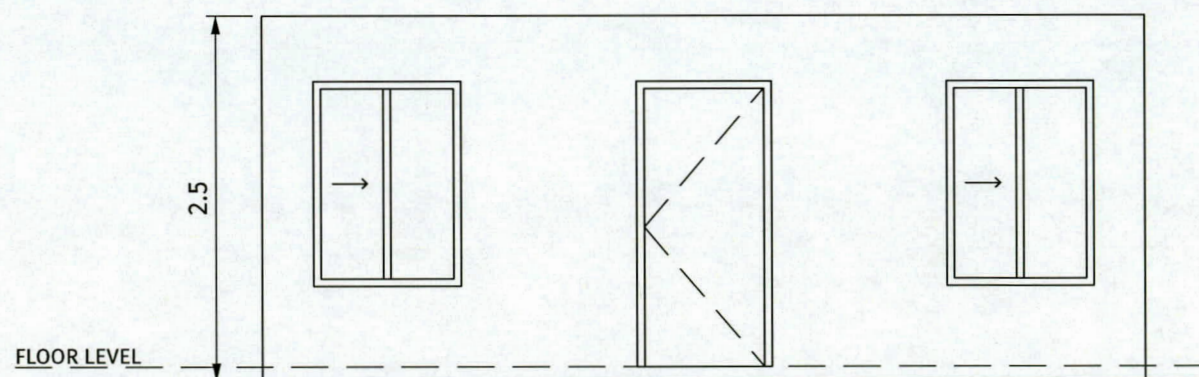
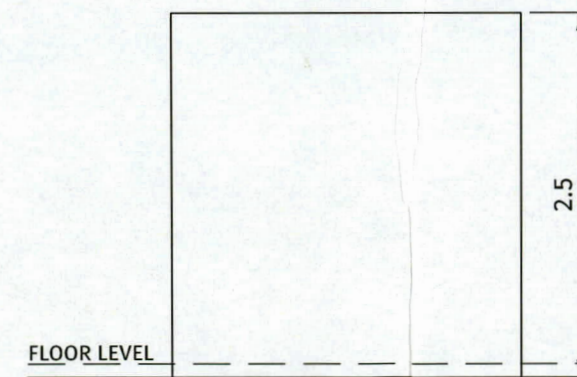


FLOOR PLAN



FRONT ELEVATION



SIDE ELEVATION

# TYPICAL SITE OFFICE

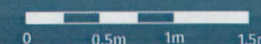
Lot 101 (No. 132) Boomerang Road  
OLDBURY

Plan No. | 22031-02  
Date | 15/01/20  
Drawn | NP  
Checked | BdR  
Revision | A

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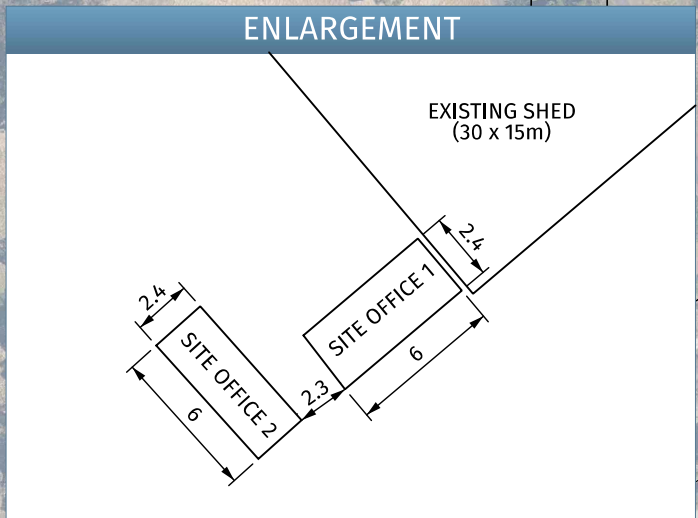
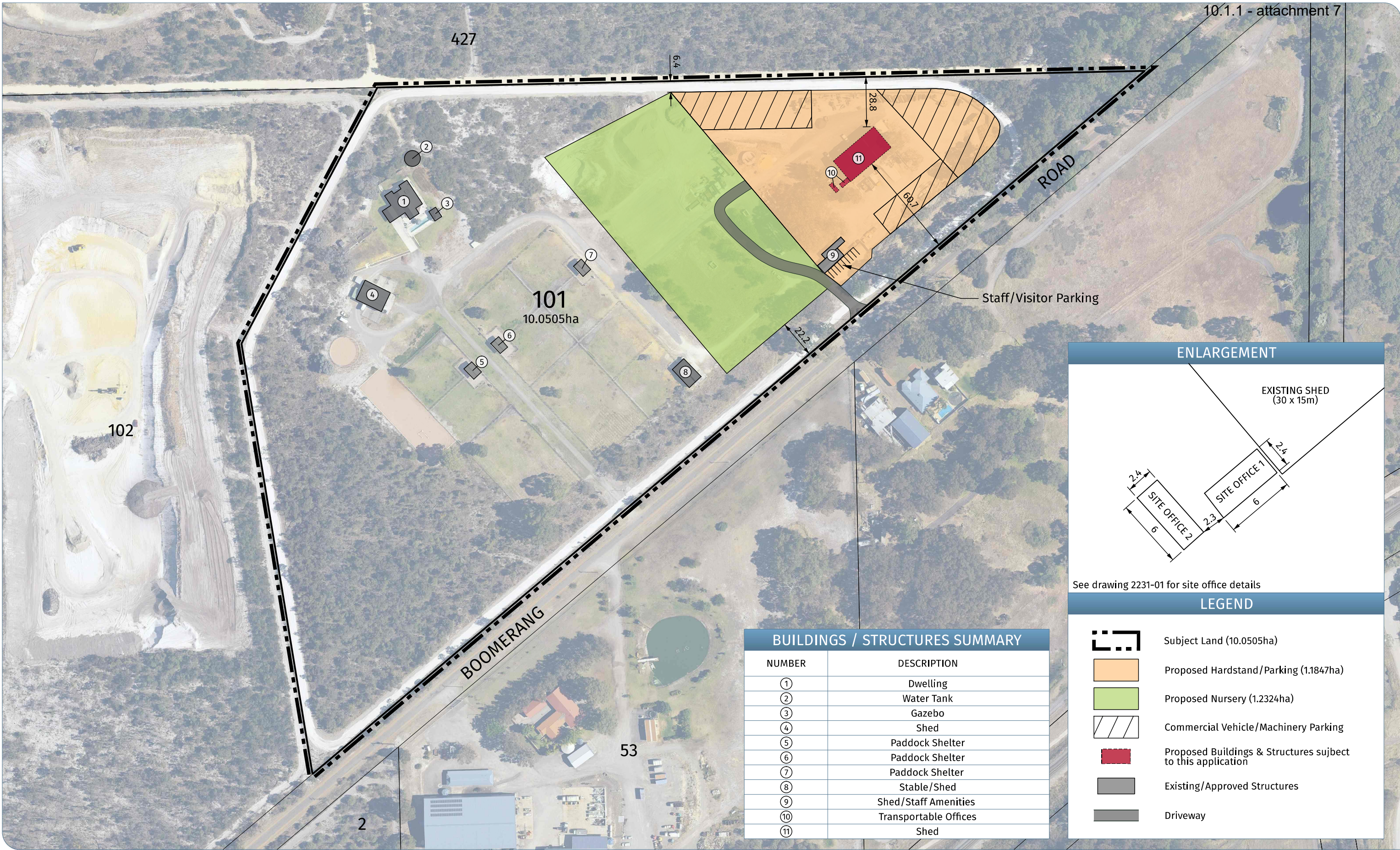
NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey.



**Harley Dykstra**

PLANNING & SURVEY SOLUTIONS





See drawing 2231-01 for site office details

BUILDINGS / STRUCTURES SUMMARY	
NUMBER	DESCRIPTION
①	Dwelling
②	Water Tank
③	Gazebo
④	Shed
⑤	Paddock Shelter
⑥	Paddock Shelter
⑦	Paddock Shelter
⑧	Stable/Shed
⑨	Shed/Staff Amenities
⑩	Transportable Offices
⑪	Shed

**LEGEND**

- Subject Land (10.0505ha)
- Proposed Hardstand/Parking (1.1847ha)
- Proposed Nursery (1.2324ha)
- Commercial Vehicle/Machinery Parking
- Proposed Buildings & Structures subject to this application
- Existing/Approved Structures
- Driveway

# DEVELOPMENT SITE PLAN

Lot 101 (No. 132) Boomerang Road  
OLDBURY

Plan No. | 22031-01  
 Date | 05/06/20  
 Drawn | NP  
 Checked | BdR  
 Revision | E

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NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

Ordinary Council Meeting - 14 December 2020

PLANNING & SURVEY SOLUTIONS





**Integrating Resource Management**

**Nutrient and Irrigation Management Plan:  
Lot 101 (No. 132) Boomerang Road, Oldbury**

**Bradley & Lisa Walton  
PO BOX 364 Byford  
Western Australia 6122  
September 2020**



## Nutrient and Irrigation Management Plan

Lot 101 (132) Boomerang Rd, Oldbury

*Prepared by*

**Didier Alanoix**

Environmental Scientist

*Project Supervisor*

**Peter Keating**

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### **Document Control**

<b>Issue</b>	<b>Date</b>	<b>Author</b>	<b>Reviewer</b>	<b>Approved</b>
1	20/03/2020	D. Alanoix	P. Keating	P. Keating
2	02/09/2020	D. Alanoix	P. Keating	P. Keating





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## Addendum Issue 1 Addressing RF9830-01 & PA034131

DWER's Comments	Bioscience's Reply
<p><b>Native Vegetation</b> Under section 51C of the Environmental Protection Act 1986 (EP Act), clearing of native vegetation is an offence unless undertaken under the authority of a clearing permit, or the clearing is subject to an exemption. Exemptions for clearing that are a requirement of written law, or authorised under certain statutory processes, are contained in Schedule 6 of the EP Act. Exemptions for low impact routine land management practices outside of environmentally sensitive areas (ESAs) are contained in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (the Clearing Regulations).</p>	<p>The nursery footprint has been amended. The proposal does not lie within any vegetated areas. A clearing permit will not be required.</p>
<p><b>Wastewater Management</b> As identified in the Government Sewerage Policy (Western Australian Government, 2019), this site is located within a 'sewage sensitive area'. If the site is unable to connect to a reticulated sewerage scheme, on-site effluent disposal shall utilise secondary treatment systems with nutrient removal for any new buildings and amenities.</p>	<p>Any new amenities (e.g. staff toilets if required) will utilise secondary treatment unit systems as per the GSP 2019.</p>
<p><b>Peel Harvey Coastal Plain Catchment</b> The proponent is be advised that the proposal is located within the Peel-Harvey catchment and the provisions of State Planning Policy 2.1 – The Peel-Harvey Coastal Plain Catchment and Environmental Protection (Peel Inlet – Harvey Estuary) Policy 1992 shall apply. Therefore the proposed nursery should incorporate best management practices outlined in the Water Quality Protection Note No. 3: Nurseries and garden centres (DWER, 2018) and Water Quality Protection Note No 90: Organic material – storage and recycling (DWER, 2011) and include the following:</p> <ol style="list-style-type: none"> <li>1. Nursery operations shall be contained on impermeable surfaces to prevent the leaching of nutrients and contaminants into the groundwater. Gravel, rolled limestone or forestry by-products over plastic film may be used for walking paths and under plant benches.</li> <li>2. Any wastes should be contained in a purpose-built, weatherproof storage container, skip or on an impermeable sheltered surface until removed offsite to an authorised waste disposal facility.</li> <li>3. Water according to the plant development requirements, seasonal evaporation losses, variations in plant water needs and the water-holding capacity of the potting media.</li> <li>4. Any runoff may drain towards a settling pond for reuse or recycling, or into vegetated swales. Wastewater and clean stormwater should be kept separate. Uncontaminated stormwater should be managed as recommended in the Stormwater Management Manual for Western Australia (DoW, 2004-2007).</li> <li>5. Nursery operators should minimise nutrient losses by only applying fertiliser amounts required by the</li> </ol>	<ol style="list-style-type: none"> <li>1. The nursery operations will be contained on an impermeable surface made of rolled limestone. This layer will be 100 mm thick (Figure 12 of this NIMP).</li> <li>2. Any wastes would be contained in an impermeable sheltered surface until removed offsite to an authorised waste disposal facility (Figure 10 of this NIMP).</li> <li>3. Irrigation of the plants will be in accordance to the development requirements, seasonal evaporation losses, variations in plant water needs and the water-holding capacity of the potting media. The used of moisture probes is an envisaged option to optimise irrigation.</li> <li>4. As seen on Figure 12 of the NIMP, runoff from the nursery will be directed to a vegetated swale. Uncontaminated stormwater will be kept separate from the nursery area through the establishment of gently raised 200 mm limestone bunds.</li> <li>5. The nursery operator will minimise nutrient losses by only applying fertiliser amounts required by the plant at various stages of its development cycle and adopting measures to reduce leaching. Slow release fertilisers are deemed adequate for such a management practice.</li> </ol>





<p>plant at various stages of its development cycle and adopting measures to reduce leaching.</p> <p>6. Pesticides, fertilisers, manures and soil amendment materials should be stored on impermeable surfaces that are weatherproof and exclude stormwater runoff from other areas.</p> <p>7. As detailed in the Nutrient and Irrigation Management Plan, groundwater quality monitoring will be carried out on-site. However, no detail has been provided regarding the proposed trigger values, contingency actions if triggers are breached and the submission of monitoring results to the Shire</p>	<p>6. Pesticides, fertilisers, manures and soil amendment materials will be stored on impermeable surfaces that are weatherproof and exclude stormwater runoff from other areas (Figure 10 of this NIMP).</p> <p>7. This is further discussed in Section 9 of this NIMP</p>
<p><b>Transport Depot - Best Practice Management</b></p>	<p>Discussed in the provided Stormwater and Spill Management Plan</p>
<p><b>Groundwater</b></p> <p>The subject lot and proposed development area is located within the Serpentine Groundwater Area (Jandakot Mound 2 sub area) which is proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater abstraction would be subject to licencing by the DWER.</p> <p>There is a current groundwater license for the property for the purposes of stock watering and household garden (GWL174986). An amendment to this current licence would be required for the use of groundwater for nursery and transport depot operations.</p>	<p>The current 11,000 kL of GWL 174986 is deemed appropriate to start the nursery production.</p> <p>Upon development approval, an application to change the current land use of the groundwater licence will be lodged.</p> <p>The Jandakot Mound 2 subarea of the Serpentine groundwater area currently has 72,000 kL remaining unallocated in the Superficial aquifer.</p> <p>An application for an additional 10,000 kL will be submitted to DWER upon lodgement of this NIMP. This additional allocation will be sufficient for the full development of the proposed nursery.</p>





## 1 Summary of the Land Use Proposal

**Proponent's name:** Bradley & Lisa Walton

**Contact details:** Lisa Walton 0412 888 467

**Site location:** Lot 101 (No. 132) Boomerang Road, Oldbury

### Project description:

The proponent is proposing to conduct a nursery operation at 132 Boomerang Road, Oldbury (Appendix A). In 1997 the Shire granted approval for a nursery on the subject land. Copies of the original development plans and nutrient management plan (NIMP) have been lost. To redress this, Bioscience was commissioned to draft a NIMP (this report).

The proposed nursery is 1.3 ha and consists of an impervious rolled limestone hardstand area where eucalypts and another native trees are planned to grow in pots to an advanced stage (3 years old) prior to sale; wholesale only. Runoff from the nursery is to be directed into a vegetated swale.

Hours of nursery operation will be from 7:00 am to 5:00 pm Monday to Friday however, intensity of operations will be very low with maintenance operations being the predominant activity.

### Timetable:

Production on site will start as soon as the NIMP is approved and the go-ahead is given by the Shire. Operations will last over 30 years.

## 2 Project Setting

The site is located around 28 km south east of Perth CBD (Figure 1) and consists at its surface of sandy soil from the Bassendean dunes formation.

The site is zoned "rural", under the Metropolitan Regional Scheme and the Serpentine-Jarrahdale Local Planning Policy.

## 3 Land Use, Nutrient Application, Staff and Livestock

### 3.1 Land Use and Nutrient Application

As mentioned previously, the proponent proposes to grow native trees, mostly eucalypts, in pots to an advanced stage of 3 years old for wholesale sale. At full development, the nursery will grow 1000 potted trees on a limestone hardstand of 1.3 hectares. Irrigation of each pot will be via drip irrigation for half the year between October and April. Watering will occur via natural rainfall the remaining months.



Nutrient will be applied solely by the application of slow release, low P analysis commercial fertilisers specifically developed for native trees. Fertilisers will be added into the potting mix consisting of organic rich-sand.

### 3.2 Staff and Livestock

A horticulturalist or equivalent specialist will be employed on a contract basis.

No livestock will be allowed on the nursery site.

## 4 Local Rainfall, Evaporation and Interception

The climate of the area is characterized by Mediterranean climate comprising cool wet winters and hot dry summers. Temperature ranges from cool to cold (i.e. 1 degree) during winter months (May to August) and could reach up to 42 degrees during summer months.

Average annual rainfall (Bureau of Meteorology) recorded at Anketell weather station (located 6.4 km away) is 647.8 mm, with the majority of rain falling between June and September. Table 1 shows the monthly average rainfall at Anketell weather station.

Evaporation is likely to be similar to the Perth area, which has an annual evaporation of 1716mm and exceeds the annual average rainfall by a factor of 2.61. Monthly rainfall typically only exceeds evaporation for 4 months, from June to August.

Surface soil on site consists mostly of medium to coarse textured sand (Geological Survey of Western Australia). Infiltration in such soils is in the order of  $10^{-4}$ -  $10^{-5}$  m sec<sup>-1</sup>(Lock 2007). This translates to the capacity of soil to handle rainfall in excess of 36 – 360 mm per hour.

Accordingly, in heavy rainfall events (1h 20 year ARI), rainwater in the undeveloped parts of the property will infiltrate soils and not lead to runoff. In the heaviest events (1h 100 year ARI), water may transiently pool before infiltration.

**Table 1: Rainfall and Evaporation at Pearce RAAF Weather Station (Bureau of Meteorology)**

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average Rainfall (mm)	11.0	0.4	11.4	30.1	20.7	208.4	128.8	129.4	43.2	37.1	22.8	4.5	647.8
Average Evaporation (mm)	257	218	195	120	78	57	71	102	99	148	189	253	1716

## 5 Soils and Landform Description

### 5.1 Land Contours

Overall, the site gently slopes towards the east, from an initial elevation of 24 mAHD on the western side of the site to 15 mAHD near the eastern boundary (Figure 2).





## 5.2 Soil Type

The Geological Survey of WA's Environmental Geology Map (Serpentine, sheets 2033 & 2133 describes the site geology as S8, i.e. Bassendean Sand (Figure 3).

## 5.3 PRI

Bassendean sands system is known to have very low PRI, ranging between 2 and 5 within the vicinity of the site (Safstrom and Short 2012). To prevent any potential leaching of phosphate to groundwater, pots will rest on an impervious rolled limestone hardstand.

## 5.4 Acid Sulphate Soil

The ASS Risk Map defines the area as Class 2 - moderate to low risk of ASS for depths within 3m below natural ground (Figure 4).

## 5.5 Proposed Earthwork Details

This report is part of a retrospective application. Substantial earthworks were done in the past. The limestone hardstand is already present on site. Compaction of the existing hardstand will be required for the infiltration rate to be lower than  $10^{-9}$  m/s. Additional limestone might be required to achieve a 100 mm thick layer and a 2% gradient towards the south.

## 5.6 Imported Soil Amendments

Trees will grow in a media consisting of organic-rich sand conforming to AS4419. This media will be brought on site prior to commence planting.

# 6 Water Resources Description and Use

## 6.1 Sensitive Water Resources

### 6.1.1 Wetlands

The site is located near five geomorphic wetlands (Figure 5):

- UFI 15785 – Multiple use wetland, located 100 m E;
- UFI 14856 - Resource Enhancement wetland, located 1000 m SE;
- UFI 14857 - Conservation wetland, located 1200 m SE;
- UFI 14858 - Conservation wetland, located 900 m SE; and,
- UFI 14859 - Conservation wetland, located 1200 m SE 35 m.

### 6.1.2 Groundwater Users

Existing groundwater users in the area were assessed through the Department of Water's Water Register database. Figure 6 presents the location of other groundwater users within the vicinity of the site.

One groundwater licence user, associated to GWL 170729, is located immediately south of the proposed development and might be a sensitive receiver in the unlikely event of nutrient leaching.

## 6.2 Seasonal or Occasional Flooding

As seen on Figure 7, flooding will not occur within the immediate vicinity of the site.

## 6.3 Groundwater Description

### 6.3.1 Aquifer Description

Within the vicinity of the project site, groundwater of the Superficial aquifer naturally occurs between 1 to 5 m below ground depending of the seasons.

Past DWER groundwater drilling and logs have revealed the Superficial aquifer is separated from the Leederville Aquifer formations by Guildford clay.

The Superficial Aquifer saturated thickness varies from 10 to 15m (Davidson 1995). Hydraulic conductivity for Bassendean Sands ranges between 8.2 to 16.5m/d and as low as 0.8 to 4.1m/d in Guildford Clay (Marillier et al. 2012). Transmissivity is estimated to range between 16 and 330m<sup>2</sup>/day depending of the soil profile; but averages, according to Davidson (1995), around 120 m<sup>2</sup>/d.

### 6.3.2 Groundwater Flow, Discharge and recharge

The flownet of the Superficial Aquifer is in a south easterly direction (Figure 8), with a hydraulic gradient of about 3m per kilometre.

The groundwater in the Superficial aquifer is recharged by direct infiltration of rainfall, with peak groundwater levels occurring between August and October. The recharge by rainfall of the superficial aquifer is about 14% (Davidson,1984) while discharge occurs in tributaries of the Serpentine River, and vertically in the Leederville aquifer.

### 6.3.3 Groundwater Level

As described above, within the vicinity of the project site, groundwater of the Superficial aquifer naturally occurs between 1 to 5 m below ground depending of the seasons.

Maximum groundwater levels were derived from nearest DWER long-term monitoring bores (Figure 9). As seen on the Figure, there is a 0.75 to 4 m separation distance to the maximum predicted groundwater level within the nursery area, from the south section to the north respectively. This separation distance is deemed suitable to protect the groundwater resource from any potential adverse effect of the nursery.

### 6.3.4 Groundwater Quality

At this stage, groundwater quality was not tested, however, given the vegetation present within and around the site, we expect a chemistry suitable for the irrigation of native trees.





## 6.4 Source of Irrigated Water

The site is associated with a groundwater licence, GWL 174986, allowing the abstraction of 11.000 kL/annum. The current allocation is deemed appropriate to start the nursery production.

Upon development approval, an application to change the current land use of the groundwater licence will be lodged.

The Jandakot Mound 2 subarea of the Serpentine groundwater area currently has 72,000 kL remaining unallocated in the Superficial aquifer. An application for an additional 10,000 kL will be submitted to DWER upon lodgement of this NIMP. This additional allocation will be sufficient for the full development of the proposed nursery.

## 6.5 PDWSA

The site is situated around 6.4 km away from the nearest Public Drinking Water Supply Areas. This area is a Protection Area P1 and it is located north of the site. As this P1 area is located up-gradient of the proposed development (in regards to groundwater flow), there won't be any impacts on the PDWSA..

# 7 Site Management

## 7.1 Irrigation System

As mentioned previously, the proponent proposes to grow advanced eucalypts in pots for wholesale once the trees reach around 3 years old. The planned proposed development is shown in Appendix A.

At full development, the nursery will grow 1000 potted trees on a limestone hardstand of 1.3 hectares. Depending of their age, trees will be organised in 3 sections and grown in pots of 3 different sizes, 20, 50 and 100 L depending of their age (Figure 10). Young trees will grow at the rear of the nursery and moved to the middle section once they reach one year old. Two to three years old trees will be placed in the front section of the nursery, ready for wholesale.

Irrigation of each pots will be via drip irrigation for half the year between October and April (Figure 11). The system will deliver up to 10 L/day/tree through regular bursts of 15 minutes. The number of emitters (hence the exact daily water allocation) will vary depending of the size and age of the tree.

Drip irrigation was selected as it minimises fertiliser and nutrient loss due to the localised and efficient water application. In addition, as moisture within the root zone can be maintained at below field capacity, drainage water is minimal to none and weed growth is lessened.



## 7.2 Nutrient Application

Nutrient will be applied solely by the application of slow release, low analysis commercial fertilisers specifically developed for native trees. Fertilisers will be added into the potting mix consisting of organic rich-sand.

## 8 Drainage and Contaminant Leaching Control

### 8.1 Drainage Management

Under warm conditions, drainage water leaving the pots is likely to be minimal if any. At times some water runoff is unavoidable, for example during heavy winter rains. Although the risk is low, any phosphorus leaving the pots via runoff will be captured by the vegetated swale located downgradient of the nursery area (Figure 12).

### 8.2 Contaminant Leaching Control

#### 8.2.1 Fertiliser Use Efficiency

On site, the proponent will use the following best management practices to improve fertiliser use efficiency:

- Fertiliser applications will be based on soil slow release granules in media with high water holding capacity and ion exchange capacity.
- Fertiliser applications will be recorded to assist future fertiliser management decisions.

The slow release granules will be applied only to the plant root zone at transplanting to larger containers to ensure that plant nutrient uptake is maximised.

#### 8.2.2 Water Use Efficiency

On site, water use efficiency will be based on the following:

- As mentioned, irrigation will only occur between October and April, when rain is scarce. The decision of when and how much to irrigate will be based on moisture levels, plant requirements and the grower's experience.
- Small volumes of water will be applied frequently rather than occasional heavy applications.
- The grower will regularly inspect the irrigation and will ensure that repairs are carried out promptly should they be needed.

## 9 Protection of Natural Water Resources

### 9.1 Proposed Monitoring

Given the nature of the work, prospects for any outside impacts are minimal, however, to ensure no nutrient leaching, nor undesired impacts on sensitive receivers occurs, permanent



groundwater monitoring bores will be installed up-gradient and down-gradient of the production.

The proposed monitoring bore locations are provided in Figure 13. Bores MB1 and MB2 will be screened for 2 m around the annual minimum groundwater levels in the Superficial aquifer. The bores will be installed as per DWER's WQPN30 *Monitoring Bores*. Bores will be monitored quarterly as a condition of groundwater licensing, with data also reported to DWER.

Monitoring will follow the below commitments (Table 2).

**Table 2: Monitoring Commitment**

Commitment	Location	Frequency
Groundwater level measurements	MB1, MB2	Quarterly
Sample and water analysis	MB1, MB2	Quarterly
Annual summary to DWER and the Shire	n/a	Annually

Water quality analyses will be carried out by Bioscience and will test the following:

- pH
- EC
- TDS
- Iron
- Potassium
- Calcium
- Magnesium
- Nitrate N
- Ammonium N
- Total N
- Reactive P
- Total P
- Sodium
- Chloride
- Sulphate

Note that the monitoring of nutrients will be undertaken as a requirement of the NIMP on advice from the Department of Water and Environmental Regulation

## 9.2 Contingency

The objective of contingency planning is to provide assurance that the *Water quality improvement plan for the rivers and estuary of the Peel-Harvey system - phosphorous management* (EPA 2008) will not be compromised because of the site development.

The attainment of this objective cannot be judged without reference to existing groundwater nutrient values due to past and existing usage of the site and surrounding land. Water quality data will be collected from the monitoring bore upstream of the site (MB1) for reference purposes.

Comparing upstream and downstream monitoring bores will provide data about the nursery's influence on nutrients in groundwater. Therefore, nitrogen and phosphorous concentrations from the upstream and downstream monitoring bores will be compared. Nutrient levels should be the same or lower than upstream levels, to show the site is not leaching nutrients. It is noted that within the region (based on data obtained from other premises), nutrient spikes seem to occur randomly without the influence of fertiliser input.

Once a year of upstream monitoring data is collected, a significant increase (two standard deviation units) of nutrient levels from the annual mean will be set as a trigger value. For the first year the mean of collected data will be calculated at each monitoring. If a measured N or P value exceeds the mean by two standard deviation units, monitoring will be repeated within two weeks. If the particular nutrient remains high, the source of nutrient spikes will then be investigated through intensifying of monitoring and assessing elements of the nursery which provide direct information about nutrient input and possible leaching.

Table 3 lists the trigger levels and the associated contingency actions.

**Table 3: Contingency Actions**

Monitoring	Trigger levels	Contingency actions
Upstream Bores	Data collection only	Data collection only
Downstream Bores	Nitrate or phosphate two standard deviations from annual mean	Check limestone hardstand for possible cracks promoting leaching to groundwater. Check the efficiency of the vegetated swale. Review infiltration rate. Amends the bottom of the swale with high PRI soil.
Downstream Bores	Consecutive monitoring: Nitrate or phosphate two standard deviations from annual mean	Stop using fertiliser until cause is determined and rectified

## 10 Contaminant Transport Model

Given the size and the nature of the development, a contaminant transport model is not required.

## 11 Vegetation Management

Clearing will not be required. The cleared limestone hardstand already exists on site.





## 12 Pesticide and Storage Use

The use of pesticides in Australian agriculture is regulated through the Australian Pesticides and Veterinary Medicines Authority. The increasing trend in registration of products is to restrict the use of insecticides, fungicides and fumigants which have half lives of more than a few days. Environmentally persistent pesticides have been progressively deregistered and removed over the last 20 years.

The proponent currently adopts integrated pest management (IPM) systems. Generally pesticide use is avoided wherever possible. The major disease pressure is from foliar fungal pathogens in winter. This is managed by protective foliar sprays, and by constant, low dosing of irrigation water with copper ions (produced by electrolysis). The major pest pressure is insects, particularly thrips in summer. This is managed by targeted application of synthetic pyrethroid insecticides.

All use of chemical pesticides adheres to industry best practice principles:

- Follow regulations set by the Australian Pesticides and Veterinary Medicines Authority governing the use, storage, and disposal of pesticides and fungicides and training of applicators and pest control advisors.
- Follow manufacturers' recommendations and label directions.
- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule) and use the minimum amount of chemical needed for the job.
- Do not mix and prepare pesticides within 30m of any well, stream or pond.
- Do not get rid of unused pesticides by washing them down drains.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Clean pavement and sidewalk if chemicals are spilled on these surfaces.

All chemicals are stored in a locked area (concrete floor) (Figure 10). All applications of chemicals are entered into a log book.

All remaining mixtures are disposed of according to label instructions. All equipment used for pesticide preparations will be triple rinsed both inside and out to minimize pesticide residues.

## References

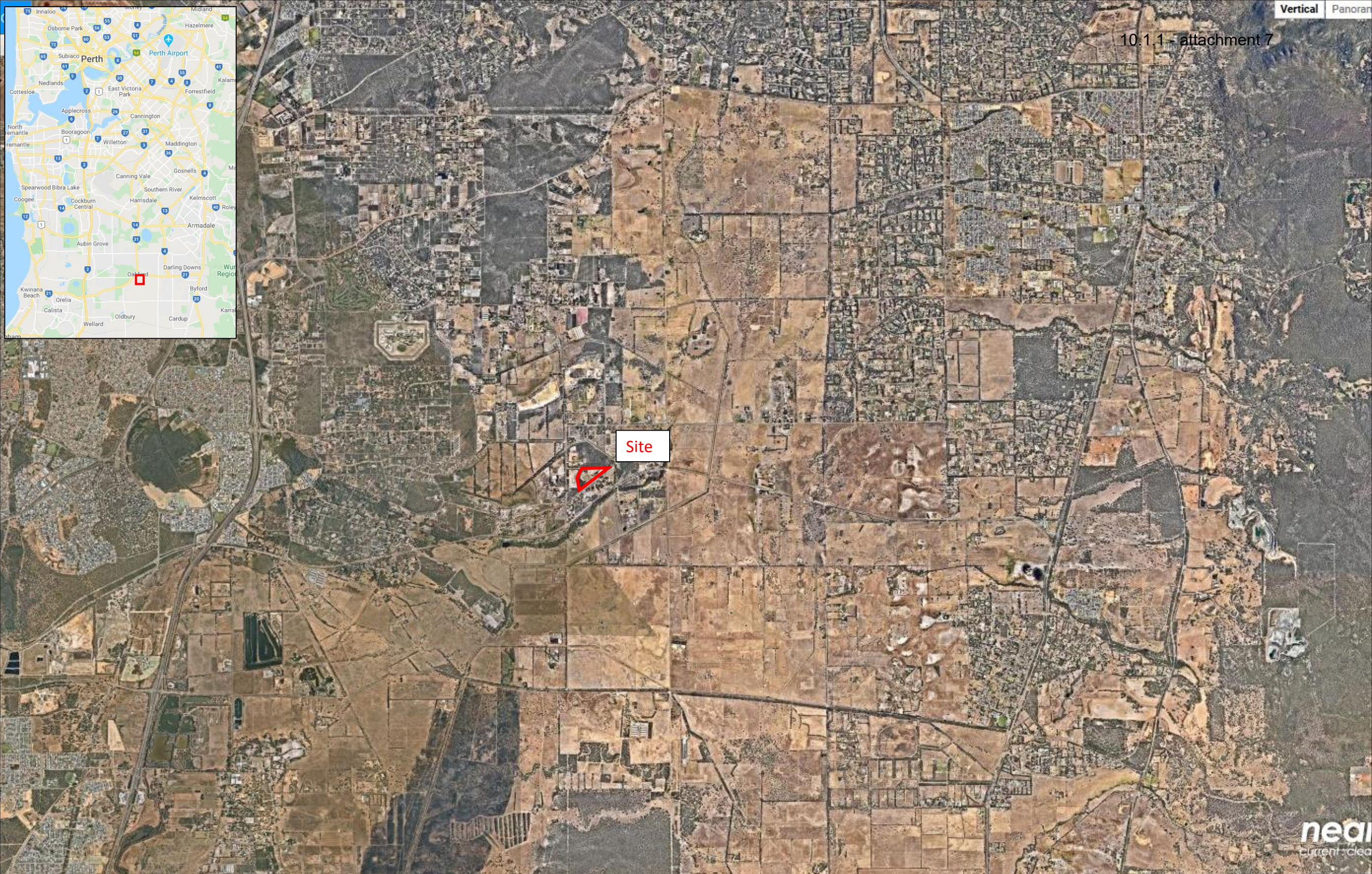
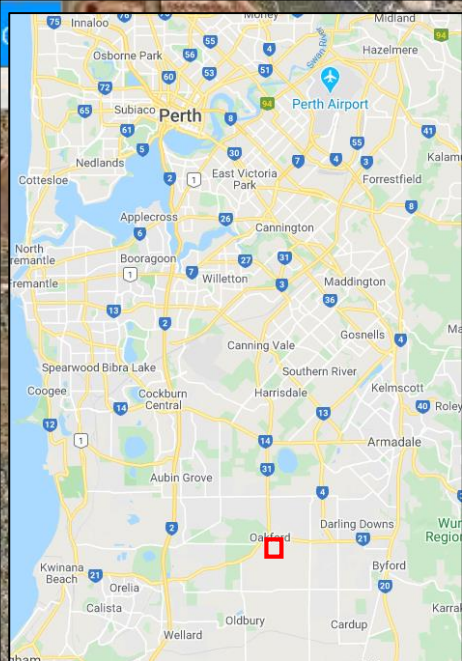
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**Figures**





near  
current clear



Project: NIMP  
 Client: Brad and Lisa Walton  
 Date: 11/03/2020  
 Drawn: AR  
 Checked: PK  
 Revision: A



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 WEBSITE: www.biosciencewa.com

### FIGURE 1. Site Location

132 Boomerang Rd, Oldbury WA 6121, Australia  
 Ordinary Council Meeting - 14 December 2020

SOURCE: NEARMAP (17/02/20 aerial picture)





**FIGURE 2. Topography**

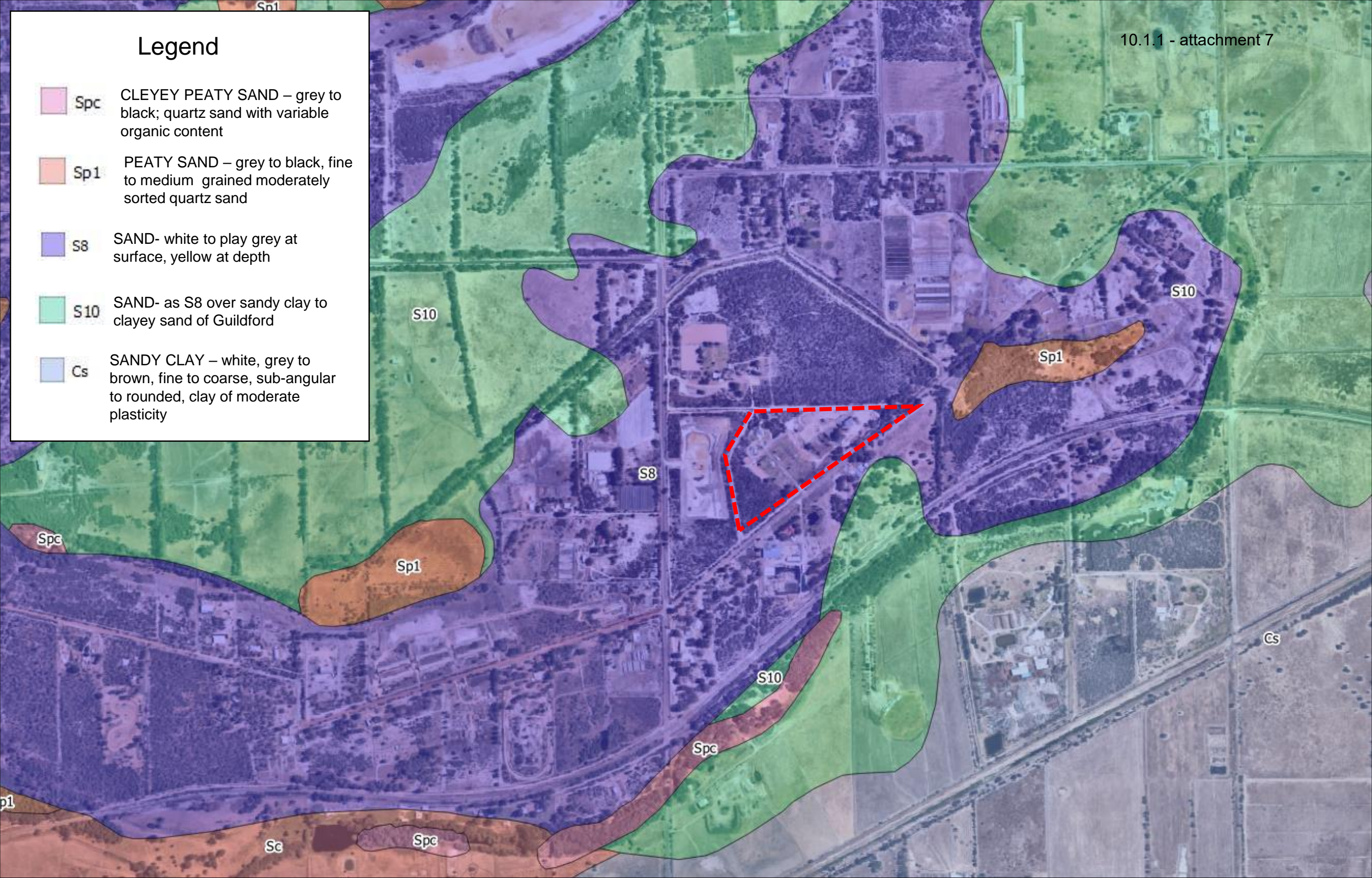
132 Boomerang Rd, Oldbury WA 6121, Australia  
 Ordinary Council Meeting - 14 December 2020

SOURCE: DWER – may 2008



# Legend

- Spc CLEYEY PEATY SAND – grey to black; quartz sand with variable organic content
- Sp1 PEATY SAND – grey to black, fine to medium grained moderately sorted quartz sand
- S8 SAND- white to play grey at surface, yellow at depth
- S10 SAND- as S8 over sandy clay to clayey sand of Guildford
- Cs SANDY CLAY – white, grey to brown, fine to coarse, sub-angular to rounded, clay of moderate plasticity



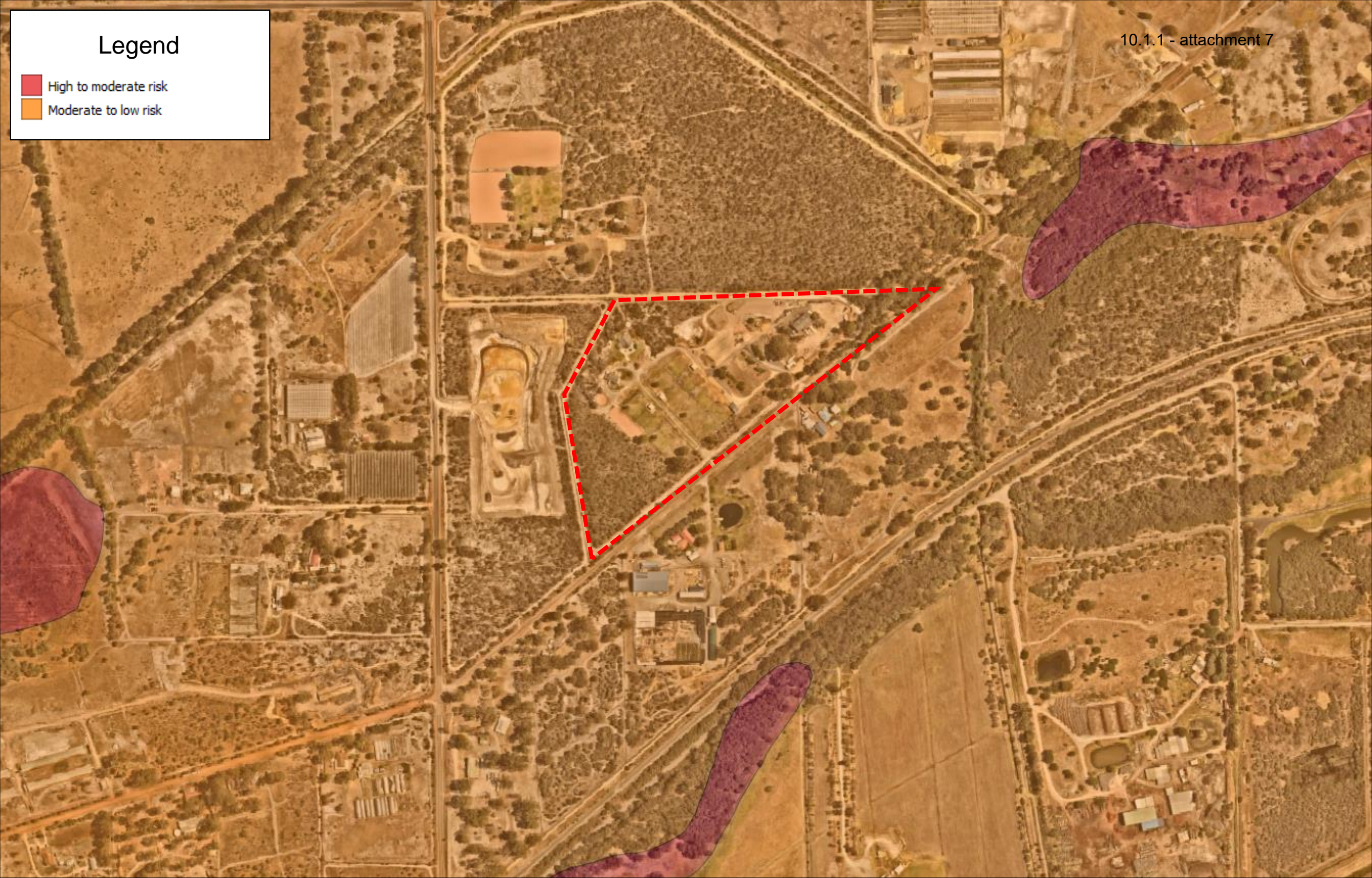
## FIGURE 3. Surface Geology

132 Boomerang Rd, Oldbury WA 6121, Australia  
Ordinary Council Meeting - 14 December 2020



# Legend

- High to moderate risk
- Moderate to low risk



# Bioscience

**Integrating Resource Management**

Project: NIMP  
 Client: Brad and Lisa Walton  
 Date: 11/03/2020  
 Drawn: AR  
 Checked: PK  
 Revision: A



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## FIGURE 4. ASS Risk Map

132 Boomerang Rd, Oldbury WA 6121, Australia  
 Ordinary Council Meeting - 14 December 2020

SOURCE: DWER – may 2008



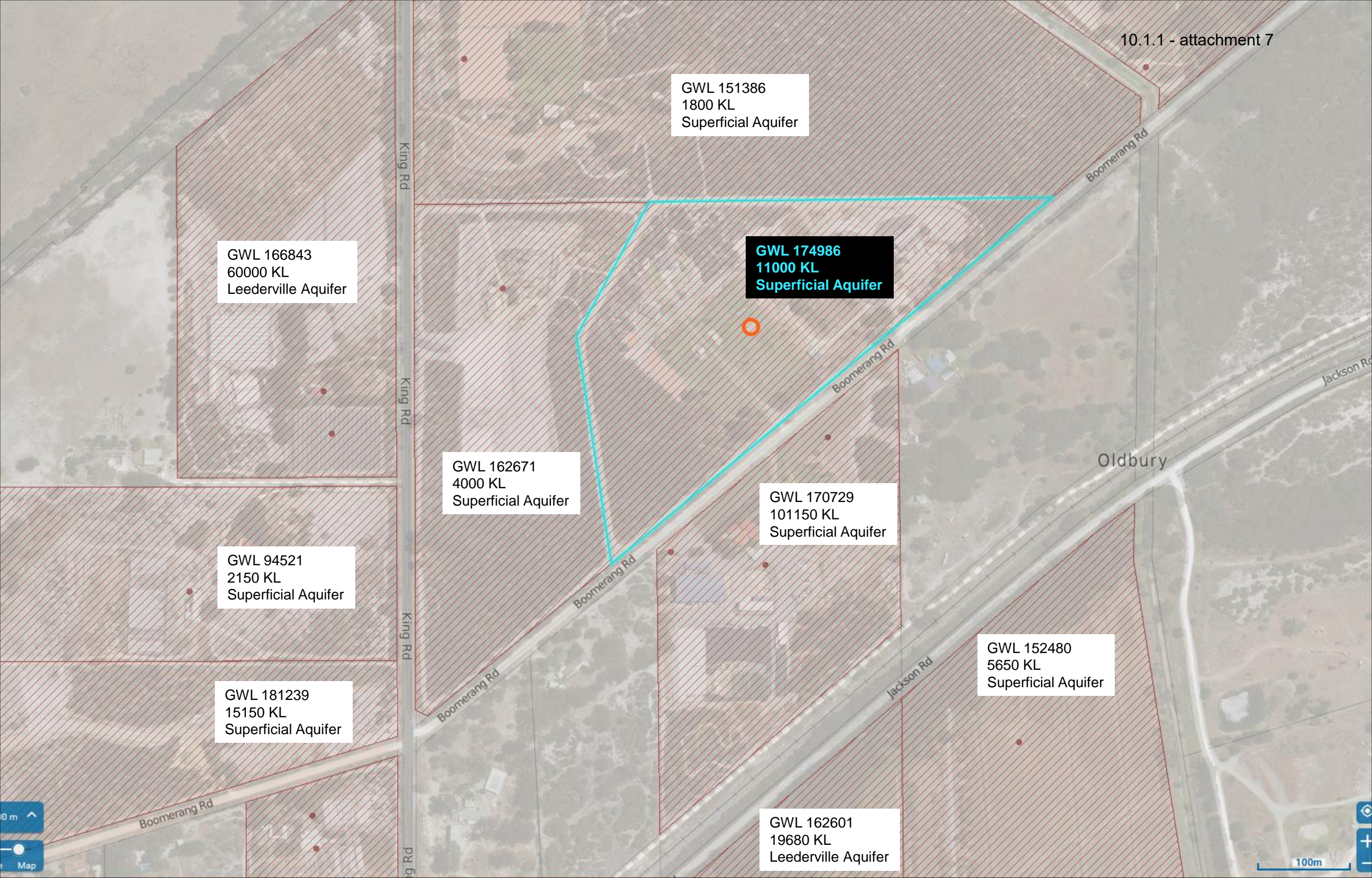


**FIGURE 5. Geomorphic Wetlands**

132 Boomerang Rd, Oldbury WA 6121, Australia  
 Ordinary Council Meeting - 14 December 2020

SOURCE: DWER – may 2008





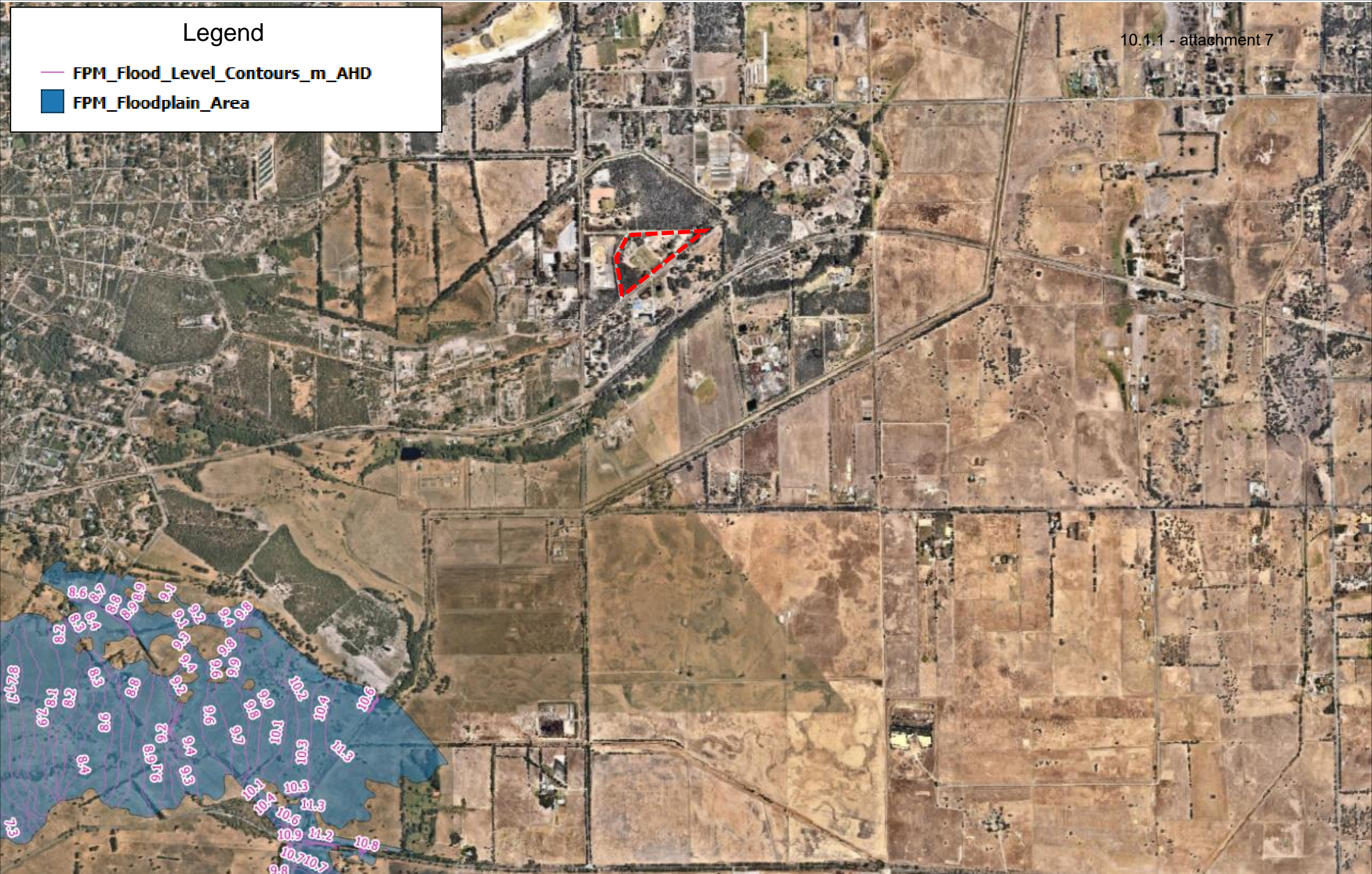
**FIGURE 6. Groundwater Users**

132 Boomerang Rd, Oldbury WA 6121, Australia  
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# Legend

- FPM\_Flood\_Level\_Contours\_m\_AHD
- FPM\_Floodplain\_Area



Project: NIMP  
 Client: Brad and Lisa Walton  
 Date: 11/03/2020  
 Drawn: AR  
 Checked: PK  
 Revision: A



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**FIGURE 7. Floodplain Mapping**  
 132 Boomerang Rd, Oldbury WA 6121, Australia  
 Ordinary Council Meeting - 14 December 2020

SOURCE : DWER – may 2008



# Legend

- Groundwater\_Contours\_Minimum
- Groundwater\_Contours\_Historical\_Maximum

10.1.1 - attachment 7



## FIGURE 8. Groundwater Contours

132 Boomerang Rd, Oldbury WA 6121, Australia  
Ordinary Council Meeting - 14 December 2020

SOURCE: DWER – may 2008

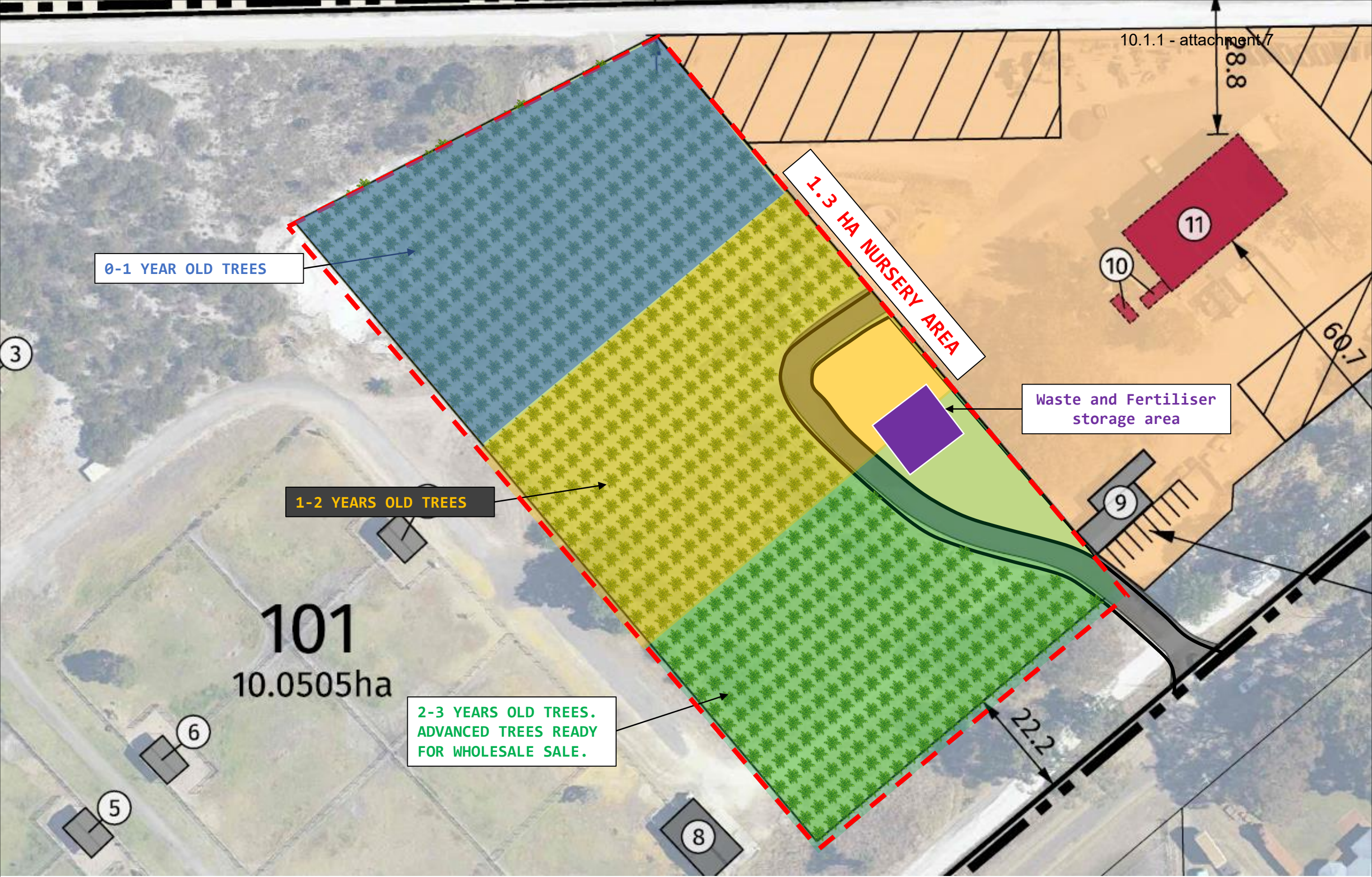




**FIGURE 9. Separation Distance to Maximum Groundwater Level (Interpolated)**

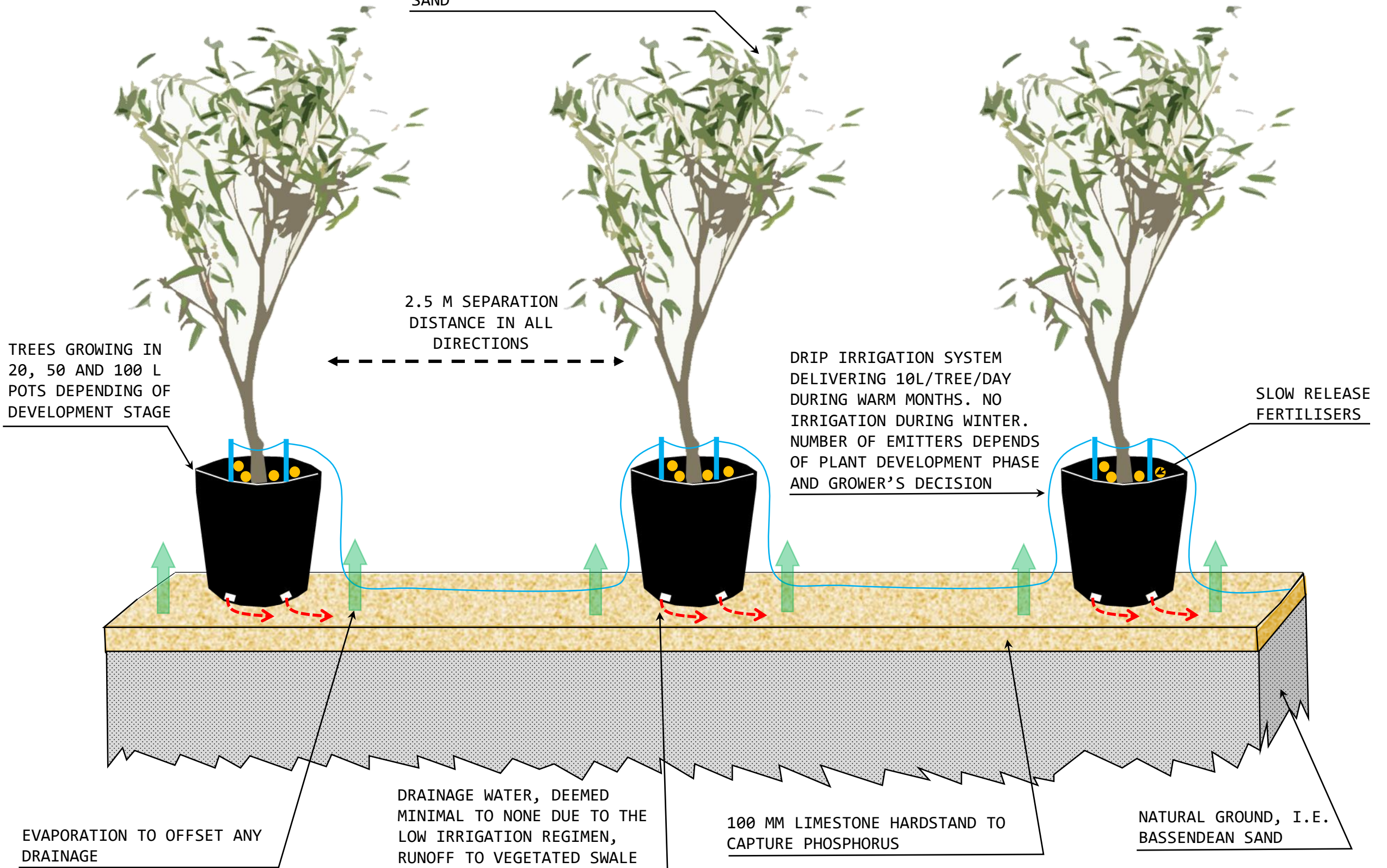
132 Boomerang Rd, Oldbury WA 6121, Australia  
Ordinary Council Meeting - 14 December 2020





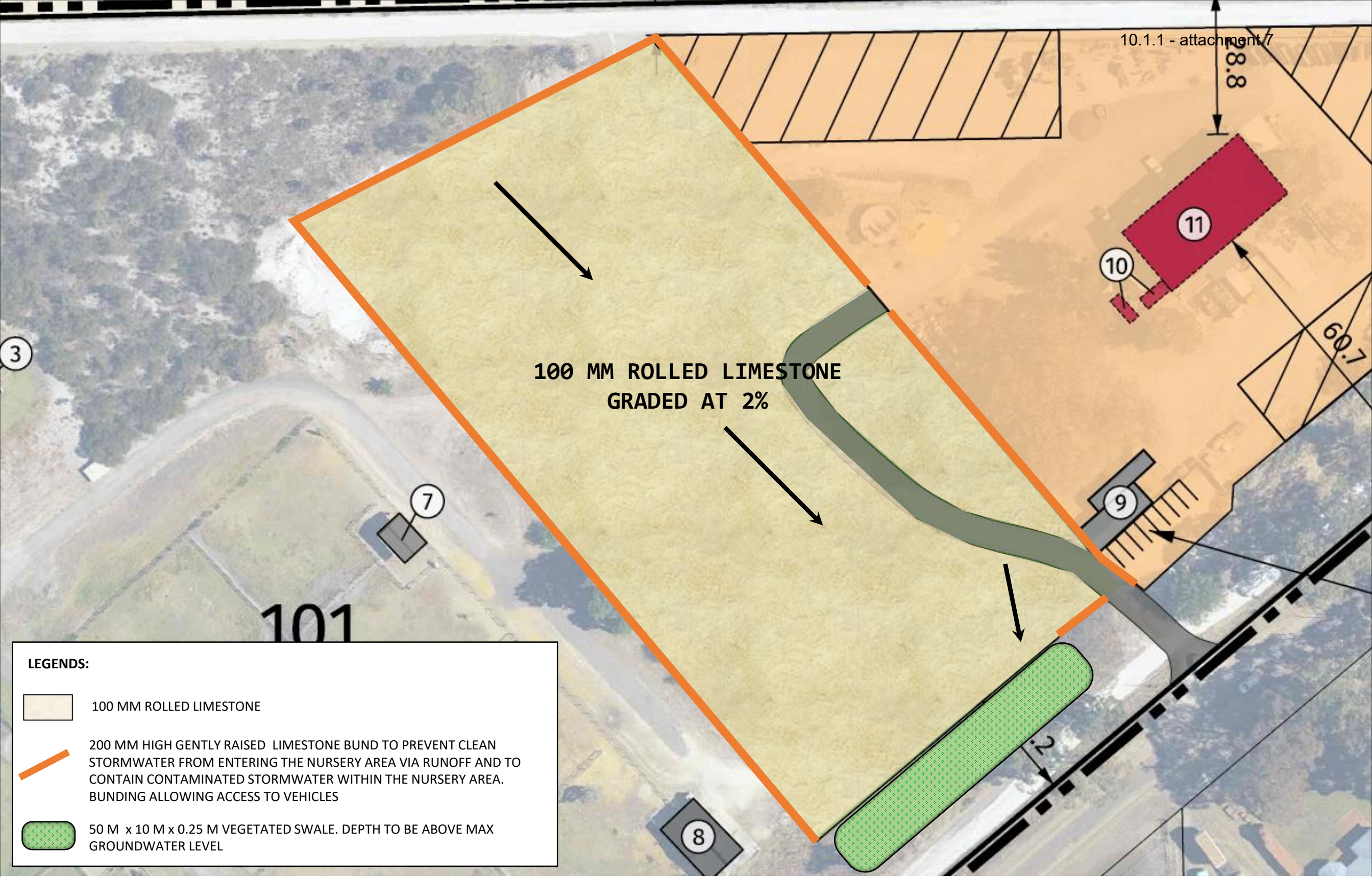


ADVANCED EUCALYPTS GROWING IN A MEDIA CONSISTING OF ORGANIC-RICH SAND



**FIGURE 11. Typical Irrigation System**









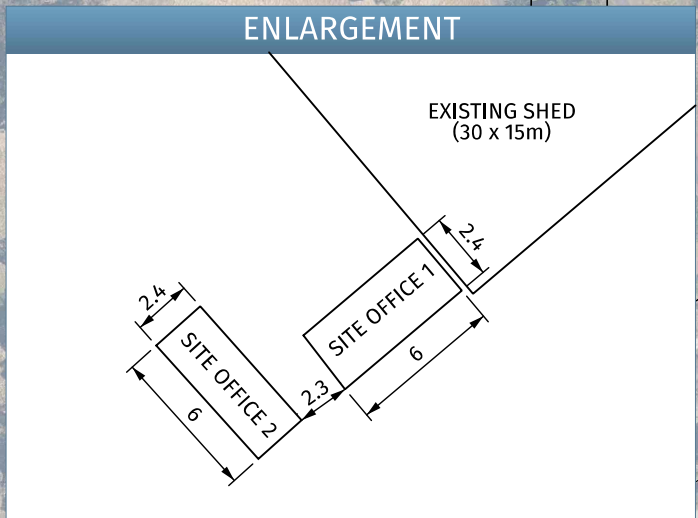
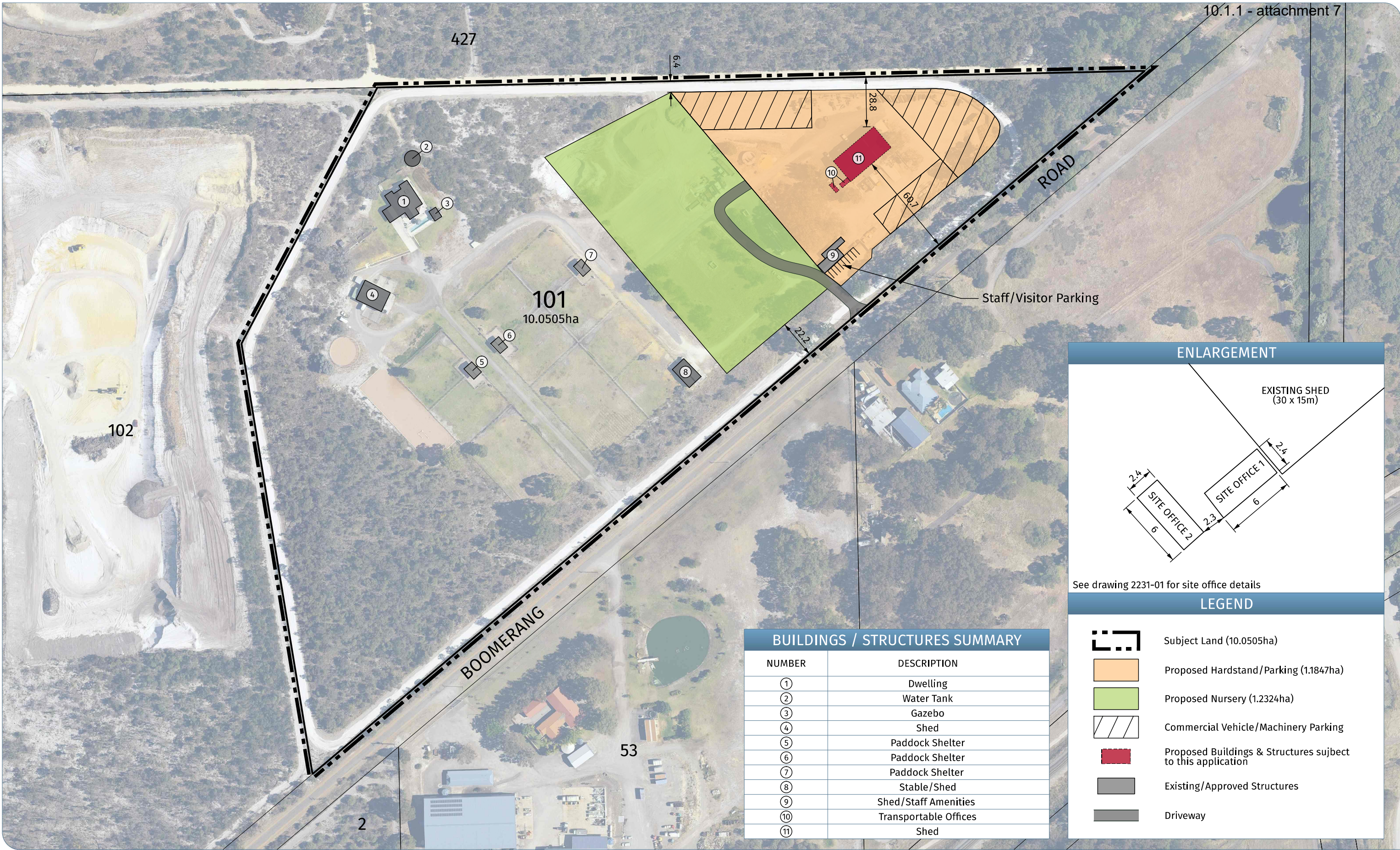
**FIGURE 13. Proposed Monitoring Bore Locations**

132 Boomerang Rd, Oldbury WA 6121, Australia  
 Ordinary Council Meeting - 14 December 2020



**Appendix A: Development Site Plan**





See drawing 2231-01 for site office details

BUILDINGS / STRUCTURES SUMMARY	
NUMBER	DESCRIPTION
①	Dwelling
②	Water Tank
③	Gazebo
④	Shed
⑤	Paddock Shelter
⑥	Paddock Shelter
⑦	Paddock Shelter
⑧	Stable/Shed
⑨	Shed/Staff Amenities
⑩	Transportable Offices
⑪	Shed

**LEGEND**

- Subject Land (10.0505ha)
- Proposed Hardstand/Parking (1.1847ha)
- Proposed Nursery (1.2324ha)
- Commercial Vehicle/Machinery Parking
- Proposed Buildings & Structures subject to this application
- Existing/Approved Structures
- Driveway

# DEVELOPMENT SITE PLAN

Lot 101 (No. 132) Boomerang Road  
OLDBURY

Plan No. | 22031-01  
 Date | 05/06/20  
 Drawn | NP  
 Checked | BdR  
 Revision | E

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Scale | 1:2000@A3

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

Ordinary Council Meeting - 14 December 2020

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Brett Dunn  
Program Manager – Land Use Planning  
Department of Water and Environment Regulation  
Kwinana Peel Region

Dear Brett,

**RE: PA034131, RF9830-01 – Proposed Stormwater and Spill Management Plan at Lot 1 (543) King Rd, Oldbury**

A development application is proposed at Lot 101 (132) Boomerang Road, Oldbury. The facility will be operated by Bradway Contracting, a small Civil and Earthmoving Contractor. The proposed transport depot will include the parking of various commercial vehicles, trailers, machinery and employee vehicles.

Harley Dykstra latest DA submission was reviewed by the Department of Water and Regulation (DWER). In their letter dated 26/05/2020 (FR9830-01), DWER suggested that the proposed transport depot and parking areas should implement best management practices in accordance with relevant Water Quality Protection Notes.

The below details the proposed management practices to be implemented on site.

It is noted that the mechanical servicing and washdown of trucks are done off site.

The storage of all toxic and hazardous substances, including fuels and lubricants will be located in the workshop (Figure 1) within a bunded hardstand area. Likewise, adequate tools and materials for managing spills will be stored in the workshop (in a designated area) and will be available immediately should a spill occur. In addition, used batteries, used solvent containers, machinery parts and contaminated waste products will also be stored in the workshop in designated areas until they can be moved off-site for recycling or to an approved disposal facility.

DWER suggested that the parking areas must be constructed on a non-permeable concrete hardstand that will contain leaks and spills of all fuels, lubricants, and wastewater in the event that the integrity of the vehicles becomes compromised.

To this end, a Stormwater and Spill Management Plan, detailed below, was developed in accordance to best practice management to ensure that the natural environment, especially the groundwater resource and nearby Resource Enhancement Wetlands (UFI 14741 and UFI 14862) are not subject to adverse impacts from the transport depot should the integrity of the parked vehicles becomes compromised.

Any uncontained spill and runoff from fuel and lubricant leaks or wastewater might cause adverse impacts on the surrounding environment. To prevent the latter, it is proposed to establish dedicated areas for the parking of the commercial vehicles, trailers, machinery and employee vehicles (Figure 1).



The parking areas will be divided in two main categories (Figure 1):

- A parking area consisting of the existing hardstand for machinery or equipment without fuel tanks, lubricant or harmful liquid, e.g. trailers; and,
- An impervious truck parking area (including employee vehicles) made of 100 mm of compacted asphalt profile on top of the existing hardstand.

This impervious truck parking area will have an infiltration  $< 10^{-9}$  m/s and graded at 1% towards a concrete sump (Figure 2) for spill and leak containment. The sump is designed for a spill volume of up to 20,000 L, allowing full containment of a spill from all trucks and employee vehicles at once.

It is noted that the impervious parking area will also have a due diligence area for the parking of vehicles with high risk of spillage, e.g. trucks with leaks. Any vehicles parked in the due diligence area would require urgent repairs or maintenance. This due diligence area was designed closer to the sump to maintain spillage footprint to a minimum before discharging into the sump.

Radial flow of any spill within the impervious parking area will be contained via a 200 mm high concrete kerbing (located near the eastern boundaries of the transport depot) and a 200 mm high gently raised concrete bunding (located within the yard as shown in Figure 1). The gently raised bunding will allow access to vehicles while containing radial flow.

It is also noted that stormwater falling in the impervious parking area will also be discharged in the sump. A valve will be used to control outflow of stormwater to sedimentation traps and soakwells hence allowing discharge into the natural environment (Figure 3). The valve will be closed when vehicles are parked in the due diligence area, isolating the wastewater from the surrounding environment. The sump is designed to contain stormwater from events up to the 63.2 % AEP 1 hour, should compromised vehicles be parked within the due diligence area at that time (and hence with a closed valve). When opened, bigger AEP events will be managed by the subsequent drainage system (sump to collection pit to sedimentation traps to soakwells). The 100 mm pipe connected to the collection pit will provide enough flow rate to avoid overflow of the sump. It is also noted that the discharge area is away from any structure. Any overflow will not jeopardise the activity of the Transport Depot.

After a spill event, liquid contained in the concrete sump and collection pit will be vacuumed into a wastewater truck commissioned for the occasion. The sump and the collection pit will then be washed with high pressure water to clean out any residue. Wash out water will also be vacuumed into the truck prior to be disposed off-site to an appropriate, licensed landfill site.

This approach ensures that any stormwater going through this system will not export waste residue into the natural environment. Sedimentation traps will also act as an additional layer of protection should residues still be present after cleaning.

In conclusion:

- In the event of a spill (however unlikely), fuel or other liquid will be contained in a concrete sump and isolated from the natural environment prior to being disposed off-site. This is consistent with DWER's Water Quality Protection Notes, particularly WQPN 51- *Industrial wastewater management*.
- Thorough cleaning of the concrete sump and collection pit will be carried out after any spill event. Any stormwater going through this system; will therefore not





export waste residue into the natural environment. In addition to this thorough cleaning, sedimentation traps will act as an added layer of protection should high pressure water cleaning not be sufficient. Such approach is consistent with WQPN 52 – *Stormwater management at industrial sites*.

- The proposed stormwater and spill management plan is therefore consistent with best practice management and ensures that the nearby Resource Enhancement Wetlands and groundwater resource will not be subject to adverse impacts from the transport depot.

If further information is required, please do not hesitate to contact the undersigned.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Didier Alanoix', written over a faint horizontal line.

**Didier Alanoix**  
Environmental Scientist  
September 2, 2020



**Figures**





- LEGENDS:**
- SITE BOUNDARIES
  - PARKING AREA FOR MACHINERY WITHOUT FUEL, LUBRICANT OR WASTEWATER, E.G. TRAILERS
  - IMPERVIOUS TRUCK PARKING AREA MADE OF 100 MM PROFILE ON TOP OF EXISTING HARDSTAND GRADED AT 1 IN 100 TOWARDS A CONCRETE SUMP
  - DUE DILIGENCE AREA, I.E. PARKING OF TRUCKS WITH HIGH RISK OF SPILLAGE (E.G. DAMAGED TRUCK, TRUCKS WITH LEAKS ETC...)
  - 200 MM HIGH CONCRETE KERBING TO CONTAIN SPILLS AND STORMWATER WITHIN THE IMPERVIOUS AREA
  - 200 MM HIGH GENTLY RAISED CONCRETE BUND TO CONTAIN SPILLS AND STORMWATER WITHIN THE IMPERVIOUS AREA WHILE ALLOWING ACCESS TO VEHICLES
  - 8 M x 4 M x 1 M CONCRETE SUMP (DETAILED IN FIGURE 2)
  - TRIPLE INTERCEPTOR SEDIMENTATION TRAP (750L EACH) (DETAILED IN FIGURE 3)
  - 1500 MM (ID) x 1500 MM (H), 2650 L SOAKWELLS (DETAILED IN FIGURE 3)



Project: Transport Depot Application  
 Client: Bradway Contracting  
 Date: 31/08/2020  
 Drawn: DA  
 Checked: PK  
 Revision: A

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### FIGURE 1. Proposed Spill and Stormwater Management System

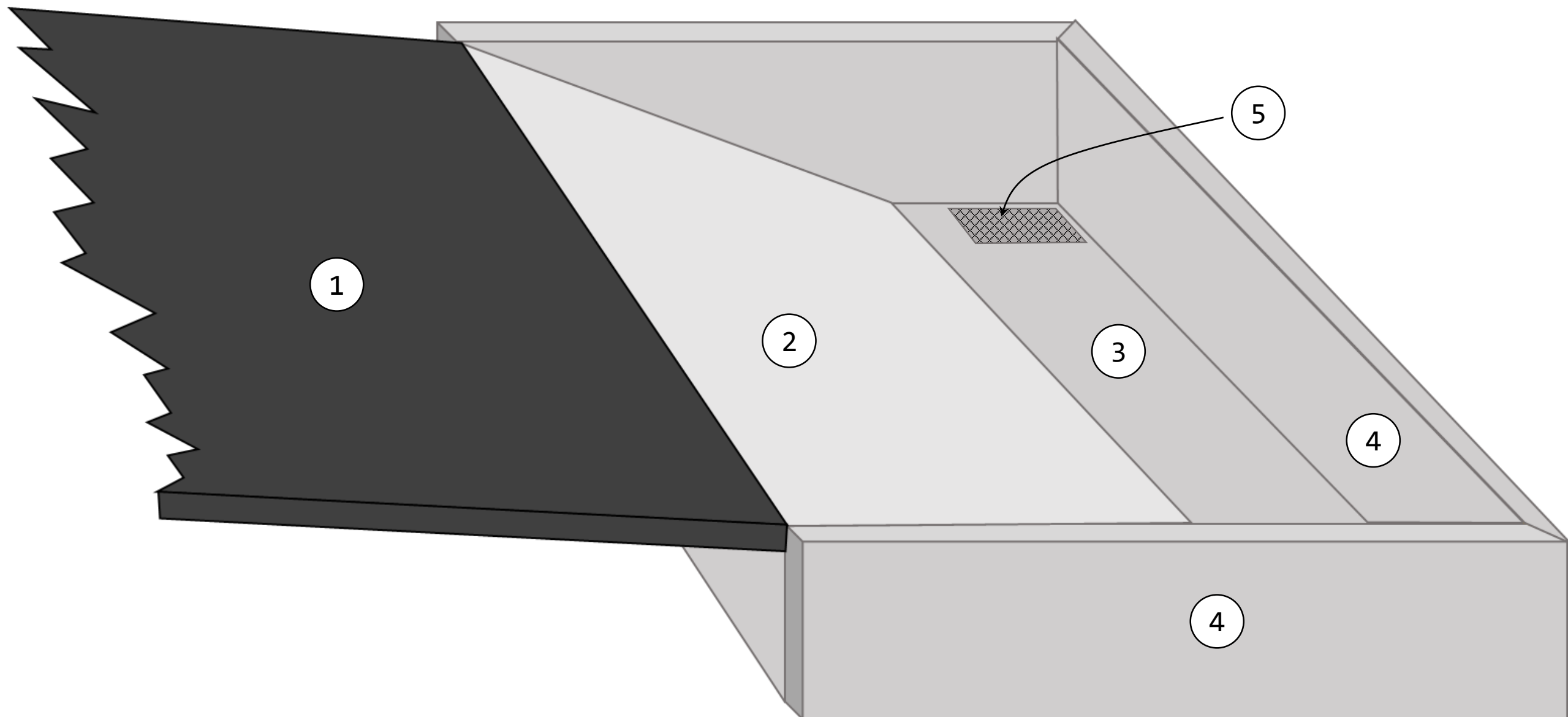
LOT 101 (132) BOOMERANG ROAD, OLDBURY  
 Ordinary Council Meeting - 14 December 2020

SOURCE: Bioscience proposed plan



**LEGENDS:**

1. TRUCK PARKING AREA TO BE MADE OF 100 MM OF PROFILE ON TOP OF EXISTING HARDSTAND. TO BE GRADED AT 1% TOWARDS A CONCRETE SUMP (DETAILED IN POINTS 2 TO 6). STORAGE CAPACITY OF SUMP TO BE 20,000 L ALLOWING FULL CONTAINMENT OF SPILL FROM FUEL TANKS OF ALL TRUCKS
2. CONCRETE RAMP OF THE SUMP TO BE GRADED AT 1 IN 3 TO ALLOW VEHICLE ACCESS DURING CLEANING AND MAINTENANCE
3. RAMP TO BE MADE OF A CONCRETE BASE TO PREVENT LEACHING OF SPILLS TO NATURAL ENVIRONMENT. SURFACE AREA OF THE BASE TO BE 8M X 1M
4. SUMP TO BE 8 M (WIDTH) X 4 M (LENGTH) X 1M (DEPTH) WITH SUMP WALLS TO BE 150 MM THICK
5. STORMWATER GRATED PIT CONNECTED TO SEDIMENTATION TRAP VIA A 100MM DIAMETER PIPE WHICH IN TURN CONNECT TO SOAKWELLS. OUTLET TO BE CLOSED WITH A VALVE (AS SHOWN ON FIGURE 3) WHEN TRUCKS ARE PARKED IN THE DUE DILIGENCE AREA TO FULLY CONTAIN SPILLS, IF ANY. SUMP AND GRATED PIT TO BE THOROUGHLY CLEANED AFTER ANY SPILL INCIDENT. TRUCKS IN DUE DILIGENCE AREA TO BE BROUGHT OFF SITE FOR REPAIRS



NOT TO SCALE



Project: Transport Depot Application  
 Client: Bradway Contracting  
 Date: 31/08/2020  
 Drawn: DA  
 Checked: PK  
 Revision: A

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**FIGURE 2. Spill and Wash Water Containment: Concrete Sump Design**

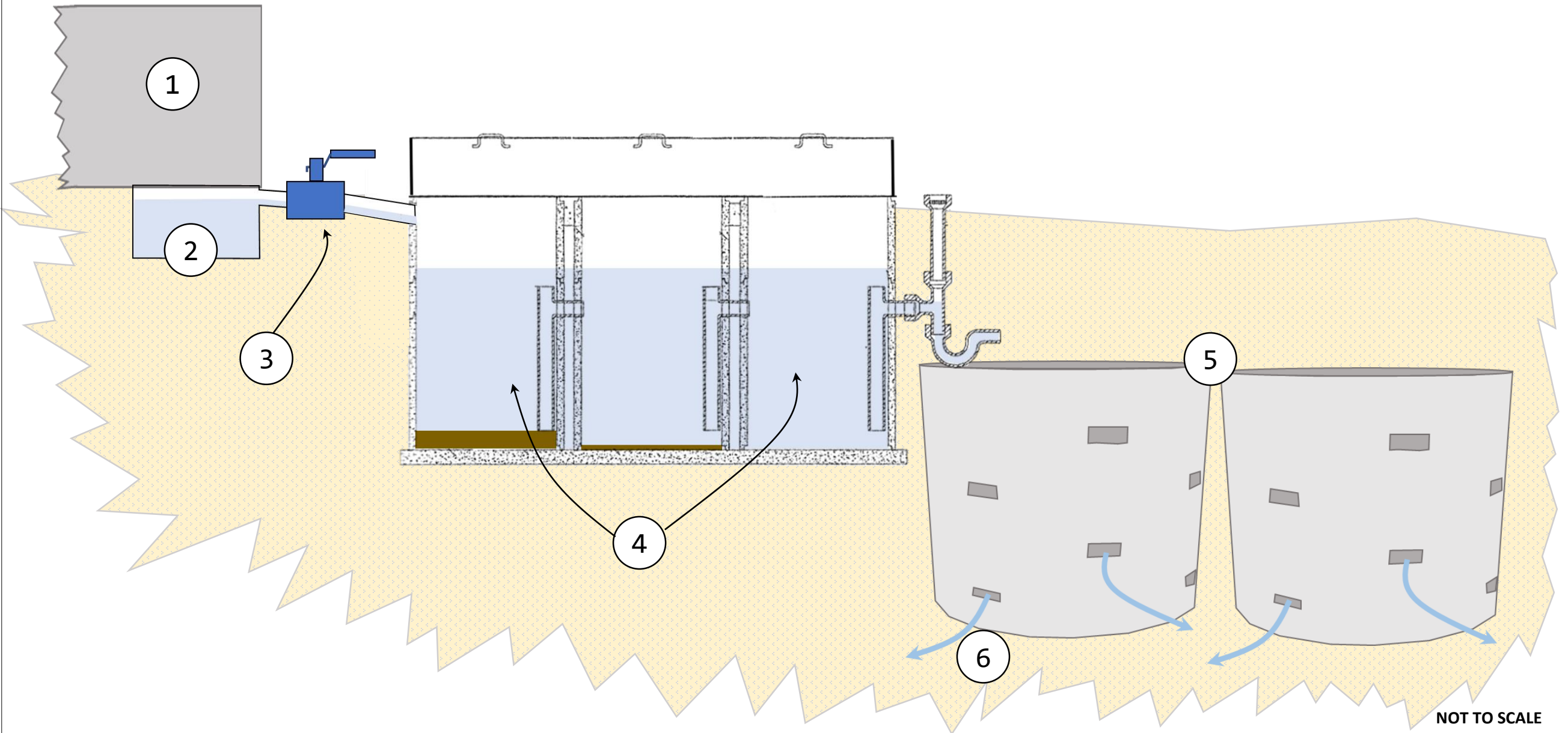
LOT 101 (132) BOOMERANG ROAD, OLDBURY  
 Ordinary Council Meeting - 14 December 2020

SOURCE: Bioscience proposed plan



**LEGENDS:**

- 1. SUMP
- 2. 600 MM COLLECTION PIT WITH OUTFLOW RESTRICTED BY VALVE
- 3. VALVE TO BE CLOSED WHEN TRUCKS ARE PARKED IN DUE DILIGENCE AREA, OTHERWISE OPEN TO ALLOW DISCHARGE OF STORMWATER INTO THE SEDIMENTATION TRAPS
- 4. TRIPLE INTERCEPTOR SEDIMENTATION TRAP (750 L EACH) TO BE INSTALLED TO CAPTURE ANY SOLID OBJECTS
- 5. FIVE 1500 MM (ID) x 1500 MM (H), 2650 L SOAKWELLS TO BE INSTALLED TO ALLOW STORMWATER TO DISCHARGE INTO NATURAL ENVIRONMENT
- 6. DISCHARGE OF STORMWATER



Project: Transport Depot Application  
Client: Bradway Contracting  
Date: 31/08/2020  
Drawn: DA  
Checked: PK  
Revision: A

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**FIGURE 3. Stormwater Discharge System**

LOT 101 (132) BOOMERANG ROAD, OLDBURY  
Ordinary Council Meeting - 14 December 2020

SOURCE: Client's proposed plan



Our Ref: 22031 – 20200702 – TIS – QA: DM

21 July 2020

Shire of Serpentine-Jarrahdale  
6 Paterson Street  
MUNDIJONG WA 6123

Dear Helen Maruta

**TRAFFIC IMPACT STATEMENT FOR TRANSPORT DEPOT, ASSOCIATED SITE OFFICES, SHED AND NURSERY  
LOT 101 (NO. 132) BOOMERANG ROAD, OLDBURY**

**1.0 INTRODUCTION**

This Traffic Impact Statement (TIS) has been prepared by Harley Dykstra on behalf of the landowner to support a Development Application for a Transport Depot, associated site offices, nursery, and an amendment to the approval for a 30m x 15m shed (POO230/03) at Lot 101 (No.132) Boomerang Road, Oldbury (“the subject land”). The subject land will be utilised by BWC Civil, a small Civil and Earthmoving contractor.

The subject land is currently zoned ‘Rural’ under the Shire of Serpentine-Jarrahdale Town Planning Scheme No.2 (TPS 2) and ‘Rural’ under Draft Local Planning Scheme No.3 (LPS 3) with an area of 10 hectares. The site is currently occupied by a dwelling and various rural outbuildings including the 30m x 15m shed on the eastern part of the lot. BWC Civil is currently parking commercial vehicles and machinery on site and utilising two transportable offices for administration purposes. The subject land is located approximately 6km west of Mundijong Town Site and 300m east of King Road. Access to the lot will be by vehicles associated with the proposes uses only (no public transport or pedestrian and cycling infrastructure) via a crossover onto Boomerang Road. An aerial photograph depicting the existing lot boundaries and use of the site has been included at **Figure 1**.

This Traffic Impact Statement assesses the operation of the proposed Transport Depot and Nursery and estimates the increase to traffic volumes that would be generated by the proposed facility. This TIS was prepared in accordance with the Western Australian Planning Commission’s ‘*Transport Assessment Guidelines for Developments*’.

**2.0 PROPOSED DEVELOPMENT**

The proposed Transport Depot comprises the use of a 1.18ha hardstand/parking area and site offices. Operations of the transport depot are such that 1-2 trucks loaded with machinery leave the site per day and return at close of business. Equipment stored on site will strictly be used for business operations only, meaning that machinery movements will be kept to a minimum. The Nursery comprises the use of a 1.2ha area that is generally consistent with the area of the previously approved nursery (1997) on the subject land. The nursery shall function as a wholesale nursery only with no retail component. The existing dwelling, 30m x 15m shed and various rural outbuildings will continue to be used for the landowner’s personal uses and won’t be associated with the operations of BWC Civil. Vehicle movements will be kept to a minimum as the subject land shall continue to function as a rural parcel of land where race horses are trained. An excerpt of the Development Site Plan is included at **Figure 2** (overleaf)

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FIGURE 1 – AERIAL PHOTOGRAPH

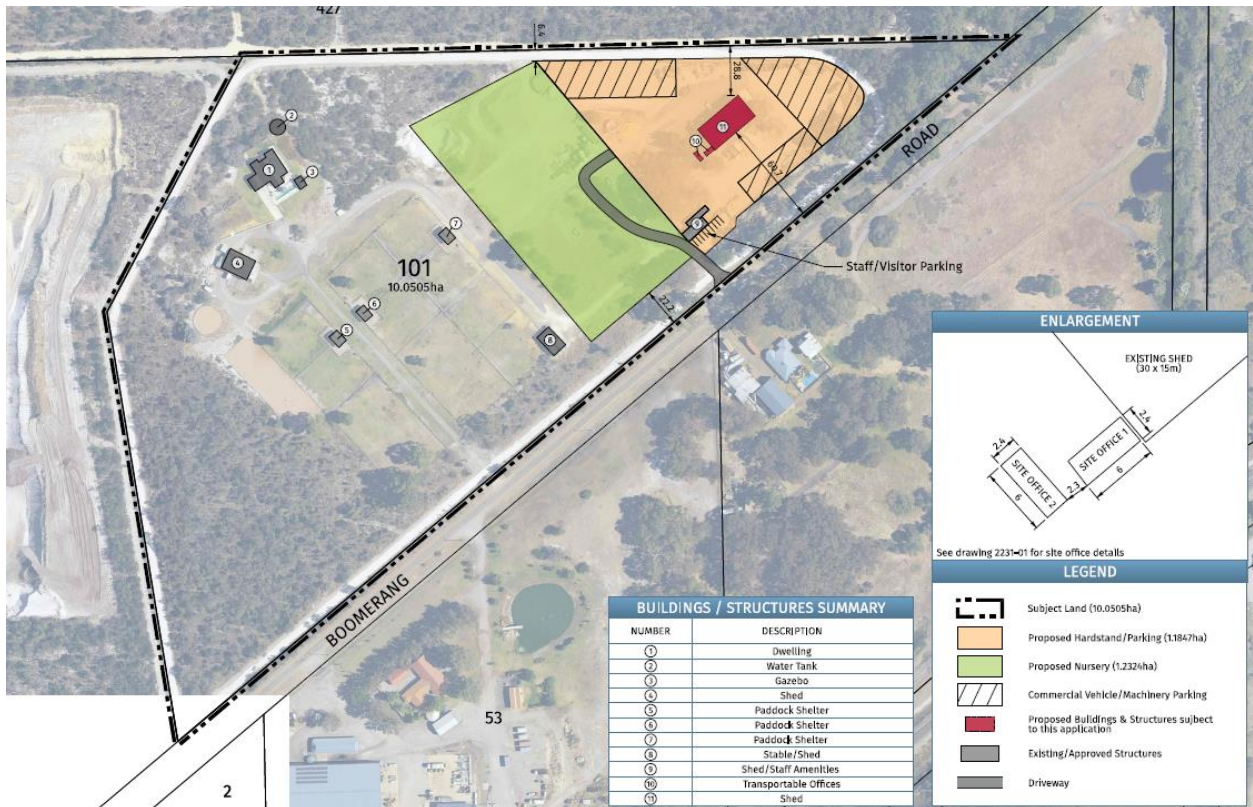


FIGURE 2 – DEVELOPMENT SITE PLAN EXCERPT



### 3.0 HOURS OF OPERATION

The proposed Transport Depot and Nursery shall operate on weekdays (Monday to Friday) between the hours of 7:00am and 5:30pm and on Saturdays between 7:00am and 12pm. It should be noted that Saturday operations will only occur on the odd occasion and won't be a weekly occurrence.

### 4.0 DAILY TRAFFIC VOLUMES AND VEHICLE TYPES

The facility will employ 5 full time staff members and 1 part time horticulturalist. Therefore, the maximum number of staff that will park on the subject land is 6. It should be noted that this will rarely occur seeing as the horticulturalist will be part time, one of the administration persons lives on the subject land, and the majority of employees drive directly to site each where BWC Civic is contracted to undertake works each day.

In addition to personal vehicles of the employees, the following vehicles will be used by BWC Civic (refer to figures 6 – 11 included in the Development Application Report):

- 2 x Single cab utes
- 1 x Light tool truck
- 1 x medium tray top truck
- 2 x 6 wheel trucks
- 1 x prime mover

Overall, the application proposes the following number of vehicle movements:

- 12 employee vehicle movements per day (based on two trips daily in the morning and afternoon);
- 14 licenced work vehicle movements per day (based on two trips daily in the morning and afternoon); and
- 2 additional nursery truck movements per week.

Based on the above, the total number of weekly movements associated with the Transport Depot and Nursery will be 158 movements which equates to a maximum of 28 vehicle movements per day (26 for 4 of the 6 working days). The total number of movements has been calculated based on two movements per vehicle per day. It is unlikely that all commercial (likely to only be 6 movements per day) and employee vehicles will enter and exit the site each day which means that the calculated maximum number of vehicle movements per week represents a very conservative count (i.e. a worst case scenario).

The Western Australian Planning Commission's *Transport Assessment Guidelines for Development (Vol. 4)* states that:

*"Where a traffic increase as a result of a proposed development is less than 10% of the current road capacity, it would not normally have a material impact."*

Boomerang Road is designated as an "Access Road" in accordance with the Main Roads WA Road Hierarchy. Access Roads generally have the capacity to carry a volume of 3,000 vehicles per day (28 trips is 0.93% of the roads capacity). It is therefore considered that this proposal and the associated traffic generated from the Transport Depot and Nursery at peak usage times, would have no material impact on the surrounding road capacity. This is particularly the case given that King Road is designated as a "Regional Distributor Road" and Gossage Road a "Local Distributor Road," and due to the conservative method that weekly traffic generation has been calculated.



## 5.0 VEHICLE ACCESS AND PARKING

As depicted in **Figure 2**, the Transport Depot and Nursery will be accessed via second driveway and crossover when heading north east on Boomerang Road. No amendments to any road infrastructure is required to accommodate continued vehicle access onto Boomerang Road. The internal driveway will provide access to the Nursery and Transport Depot hardstand along with the site offices, shed, and staff/visitor parking.

While Transport Depot and Nursery are not included in Table 5 – *Parking Requirements* of TPS 2, the 8 Employee/Visitor bays are considered sufficient particularly given that it is expected a maximum of only 2 employees (administration staff) will be at the site at any one given time. Realistically, only one employee vehicle would park in the designated parking area given that one of the administration staff members lives on site. While visitor bays are provided, the number of visitors to the subject land will be very low and predominately comprise of service vehicles.

The Transport Depot will also include the parking of the following vehicles and machinery when they are not mobilised to site (refer to Figures 6 – 18 of the Development Application Report):

### Vehicles

- 2 x Single cab utes
- 1 x Light tool truck
- 1 x medium tray top truck
- 2 x 6 wheel trucks
- 1 x prime mover

### Machinery

- 2 x Front End Loader;
- 3 x POSI Track;
- 3 x Excavators;
- 2 x Rollers; and
- 3 x truck trailers.

The Development Site Plan designates an adequate area of the hardstand for the parking of the above list of vehicles and machinery. It should be noted that machinery in particular, will more often than not be mobilised to site. Vehicles and machinery will remain stationary when located on the subject land and will only be used for the business operations of BWC Civil.

## 6.0 PROVISION FOR SERVICE VEHICLES

It is not anticipated that many service vehicles will need to enter the site. However, if required, service vehicles (generally vans) are able to navigate the internal driveway and utilise the parking area. There is adequate space for all necessary vehicles to manoeuvre within the site.

## 7.0 TRAFFIC MANAGEMENT ON STREET FRONTAGE

The subject site has primary frontage to Boomerang Road on its south east boundary. Access to the Transport Depot and Nursery will be provided by the second driveway and crossover when heading north east on Boomerang Road (refer to **Figure 3** below).

When vehicles enter onto Boomerang Road from the site, the sight lines extend more than 50m in each direction. Vehicles will be able to safely enter or exit in either direction on Boomerang Road.





**FIGURE 3 – DRIVEWAY AND CROSSOVER ONTO BOOMERANG ROAD**

## **8.0 SITE SPECIFIC ISSUES**

No site specific issues have been identified.

## **9.0 SAFETY ISSUES**

No safety issues have been identified as a result of this proposal particularly given that the number of traffic movements is low.

## **10.0 CONCLUSION**

The above information represents a comprehensive Traffic Impact Statement that adequately details the traffic characteristics of the subject site and the proposed development, in accordance with the WAPC Transport Assessment Guidelines for Developments publication. It further assesses the impact that this development might generate, concluding that it will have no material impact to the amenity of the locality seeing as vehicle movements are low.

Should the Shire of Serpentine-Jarrahdale require any additional information relating to this proposal, please do not hesitate to contact the undersigned.

Yours sincerely



Benjamin Houweling  
Town Planner  
**Harley Dykstra Pty Ltd**

E-mail: [benh@harleydykstra.com.au](mailto:benh@harleydykstra.com.au)



PRODUCTION CHECKLIST	
CLEAT SIDE WALL ROOF	150 STD CLEAT
CLEAT END WALL	150 STD CLEAT
COLUMNS	200UB22
FOOTING	600Ø x 1200
BASEPLATE	150x16 FL @ 220x220
HOLDING DOWN SPEC	4-M16 THREADED ROD @ 1000
TRUSSES	600 DEEP CWJ
CHORDS	50x2.5 SHS
HALUNCH PLATE	130x16 FL
GUSSETS	75x8 PL
HOLE SIZE	18 (M16)
HOLE NUMBER	4
WEBS	25x1.6 SHS
DOUBLES	0
APEX PLATE	75x16 FL
#	
HOLE SIZE	18 (M16)
HOLE NUMBER	4
MULLIONS	M1 & M2 - 200UB18
MULLION OFFSET	-33
FOOTING	600Ø x 500
BASEPLATE	130x16 FL @ 220
HOLDING DOWN SPEC	2-M16 THREADED ROD @ 500

**WORKSHOP NOTES:**

NOTES HERE

**ERECTOR NOTES:**


NOTES HERE

SITE CHECKLIST			
SUBJECT	CITY	SIZE	COMMENTS
TRUSSES	12		
COLUMNS	12	6000	
MULLIONS	4	6082	
COLD FOOTINGS	12		
MULL FOOTINGS	4		
WALL MD SPAN			
END WALL MD SPAN			
PLYBRACE	24	833	600W/200FLAN
RAKERS	4	7700	
EXTRA MULLIONS			
DOOR/MISC			
SLIDING DOORS	4	6.0Wx5.7H	
RAL DOORS	1	900	
DOOR TRACKS	1/2/1	12150/11875/6400	
SWALLS	1	PALLET	
ROOF CLADDING	0	0000	
REAR WALL CLADDING	0	0000	
FRONT WALL CLADDING	0	0000	
END WALL CLADDING	0	0 SETS OF 0 @ 0000 + 000 INCS	
ABOVE END DOOR CLAD	0	0000	
END WALL CLAD	0	0 SETS OF 0 @ 0000 + 000 INCS	
ABOVE SML DOOR	0	0000	
DOOR CLADDING	0	0000	
ROOF BRACING	12	9000	6MM CABLE
WALL BRACING	8	9500	6MM CABLE
ESTIMATED LIFT WEIGHT	0 KG		NOT INCLUDING END WALLS

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REV	DESCRIPTION	DATE	INT	SCALE	1:200 A3
0	PRELIMINARY	12/05/14	MJK	DATE	12/05/14
1	ENGINEERING	19/05/14	MJK	DRAWN	MJK
				CHECKED	SI

**AUSPAN GROUP**  
 PO BOX 21, GNOVANGERUP WA 6335  
 P: 1300 271 220 F: 1300 271 330  
 sales@auspangroup.com.au



**CLIENT:**  
 WALTON, BRAD  
 PO BOX 384, BYFORD, WA 6122  
 P: 9525 0080 M: 0412 524 952

**PROJECT:**  
 WALTON, BRAD  
 30 (L) x 15 (W) x 0 (H) ENCLOSED WORKSHOP  
 BOOBERANG RD, CLDBURY, WA 6121

**DRAWINGS:**  
 AUSPAN-308-A-002  
 REV 1

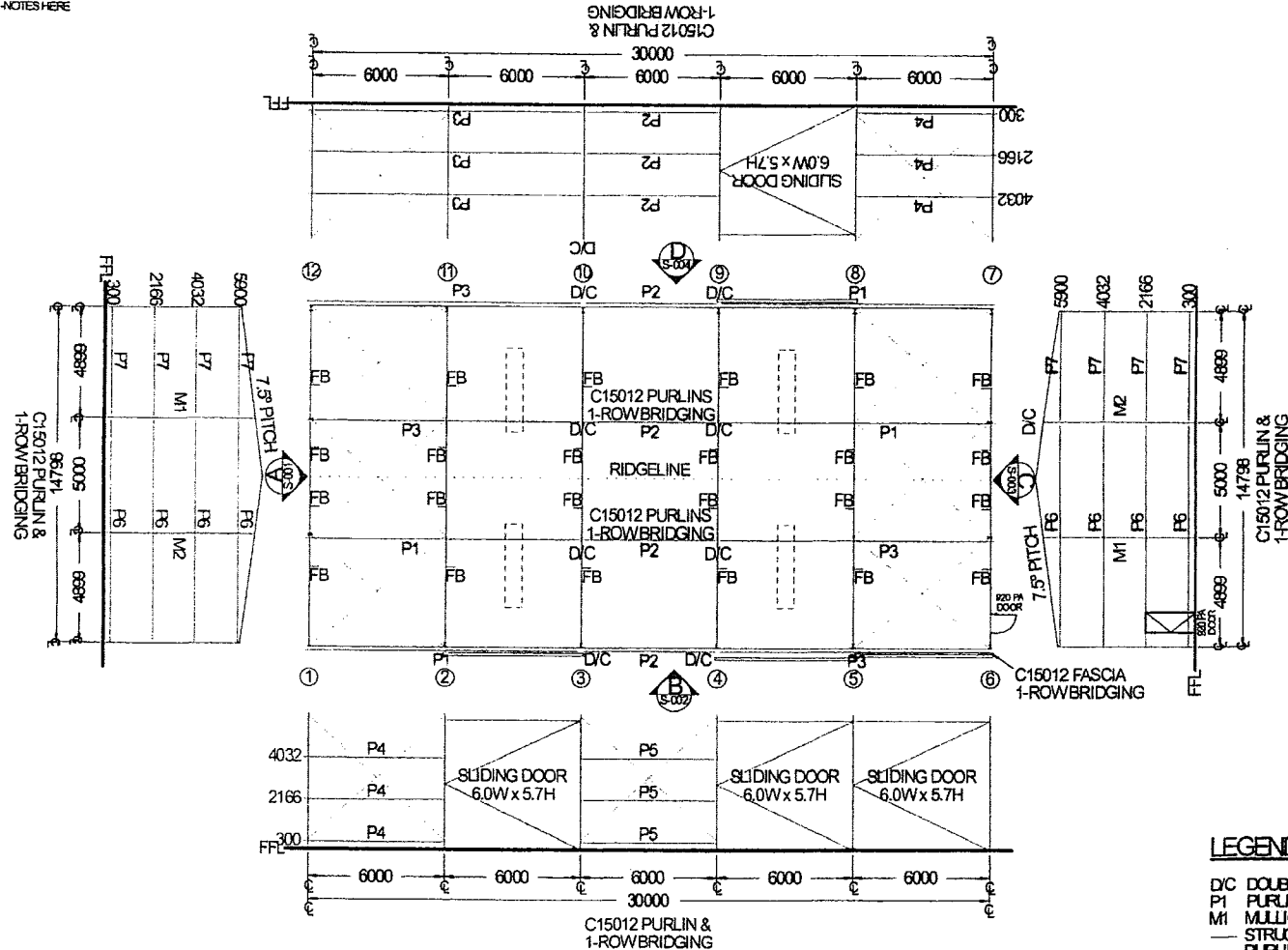
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**DESIGN CRITERIA:**

WIND REGION A  
 TERRAIN CATEGORY 2  
 IMPORTANCE LEVEL 2  
 ULTIMATE WIND SPEED 45m/s  
 SERVICEABILITY WIND SPEED 37m/s

**P. A. TRAINOR**  
 P.Eng, CPEng  
 CHARTERED PROFESSIONAL ENGINEER  
 MEMBERSHIP NO. 1034720

SIGNED:  DATE: 17/5/14

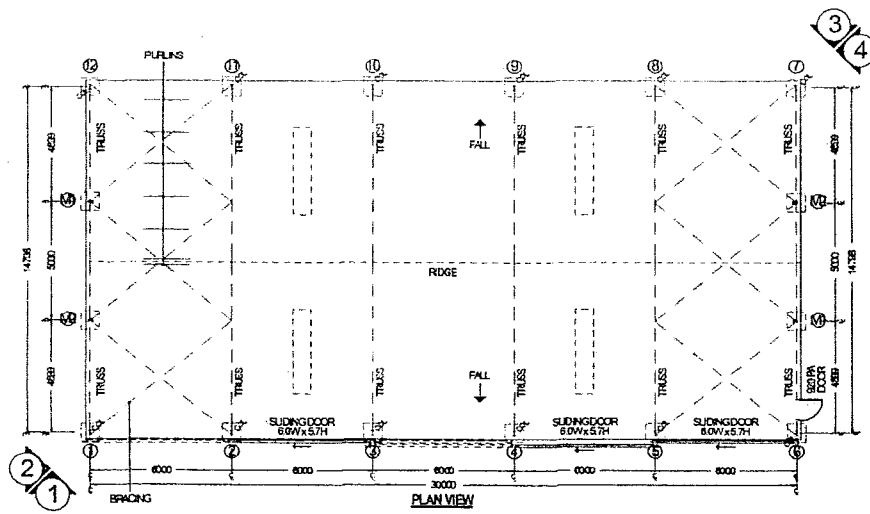
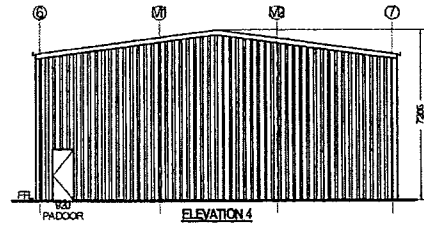
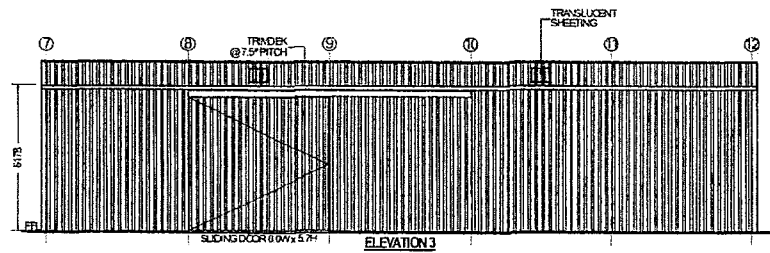
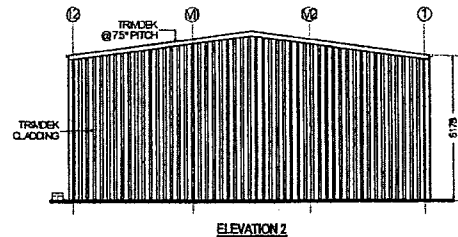
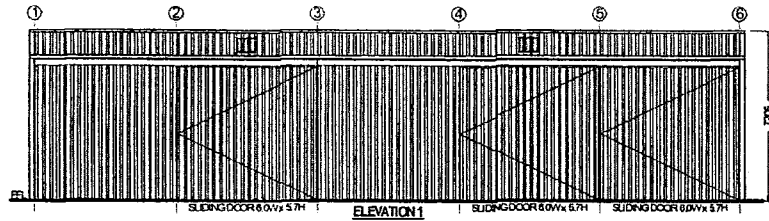


**LEGEND:**

- D/C DOUBLE CLEAT
- P1 PURLIN 1
- M1 MULLION 1
- STRUCTURE
- PURLIN/CHRT
- BRACING
- FUTURE GRTS



P. A. TRAINOR  
 FIEAust, CP Eng  
 CHARTERED PROFESSIONAL ENGINEER  
 MEMBERSHIP NO. 1034720  
 SIGNED: *[Signature]* DATE: *17/12/14*



AREAS:  
 SHED 450m<sup>2</sup>  
 TOTAL: 450m<sup>2</sup>

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REV 0	DESCRIPTION PRELIMINARY	DATE 12/05/14	INT MKK	SCALE 1:200 A3	<b>AUSSPAN GROUP</b> PO BOX 21, GNOVANGERUP WA 6335 P: 1300 271 220 F: 1300 271 330 sales@auspangroup.com.au	CLIENT: <b>WALTON, BRAD</b> PO BOX 364, BYFORD, WA 6122 P: 9525 0080 M: 0412 524 952	PROJECT: <b>WALTON, BRAD</b> 30(L)x15(W)x6.0(H) ENCLOSED WORKSHOP BOOMERANG RD, OLDBURY, WA 6121	DRAWING NO		
REV 1	DESCRIPTION ENGINEERING	DATE 19/05/14	INT MKK	DATE 12/05/14				DRAWN MKK	CHECKED SI	AUSPAN-308-A-001
										REV 1

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