

Enquiries: Kyle Boardman  
Our Ref: A0455 (KB;kb)

10 September 2014

Environmental Protection Authority  
Locked Bag 33  
CLOISTERS SQUARE WA 6850

Dear Sir/Madam

**Proposal Referral – Tims Thicket Transfer Station & Community Recycling Centre**

Please find enclosed a Proponent EPA Referral Form for the proposed Tims Thicket Transfer Station and Community Recycling Centre on Reserve 43301 (180 Tims Thicket Road, Dawesville).

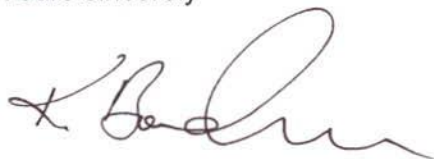
In support of the Referral Form, I have enclosed the draft Works Approval Application document and Design Drawings for the Transfer Station proposal.

The transfer station proposal is a joint initiative between the City of Mandurah and Transpacific Cleanaway.

I have been in contact with the Licensing Branch of the Department of Environment Regulation who have requested that I refer the transfer station proposal to the Environmental Protection Authority for assessment (primarily due to the previous Ministerial Approval for this site).

Should you have any queries in regards to the Referral Form or the Transfer Station proposal, please do not hesitate to contact me on ☎9550 3965.

Yours sincerely



Kyle Boardman  
**Coordinator – Facilities and Waste Management**

enc

|  |   |
|--|---|
| Office of the Environmental Protection Authority |   |
| File: .....                                      |   |
| 12 SEP 2014                                      |   |
| A:   | <input type="checkbox"/> For Information            |
| fa:  | <input type="checkbox"/> For Discussion             |
| Officer:   | <input type="checkbox"/> For Action                 |
| <input type="checkbox"/> Dir.AC                  | Response please:                                    |
| <input type="checkbox"/> Dir. Bus Ops            | <input type="checkbox"/> GM Signature               |
| <input type="checkbox"/> Dir. SPPD               | <input type="checkbox"/> Dir for GM (copy to GM)    |
| <input type="checkbox"/> Dir. Strat Sup          | <input type="checkbox"/> Dir Signature (copy to GM) |
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## Environmental Protection Authority

EPA REFERRAL  
FORM  
PROPONENT

### Referral of a Proposal by the Proponent to the Environmental Protection Authority under Section 38(1) of the *Environmental Protection Act 1986*.

#### PURPOSE OF THIS FORM

Section 38(1) of the *Environmental Protection Act 1986* (EP Act) provides that where a development proposal is likely to have a significant effect on the environment, a proponent may refer the proposal to the Environmental Protection Authority (EPA) for a decision on whether or not it requires assessment under the EP Act. This form sets out the information requirements for the referral of a proposal by a proponent.

Proponents are encouraged to familiarise themselves with the EPA's *General Guide on Referral of Proposals* [see Environmental Impact Assessment/Referral of Proposals and Schemes] before completing this form.

A referral under section 38(1) of the EP Act by a proponent to the EPA must be made on this form. A request to the EPA for a declaration under section 39B (derived proposal) must be made on this form. This form will be treated as a referral provided all information required by Part A has been included and all information requested by Part B has been provided to the extent that it is pertinent to the proposal being referred. Referral documents are to be submitted in two formats – hard copy and electronic copy. The electronic copy of the referral will be provided for public comment for a period of 7 days, prior to the EPA making its decision on whether or not to assess the proposal.

#### CHECKLIST

Before you submit this form, please check that you have:

|  | Yes                                 | No                                  |
|--|-------------------------------------|-------------------------------------|
| Completed all the questions in Part A (essential).   | <input checked="" type="checkbox"/> |                                     |
| Completed all applicable questions in Part B.  | <input checked="" type="checkbox"/> |                                     |
| Included Attachment 1 – location maps.   | <input checked="" type="checkbox"/> |                                     |
| Included Attachment 2 – additional document(s) the proponent wishes to provide (if applicable).  | <input checked="" type="checkbox"/> |                                     |
| Included Attachment 3 – confidential information (if applicable).  |                                     | <input checked="" type="checkbox"/> |
| Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but excluding confidential information. |                                     |                                     |



Following a review of the information presented in this form, please consider the following question (a response is optional).

Do you consider the proposal requires formal environmental impact assessment?

☐ Yes

☒ No

☐ Not sure

If yes, what level of assessment?

☐ Assessment on Proponent Information

☐ Public Environmental Review

**PROPONENT DECLARATION** (to be completed by the proponent)

I, ALLAN JOHN CLAYDON (full name) declare that I am authorised on behalf of CITY OF MANDURAH (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

|                                       |                            |
|---------------------------------------|----------------------------|
| Signature <u>A. Claydon</u>           | Name (print) Allan Claydon |
| Position: Director - Works & Services | Company: City of Mandurah  |
| Date <u>3/9/14</u>                    |                            |

## PART A - PROPONENT AND PROPOSAL INFORMATION

(All fields of Part A must be completed for this document to be treated as a referral)

### 1 PROPONENT AND PROPOSAL INFORMATION

#### 1.1 Proponent

|   |  |
|---|--|
| Name  | City of Mandurah   |
| Joint Venture parties (if applicable)   | Not applicable   |
| Australian Company Number (if applicable)   | Not applicable   |
| Postal Address<br>(where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State) | PO Box 210<br>Mandurah WA 6210   |
| Key proponent contact for the proposal: <ul style="list-style-type: none"><li>• name</li><li>• address</li><li>• phone</li><li>• email</li></ul>  | Kyle Boardman<br>3 Peel Street<br>Mandurah WA 6210<br>(08) 9550 3965<br>Kyle.boardman@mandurah.wa.gov.au |
| Consultant for the proposal (if applicable): <ul style="list-style-type: none"><li>• name</li><li>• address</li><li>• phone</li><li>• email</li></ul>   | Not applicable   |

#### 1.2 Proposal

|  |   |
|--|---|
| Title  | Tims Thicket Transfer Station & Community Recycling Centre  |
| Description  | Construction of a small scale transfer station and recycling centre (residents only) on an existing reserve designated and used as a septage treatment facility, limestone quarry operations and Class 1 inert landfill |
| Extent (area) of proposed ground disturbance.  | Transfer station to be located between existing septage treatment and landfill operations – refer to design drawings  |
| Timeframe in which the activity or development is proposed to occur (including start and finish dates where applicable). | Pending on environmental approvals (Likely timeframe – commence in Dec 2014 and finish in February 2015)  |
| Details of any staging of the proposal.  | No staging required.  |
| Is the proposal a strategic proposal?  | No  |



|   |  |
|---|--|
| Is the proponent requesting a declaration that the proposal is a derived proposal?<br>If so, provide the following information on the strategic assessment within which the referred proposal was identified: <ul style="list-style-type: none"> <li>• title of the strategic assessment; and</li> <li>• Ministerial Statement number.</li> </ul> | No   |
| Please indicate whether, and in what way, the proposal is related to other proposals in the region.   | N/A  |
| Does the proponent own the land on which the proposal is to be established? If not, what other arrangements have been established to access the land?   | Crown Land R 43301 vested with City of Mandurah                                  |
| What is the current land use on the property, and the extent (area in hectares) of the property?  | Septage Treatment facility, Quarry Operations and Class 1 Inert landfill (28 Ha) |

### 1.3 Location

|   |  |
|---|--|
| Name of the Shire in which the proposal is located.   | City of Mandurah   |
| For urban areas: <ul style="list-style-type: none"> <li>• street address;</li> <li>• lot number;</li> <li>• suburb; and</li> <li>• nearest road intersection.</li> </ul>  | Crown Land R 43301<br>180 Tims Thicket Road<br>Dawesville WA 6210<br>Nearest Intersection – Taurus Close |
| For remote localities: <ul style="list-style-type: none"> <li>• nearest town; and</li> <li>• distance and direction from that town to the proposal site.</li> </ul>   | Not applicable   |
| Electronic copy of spatial data - GIS or CAD, geo-referenced and conforming to the following parameters: <ul style="list-style-type: none"> <li>• GIS: polygons representing all activities and named;</li> <li>• CAD: simple closed polygons representing all activities and named;</li> <li>• datum: GDA94;</li> <li>• projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA);</li> <li>• format: Arcview shapefile, Arcinfo coverages, Microstation or AutoCAD.</li> </ul> | Enclosed?: No  |

### 1.4 Confidential Information

|   |     |
|---|-----|
| Does the proponent wish to request the EPA to allow any part of the referral information to be treated as confidential? | No  |
| If yes, is confidential information attached as a separate document in hard copy?                                       | N/A |

### 1.5 Government Approvals

|  |                   |  |  |
|--|-------------------|--|--|
| Is rezoning of any land required before the proposal can be implemented?<br>If yes, please provide details.  |                   | No   |  |
| Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal?<br>If yes, please complete the table below. |                   | Yes – Department of Environment Regulation (Part V EPA Act – Works Approval) |  |
| Agency/Authority   | Approval required | Application lodged<br>Yes / No   | Agency/Local Authority contact(s) for proposal |
| Department of Environmental Regulation   | Yes               | Yes  | Stacey Underwood                               |



## PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

### 2. ENVIRONMENTAL IMPACTS

Describe the impacts of the proposal on the following elements of the environment, by answering the questions contained in Sections 2.1-2.11:

- 2.1 flora and vegetation;
- 2.2 fauna;
- 2.3 rivers, creeks, wetlands and estuaries;
- 2.4 significant areas and/ or land features;
- 2.5 coastal zone areas;
- 2.6 marine areas and biota;
- 2.7 water supply and drainage catchments;
- 2.8 pollution;
- 2.9 greenhouse gas emissions;
- 2.10 contamination; and
- 2.11 social surroundings.

These features should be shown on the site plan, where appropriate.

For all information, please indicate:

- (a) the source of the information; and
- (b) the currency of the information.

**Please refer to attachment 1 - Works Approval Application document.**

#### 2.1 Flora and Vegetation

2.1.1 Do you propose to clear any native flora and vegetation as a part of this proposal?

[A proposal to clear native vegetation may require a clearing permit under Part V of the EP Act (Environmental Protection (Clearing of Native Vegetation) Regulations 2004)]. Please contact the Department of Environment and Conservation (DEC) for more information.

(please tick) ☒ Yes

**If yes, complete the rest of this section.**

☐ No

**If no, go to the next section**

2.1.2 How much vegetation are you proposing to clear (in hectares)?

**Approximately 2,000 m<sup>2</sup> of native vegetation located either side of an internal boundary fence. All significant trees will be retained and incorporated into the design of the transfer station.**

2.1.3 Have you submitted an application to clear native vegetation to the DEC (unless you are exempt from such a requirement)?

☐ Yes

☒ No

**If yes**, on what date and to which office was the application submitted of the DEC?

2.1.4 Are you aware of any recent flora surveys carried out over the area to be disturbed by this proposal?

☐ Yes

☒ No

**If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

**If no**, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

2.1.5 Has a search of DEC records for known occurrences of rare or priority flora or threatened ecological communities been conducted for the site?

☐ Yes

☒ No

If you are proposing to clear native vegetation for any part of your proposal, a search of DEC records of known occurrences of rare or priority flora and threatened ecological communities will be required. Please contact DEC for more information.

2.1.6 Are there any known occurrences of rare or priority flora or threatened ecological communities on the site?

☐ Yes

☒ No

**If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

2.1.7 If located within the Perth Metropolitan Region, is the proposed development within or adjacent to a listed Bush Forever Site? (You will need to contact the Bush Forever Office, at the Department for Planning and Infrastructure)

☐ Yes

☒ No

**If yes**, please indicate which Bush Forever Site is affected (site number and name of site where appropriate).

2.1.8 What is the condition of the vegetation at the site?

**Refer to Attachment 2 – Photograph of vegetation.**



## 2.2 Fauna

2.2.1 Do you expect that any fauna or fauna habitat will be impacted by the proposal?

(please tick)

☐ Yes

**If yes**, complete the rest of this section.

☒ No

**If no**, go to the next section.

**However, a fauna relocation program will be implemented to assess the proposed area to be cleared and any found fauna will be relocated.**

2.2.2 Describe the nature and extent of the expected impact.

2.2.3 Are you aware of any recent fauna surveys carried out over the area to be disturbed by this proposal?

☐ Yes

☒ No

**If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

**If no**, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

2.2.4 Has a search of DEC records for known occurrences of Specially Protected (threatened) fauna been conducted for the site?

☐ Yes

☒ No

(please tick)

2.2.5 Are there any known occurrences of Specially Protected (threatened) fauna on the site?

☐ Yes

☒ No

**If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

## 2.3 Rivers, Creeks, Wetlands and Estuaries

2.3.1 Will the development occur within 200 metres of a river, creek, wetland or estuary?

(please tick)

☐ Yes

**If yes**, complete the rest of this section.

☒ No

**If no**, go to the next section.

2.3.2 Will the development result in the clearing of vegetation within the 200 metre zone?

☐ Yes

☒ No

**If yes**, please describe the extent of the expected impact.

2.3.3 Will the development result in the filling or excavation of a river, creek, wetland or estuary?

☐ Yes

☒ No

**If yes**, please describe the extent of the expected impact.

2.3.4 Will the development result in the impoundment of a river, creek, wetland or estuary?

☐ Yes

☒ No

**If yes**, please describe the extent of the expected impact.

2.3.5 Will the development result in draining to a river, creek, wetland or estuary?

☐ Yes

☒ No

**If yes**, please describe the extent of the expected impact.

2.3.6 Are you aware if the proposal will impact on a river, creek, wetland or estuary (or its buffer) within one of the following categories? (please tick)

|  |                              |  |                                 |
|--|------------------------------|--|---------------------------------|
| Conservation Category Wetland  | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998   | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Perth's Bush Forever site  | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Environmental Protection (Swan & Canning Rivers) Policy 1998   | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> Unsure |
| The management area as defined in s4(1) of the Swan River Trust Act 1988   | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> Unsure |
| Which is subject to an international agreement, because of the importance of the wetland for waterbirds and waterbird habitats (e.g. Ramsar, JAMBA, CAMBA) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> Unsure |



## 2.4 Significant Areas and/ or Land Features

2.4.1 Is the proposed development located within or adjacent to an existing or proposed National Park or Nature Reserve?

☒ Yes

☐ No

If yes, please provide details.

**Yalgorup National Park is located immediately south of Reserve 43301 – south side of Tims Thicket Road.**

2.4.2 Are you aware of any Environmentally Sensitive Areas (as declared by the Minister under section 51B of the EP Act) that will be impacted by the proposed development?

☐ Yes

☒ No

If yes, please provide details.

2.4.3 Are you aware of any significant natural land features (e.g. caves, ranges etc) that will be impacted by the proposed development?

☐ Yes

☒ No

If yes, please provide details.

## 2.5 Coastal Zone Areas (Coastal Dunes and Beaches)

2.5.1 Will the development occur within 300metres of a coastal area?

(please tick)

☐ Yes

**If yes**, complete the rest of this section.

☒ No

**If no**, go to the next section.

2.5.2 What is the expected setback of the development from the high tide level and from the primary dune?

**N/A**

2.5.3 Will the development impact on coastal areas with significant landforms including beach ridge plain, cusped headland, coastal dunes or karst?

☐ Yes

☐ No

**If yes**, please describe the extent of the expected impact.

2.5.4 Is the development likely to impact on mangroves?

☐ Yes

☐ No

**If yes**, please describe the extent of the expected impact.

## 2.6 Marine Areas and Biota

2.6.1 Is the development likely to impact on an area of sensitive benthic communities, such as seagrasses, coral reefs or mangroves?

☐ Yes

☒ No

**If yes**, please describe the extent of the expected impact.

2.6.2 Is the development likely to impact on marine conservation reserves or areas recommended for reservation (as described in *A Representative Marine Reserve System for Western Australia*, CALM, 1994)?

☐ Yes

☒ No

**If yes**, please describe the extent of the expected impact.

2.6.3 Is the development likely to impact on marine areas used extensively for recreation or for commercial fishing activities?

☐ Yes

☒ No

**If yes**, please describe the extent of the expected impact, and provide any written advice from relevant agencies (e.g. Fisheries WA).



## 2.7 Water Supply and Drainage Catchments

2.7.1 Are you in a proclaimed or proposed groundwater or surface water protection area?

(You may need to contact the Department of Water (DoW) for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

☐ Yes ☒ No **If yes**, please describe what category of area.

2.7.2 Are you in an existing or proposed Underground Water Supply and Pollution Control area?

(You may need to contact the DoW for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

☐ Yes ☒ No **If yes**, please describe what category of area.

2.7.3 Are you in a Public Drinking Water Supply Area (PDWSA)?

(You may need to contact the DoW for more information or refer to the DoW website. A proposal to clear vegetation within a PDWSA requires approval from DoW.)

☐ Yes ☒ No **If yes**, please describe what category of area.

2.7.4 Is there sufficient water available for the proposal?

(Please consult with the DoW as to whether approvals are required to source water as you propose. Where necessary, please provide a letter of intent from the DoW)

☒ Yes ☐ No (please tick)

2.7.5 Will the proposal require drainage of the land?

☐ Yes ☒ No **If yes**, how is the site to be drained and will the drainage be connected to an existing Local Authority or Water Corporation drainage system? Please provide details.

2.7.6 Is there a water requirement for the construction and/ or operation of this proposal?

(please tick) ☒ Yes **If yes**, complete the rest of this section.

☐ No **If no**, go to the next section.

2.7.7 What is the water requirement for the construction and operation of this proposal, in kilolitres per year?

**Very minimal. Water is required for construction of concrete retaining walls, road construction and hardstand construction. Water tankers will be used for this purpose.**

2.7.8 What is the proposed source of water for the proposal? (e.g. dam, bore, surface water etc.)

**Water tankers for civil construction of transfer station.**



## 2.8 Pollution

- 2.8.1 Is there likely to be any discharge of pollutants from this development, such as noise, vibration, gaseous emissions, dust, liquid effluent, solid waste or other pollutants?

(please tick)

☒ Yes

If yes, complete the rest of this section.

☐ No

If no, go to the next section.

### Refer to Attachment 1 – Works Approval Application document

- 2.8.2 Is the proposal a prescribed premise, under the Environmental Protection Regulations 1987?

(Refer to the EPA's *General Guide for Referral of Proposals to the EPA under section 38(1) of the EP Act 1986* for more information)

☒ Yes

☐ No

If yes, please describe what category of prescribed premise.

**Category 62 – Waste Depot**

- 2.8.3 Will the proposal result in gaseous emissions to air?

☐ Yes

☒ No

If yes, please briefly describe.

- 2.8.4 Have you done any modelling or analysis to demonstrate that air quality standards will be met, including consideration of cumulative impacts from other emission sources?

☐ Yes

☒ No

If yes, please briefly describe.

- 2.8.5 Will the proposal result in liquid effluent discharge?

☒ Yes

☐ No

If yes, please briefly describe the nature, concentrations and receiving environment.

**The transfer station design contains three large infiltrative basins that have sufficient capacity to withstand a 1 in 100 year flood. Please refer to attachment 3 - transfer station design drawings.**

- 2.8.6 If there is likely to be discharges to a watercourse or marine environment, has any analysis been done to demonstrate that the State Water Quality Management Strategy or other appropriate standards will be able to be met?

☐ Yes

☒ No

If yes, please describe.

2.8.7 Will the proposal produce or result in solid wastes?

☒ Yes

☐ No

If yes, please briefly describe the nature, concentrations and disposal location/ method.

**Transfer Station will accept general waste, green waste, inert waste, metals and a range of recyclable materials. All materials will be contained within bins and transported off site for processing or land filling. As there is a Class 1 Inert Landfill onsite, complying inert waste will be disposed of into this landfill.**

2.8.8 Will the proposal result in significant off-site noise emissions?

☐ Yes

☒ No

If yes, please briefly describe.

2.8.9 Will the development be subject to the Environmental Protection (Noise) Regulations 1997?

☒ Yes

☐ No

If yes, has any analysis been carried out to demonstrate that the proposal will comply with the Regulations?

Please attach the analysis.

**No analysis has been undertaken as the nearest noise sensitive premises is located 1.2 km to the north.**

2.8.10 Does the proposal have the potential to generate off-site, air quality impacts, dust, odour or another pollutant that may affect the amenity of residents and other "sensitive premises" such as schools and hospitals (proposals in this category may include intensive agriculture, aquaculture, marinas, mines and quarries etc.)?

☐ Yes

☒ No

If yes, please describe and provide the distance to residences and other "sensitive premises".

2.8.11 If the proposal has a residential component or involves "sensitive premises", is it located near a land use that may discharge a pollutant?

☐ Yes

☐ No

☒ Not Applicable

If yes, please describe and provide the distance to the potential pollution source



## 2.9 Greenhouse Gas Emissions

2.9.1 Is this proposal likely to result in substantial greenhouse gas emissions (greater than 100 000 tonnes per annum of carbon dioxide equivalent emissions)?

☐ Yes

☒ No

If yes, please provide an estimate of the annual gross emissions in absolute and in carbon dioxide equivalent figures.

2.9.2 Further, if yes, please describe proposed measures to minimise emissions, and any sink enhancement actions proposed to offset emissions.

## 2.10 Contamination

2.10.1 Has the property on which the proposal is to be located been used in the past for activities which may have caused soil or groundwater contamination?

☐ Yes

☐ No

☒ Unsure

If yes, please describe.

2.10.2 Has any assessment been done for soil or groundwater contamination on the site?

☐ Yes

☐ No

If yes, please describe.

**The existing property contains a septage treatment facility and Class 1 inert landfill. Groundwater monitoring is required under the DER Licence for these facilities.**

2.10.3 Has the site been registered as a contaminated site under the *Contaminated Sites Act 2003*? (on finalisation of the CS Regulations and proclamation of the CS Act)

☐ Yes

☒ No

If yes, please describe.

## 2.11 Social Surroundings

2.11.1 Is the proposal on a property which contains or is near a site of Aboriginal ethnographic or archaeological significance that may be disturbed?

☐ Yes

☒ No

☐ Unsure

If yes, please describe.

2.11.2 Is the proposal on a property which contains or is near a site of high public interest (e.g. a major recreation area or natural scenic feature)?

☐ Yes

☒ No

If yes, please describe.

2.11.3 Will the proposal result in or require substantial transport of goods, which may affect the amenity of the local area?

☐ Yes

☒ No

**If yes**, please describe.



### 3. PROPOSED MANAGEMENT

#### 3.1 Principles of Environmental Protection

3.1.1 Have you considered how your project gives attention to the following Principles, as set out in section 4A of the EP Act? (For information on the Principles of Environmental Protection, please see EPA Position Statement No. 7, available on the EPA website)

- |  |   |  |
|--|---|--|
| 1. The precautionary principle.  | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| 2. The principle of intergenerational equity.  | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| 3. The principle of the conservation of biological diversity and ecological integrity. | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| 4. Principles relating to improved valuation, pricing and incentive mechanisms.        | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| 5. The principle of waste minimisation.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |

3.1.2 Is the proposal consistent with the EPA's Environmental Protection Bulletins/Position Statements and Environmental Assessment Guidelines/Guidance Statements (available on the EPA website)?

☒ Yes      ☐ No

#### 3.2 Consultation

3.2.1 Has public consultation taken place (such as with other government agencies, community groups or neighbours), or is it intended that consultation shall take place?

☒ Yes      ☐ No      If yes, please list those consulted and attach comments or summarise response on a separate sheet.

**Department of Environment Regulation – Works Approval Application Process**

**ATTACHMENT 1**

**TIMS THICKET TRANSFER STATION**

**WORKS APPROVAL APPLICATION**





## **Tim's Thicket Waste Facility**

## **Works Approval Application**

## **Transfer Station**

**September 2014**



Transpacific Industries | Recover Recycle Reuse

## **Executive Summary**

Transpacific Cleanaway Pty Ltd (Mandurah Operations) in conjunction with the City of Mandurah propose to construct a Waste Transfer Station and Community Recycling Centre at the existing Tim's Thicket Septage and Inert Waste Disposal Facility ("Tims Thicket facility") located approximately 25 km south of Mandurah.

The existing Tims Thicket facility includes the treatment of septage waste through anaerobic, facultative and oxidation pond processes and the operation of a limestone quarry and Class 1 inert landfill.

The proposed transfer station will be located within the existing footprint of the Tims Thicket facility - between the existing septage facility and inert landfill operations. The transfer station will utilise the existing gatehouse that serves both commercial customers for the septage facility and inert landfill.

The transfer station has been designed for residents only and will accept the following waste streams:

- General waste
- Green waste
- Recyclable metals (including whitegoods)
- C&D waste
- Tyres
- Batteries (both car and household)
- Dry recyclables (including cardboard)
- Compact fluorescent globes
- Mattresses
- E-waste
- Waste oil – in a complying self contained storage container
- Household hazardous waste – to be located in a complying storage shed
- Gas bottles and
- Asbestos (operational use only).

The transfer station will not accept waste from commercial customers or waste from the City's refuse collection service.

The transfer station layout enables a "drive-through" system where users drive through the resource recovery area (for the disposal of reusable/recyclable products) prior to entering the multi tiered drop off area (for the disposal of general waste and scrap metal). The bins are located under easy observation of site staff to minimise the incorrect placement of waste/recyclables and maximise diversion of waste from landfill.

The unloading bays of the multi tiered drop off area will be roofed to minimise rainwater interaction with the bin loading area. A recyclable storage shed will be provided to house those recyclables that require protection from weather like, CFLs, car batteries, household batteries, dry recyclables, etc. All recycling areas that contain bins or receptacles will be housed on a sealed impervious concrete hardstand with stormwater runoff from these areas directed to swales (infiltrative basins) that have been designed to reflect water sensitive urban design principles.

The transfer station has been designed to maximise the potential for waste diversion and minimise environmental impacts, such as those from stormwater, odour and noise. Its installation and operation is intended to meet the requirements of the 2012 WA Waste Strategy approved by the WA State Government, Strategic Objectives 1, 3 & 4.

Construction is expected to commence in late-2014 and be completed by early-2015. Construction will only occur during daylight hours, 5-days per week.



The transfer station and recycling area is anticipated to receive up to 7,500 tpa initially, but it is expected to increase to approximately 15 000 tpa within 10-years (design capacity). The transfer station will be open 7 days per week during daylight hours. The current septage facility and inert landfill are open 5 ½ days per week and there is no plans to amend those operating hours. The nearest resident premises is located approximately 1.2 km to the east and 1.4 km to the north.

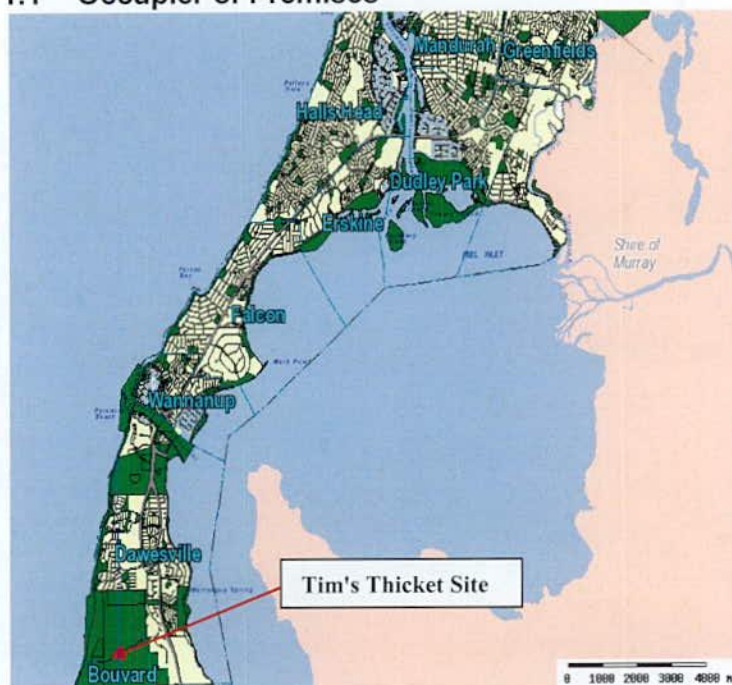
Operation of the transfer station and recycling area will involve additional personnel to monitor waste entering the site and ensure placement into the correct receptacles. A site hut will be located adjacent to the multi tiered drop off area. A waste oil recycling station and a household hazardous waste storage facility will also be provided and serviced on an as required basis (estimated to be monthly) by Wren Oil and ToxFree respectively.

40 m<sup>3</sup> hook lift bins will be provided to the multi tiered drop off area (2 for general waste and one for recyclable metal) and these bins will be removed by a RORO (roll-on roll-off) trucks on an as required basis. Initially it is estimated that the bins will be removed daily, increasing to 4 times per day, and the scrap metal bin will be removed twice weekly, increasing to daily. All other recycling bins will be removed on an as needed basis. Green waste will be stockpiled on a compacted limestone hardstand and mulched using a horizontal grinder on an as required basis, with the mulched green waste being either used by the City of Mandurah or transported to organic recyclers, like C-wise for further processing. C&D waste will be stockpiled on a compacted limestone hardstand and transported to the inert landfill weekly, where it will be sorted to remove any contaminants and all non-recyclable inert waste will be disposed of into the existing inert tip face.



## Section 1: Premises Details

### 1.1 Occupier of Premises



Transpacific Cleanaway Pty Ltd (TCL) (ABN 79 000 164 938) operates the Tim's Thicket Septage and Inert Landfill facility on behalf of the City of Mandurah. The address for TCL is 101 Park Road, Mandurah WA 6210 and the postal address is PO Box 1102, Mandurah WA 6210.

### 1.2 Name, Address and Location Details of Premises

The Tim's Thicket Septage and Inert Disposal Facility is located in the south west corner of Crown Reserve 43301, Murray Location 1944 on Plan 19198, Tim's Thicket Road DAWSVILLE WA 6210 and shown in Figure 1.

The premises is located 25 km south, south west of Mandurah CBD and

approximately 2 km south of Dawesville, within the City of Mandurah. The site is bounded by the Yalgorup National Park to the south and Crown Reserves to the north, east and west, including a future Water Corporation wastewater treatment plant site.

### 1.3 Prescribed Premises Categories

| Category No: | Category Name:              | Description                   | Design Capacity      | Nominated Rate        |
|--------------|-----------------------------|-------------------------------|----------------------|-----------------------|
| 63           | Class I Inert landfill Site | Inert landfill disposal       | N/A                  | 50 000 m <sup>3</sup> |
| 61           | Liquid Waste Facility       | Septage disposal ponds        | 6,500 m <sup>3</sup> | 5,000 m <sup>3</sup>  |
| 62           | <b>Waste Depot</b>          | <b>Waste transfer station</b> | <b>15 000 tpa</b>    | <b>7,500 tpa</b>      |

## Section 2: Other Approvals

### 2.1 Part IV Environmental Protection Act 1986, Environmental Impact Assessment

The establishment of the landfill and septage disposal facility was formally assessed by the EPA as part of a re-alignment of the National Park boundary in March 1994. The document was prepared by CALM, Water Corporation & the City of Mandurah and related to the *Proposed change to Yalgorup National Park boundary, extension to wastewater treatment site, septage disposal facility and quarry proposal, Tim's Thicket, City of Mandurah* (Bulletin 751, August 1994). Approval of the realignment and the landfill/septage facility was received on 30<sup>th</sup> of May 1995.

The Ministerial conditions, pertaining to the septage disposal site, relate primarily to the operation of the septage facility and include a requirement for the City of Mandurah to maintain a 500-metre buffer around the facility to prevent urban encroachment (for odour and noise protection for residents). The proposed transfer station is located approximately 1.2 km to the east and 1.4 km to the north to the nearest residential premises.



## 2.2 Part V Environmental Protection Act 1986

A works approval was issued in 1995 for the establishment of a septage facility (Category 61) and a Class 1 (inert) landfill site (Category 63) and a licence to operate the facility was issued in 1995. The works approval and initial licences were issued to the City of Mandurah (landowner). In 2000, Transpacific Cleanaway (TCL) was awarded a 15 year contract with the City of Mandurah for the provision of all waste services, including the operation of the Tims Thicket Septage and Inert Waste Disposal Facility, and accordingly the licence for this facility was transferred to TCL where it was required to maintain the licence (L6860/1995).

## 2.3 Other Decision Making Authorities

No specific planning or other approvals are required for this operation because the proponent is also the vested Authority. The construction of the transfer station is considered a 'public work', and pursuant to section 6(1) of the *Planning and Development Act 2005*, the City is not required to obtain development approval under the Peel Region Scheme or the City's Town Planning Scheme 3 (TPS 3) to 'undertake, construct or provide' a public work.

In addition, the use of Reserve 43301 as a transfer station and recycling centre is consistent with the reservation and is therefore exempt from the need to obtain approval under TPS 3, pursuant to clause 7.1.2(a).

## 2.4 Other Legislation and Guidance Material

The primary legislation applicable to this project is the *Environmental Protection Act 1986*, the *Environmental Protection Regulations* and specific *Environmental Protection Regulations relating to Noise and Unauthorised Discharge*.

The primary guidance document used has been SA EPA's Information Sheet 845/10 *Undercover storage requirements for waste/recycling depots* due to the lack of any specific guidance documents in WA. However, TCL has considered the best practise guidance for planning and construction outlined in the Victorian EPA *Best Practise Environmental Management Siting, Design, Operation & Rehabilitation of Landfills Publication 788.1 September 2010* and applied relevant principles to ensure that environmental impacts are negated or minimised.

# Section 3: Description of Environment

## Existing Environment

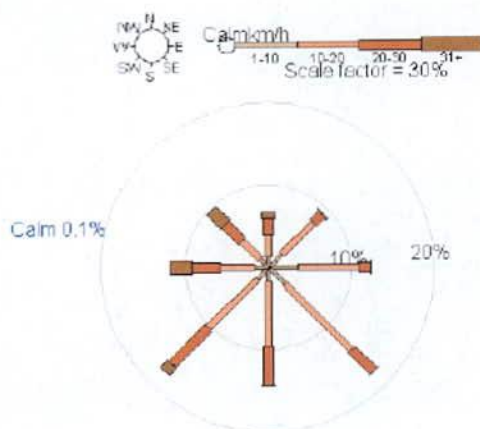
### Overview

The limestone quarry, landfill site and septage facilities are located in the southwest corner of Reserve 43301 (Attachments 1 & 2) and takes up ~ 28 Ha of the 129 Ha Reserve. The reserve boundary abuts the Dawesville urban area to the east and north. The edge of the prescribed premises (Attachment 2) is located so as to meet the EPA Ministerial Conditions. To the west of the prescribed boundary is Reserve 38349 vested with the Water Corporation for a future sewage treatment facility. The rest of the western area is covered by Reserve 24198 also vested with the City of Mandurah. To the south is (on the other side of Tim's Thicket Road) is the Yalgorup National Park.

### Climate

Mandurah has a "Mediterranean" type climate with long hot summers (December to April) and mild wet winters (June – September). Average rainfall is ~ 900-millimetres per year with ~ 70% of the rain falling during the winter months. Evaporation is around 2 000 millimetres per year with evaporation exceeding rainfall in all but the four winter months. Rainfall of up to 50 millimetres in a 24-hour period is recorded about once a year.





Winds are predominantly from the southerly sectors during the spring and summer with a strong south-easterly component during the autumn.

Winter fronts typically are from the north-west before turning to the west and south-west. Locally, winds tend to be from the east during the morning with south-westerly afternoon sea breezes. The wind summary is shown as Figure 2.

**Figure 3: Wind Summary**

### **Geology and Geomorphology**

The site is located on the Swan Coastal plain. The geology of the site is of sedimentary rocks deposited during the Quaternary period. Typically the rocks are unconsolidated or partly lithified and formed during erosional and depositional events related to higher and lower sea levels during the Pleistocene and Holocene periods. These rocks consist mainly of sands, limestone, silts clays and gravels of marine, estuarine and Aeolian origin.

### **Hydrology and Hydrogeology**

The closest water body to the site, other than the Peel-Harvey estuarine system, is Lake Clifton approximately 7 km south of Tim's Thicket Road. There are no permanent water courses in the area.

The superficial formations are hydraulically connected to form an unconfined aquifer which, at Tim's Thicket, is dominated by two flow systems, the Harvey Estuary and Ocean Systems. The boundary between the flow systems is a groundwater divide running approximately north-south and lying equidistant between the Harvey Estuary and the ocean (Commander, 1984).

Hydraulic gradients are very low with the difference in highest and lowest water levels ranging typically from 0.5 metres AHD at the end of winter to less than 0.1 metres AHD in summer. Groundwater flow typically is in a westerly direction towards the ocean. Throughout the flow system there is a layer of fresh-brackish water overlying brackish-saline water. The thickness of the fresh-brackish layer ranges from about 10-metres in the centre of the peninsula to 2 meters close to the estuary and 7 metres near the ocean.

### **Vegetation and Flora**

The vegetation units in the region vary from relatively simple to more complex units. Low species richness was associated with areas close to the coast while high species richness was associated with heath on limestone and tuart and jarrah forest over candle Banksia.

Tim's Thicket is within the Yoongarillup Complex and consists of mainly Low Open Heath to Closed Heath dominated by *Banksia*, *Grevillea* and *Melaleuca* species on limestone. Towards the southeast *Xanthorrhoea* and *Hakea* Shrubland to Open Heath occurs. Some *Eucalyptus* Low Closed Forest and *Dryandra* Open Heath to Closed Heath occur towards the north of the site (HGM, CER 1994).

Dieback is not apparent at the Tim's Thicket site and the risk is considered low because water logging of soils does not occur.



There are no known rare flora found within Reserve 43301. A Priority 2 (*Hakea undulate*), 3 (*Hibbertia spicata ssp leptotheca*) and 4 (*Conostylis pauciflora*) are known within Reserve 43301. All species are well represented in the Yalgorup National Park and surrounding Reserves. The proposed Transfer Station construction and operation will not impact on any of these species.

### Sensitive Receptors

The proposed waste transfer station is located approximately 1.2 km to the east and 1.4 km to the north to the nearest residential premises.

The superficial aquifer is approximately 3 – 4 metres below the site's existing ground surface. Water quality is generally of good quality. Groundwater flow is westward towards the ocean.

The Yalgorup National Park is approximately 70 metres to the south, with Tim's Thicket Road forming the northern boundary of the National Park. Access to the site is via Tim's Thicket Road then onto the site's access road. All roads are sealed. No archaeological, mythological, sacred, ritual or ceremonial sites have been found at this site.

## Section 4: Proposal Description

### 4.1 Outline of Proposed Construction Activity

TCL in conjunction with the City of Mandurah proposes to construct a waste transfer station and community recycling centre within the existing footprint of the Tims Thicket Septage and Inert Waste Disposal facility. The location of the transfer station in reference to the existing septage ponds is detailed in **Figure 3**. The transfer station will utilise the existing sealed entry access point off Tims Thicket Road and the existing gatehouse infrastructure (currently used by the septage treatment and inert landfill operations).

The transfer station has been designed for residents only and will accept the following waste streams:

- General waste
- Green waste
- Recyclable metals (including whitegoods)
- C&D waste
- Tyres
- Batteries (both car and household)
- Dry recyclables (including cardboard)
- Compact fluorescent globes
- Mattresses
- E-waste
- Waste oil – in a complying self contained storage container
- Household hazardous waste – to be located in a complying storage shed
- Gas bottles and
- Asbestos (operational use only).



**Figure 3: Transfer Station Location**



The transfer station will not accept waste from commercial customers or waste from the City's refuse collection service and any waste that sits outside of the above waste streams will be refused entry to the site.

A household hazardous waste storage shed is considered to be integral to the operation of the transfer station as it will provide residents with the ability to correctly dispose of hazardous products. The waste storage shed will be constructed in accordance with the *DER Guidelines for the Design and Operation of Facilities for the Acceptance and Storage of Household Hazardous Waste* and will be similar in design (smaller scale) to the existing storage shed at the Mandurah Waste Management Centre (7200/1997/9). Acceptance procedures for household hazardous waste will mirror those currently in operation at the Mandurah Waste Management Centre.

A 5,000 litre self contained waste oil collection facility (similar in design to the existing facility at Mandurah Waste Management Centre site) will be located on an impervious concrete hardstand area

The transfer station layout enables a "drive-through" system where users drive through the resource recovery area (for the disposal of reusable/recyclable products) prior to entering the multi tiered drop off area (for the disposal of general waste and scrap metal). The facility will have a range of bins (hook lift bulk bins, front lift bins, lift on bins, pallets, etc) for wastes and recyclables under easy observation of site staff to minimise the incorrect placement of waste/recyclables and maximise diversion of waste from landfill.

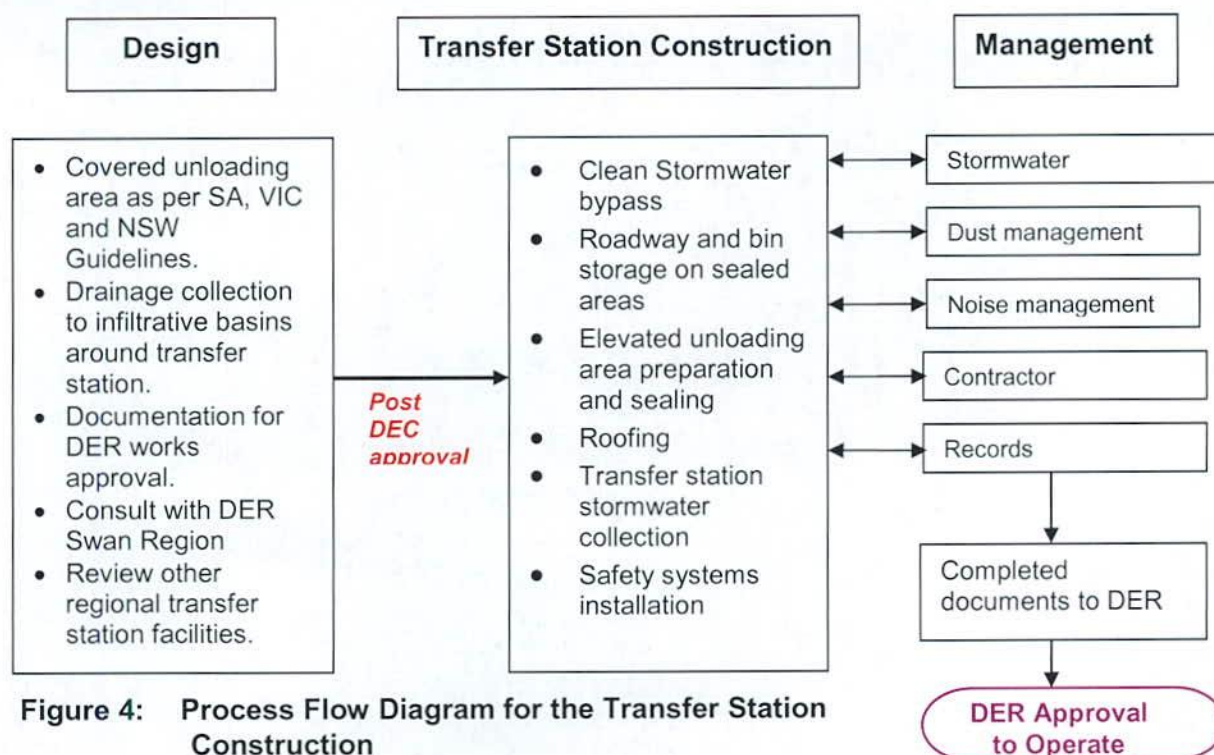
The transfer station will consist of the following areas: multi tiered drop off area, recycling drop off area, recycling storage shed (for those recyclables that require protection from weather like, CFLs, car batteries, household batteries, dry recyclables, etc), green waste storage and processing and C&D stockpile area. The roadways are designed to have primary separation between residential vehicles and trucks servicing the range of waste/recycle bins. In addition, the unloading bays of the multi tiered drop off area will be roofed to minimise rain water interaction with the bin loading area and therefore prevent the formation of contaminated storm water.

The design of the multi tiered drop off area includes appropriate safety management through the installation of bollards, railings, kerbing, etc to address working at height issues. All storage and drop-off areas will be sealed with hot-mix or concrete and designed so any stormwater in these areas is contained and directed to appropriately designed infiltrative basins (three in total), which utilise good Water Sensitive Design Principles. All infiltrative basins will have appropriate litter traps to capture litter before it enters these basins. The roads within the transfer station used by residents to access the recycling and drop off areas will be sealed with bitumen and kerbed, and the service roads for use by trucks servicing the waste/metals drop off area, green waste and C&D stockpile areas will be constructed of compacted limestone.

All incoming waste to the Tims Thicket facility (inert landfill, septage treatment and transfer station) will be assessed by the gate attendant and captured through the Mandalay weighbridge software, which is currently in use at the Mandurah Waste Management Centre. There is no intention (at this point in time) to provide a weighbridge onsite and all transactions will be based on a volumetric basis.

A process outline of the proposed Transfer Station construction is outlined in **Figure 4**.





#### 4.1.1 Transfer Station Design Rationale

There are no WA Guidelines available for the design and operation of waste depots/transfer stations or for materials recycling facilities. TCL has used, as a guide, the SA EPA Guideline 845/10 Undercover Storage Requirements for Waste/Recycling Depots and SA EPA Environmental Guidelines for Resource Recovery and Waste Transfer Depots. It is noted that the site is located within native vegetation reserves with the nearest urban areas more than 1 km from the proposed transfer station site. In addition the City of Mandurah has reviewed a number of regional and rural transfer station/MRF facilities in WA and other states to develop a design that enhances resident separation of waste while minimising environmental, health and safety and traffic management issues.

#### 4.2 Operation of the Transfer Station

The transfer station will operate as a separate operation to the existing septage treatment facility and inert landfill operation, which primarily caters for commercial clients. Access to the transfer station will be clearly marked and include its own sealed access road.

While the Tims Thicket facility utilises a common entry point and gatehouse, the transfer station design promotes the separation of residential vehicles and commercial trucks (from septage facility, inert landfill and waste transfer operations) where possible. Importantly the transfer station will be open 7 days a week and be at its busiest on weekends, whereas the septage facility and inert landfill operations are only open 5 ½ days per week (including Saturday mornings until 12.00pm).

No specific equipment will be required to operate the transfer station. A bob-cat or small front-end loader will be used to clean up any spillage on an "as-needs" basis and to load mulch and C&D waste into trucks.

The 40m<sup>3</sup> hook lift bins will be covered at the end of each day and prior to removal from site. While it is not part of this Works Approval application, it is envisaged in the future that a small compactor may be installed at the multi tiered drop off area to assist with compaction of general waste to enable more efficient transport of waste.



## Removal and Transport

A table of the types of wastes received at the transfer station, the process involved, including receptacles used, disposal point and collection frequency is detailed in the following table:

| Waste Type  | Process  | Disposal Point  | Collection Frequency   |
|---|--|---|--|
| <b>General Waste (dry household waste)</b>                                | Storage in 40 m <sup>3</sup> bins at multi tiered drop off area prior to transportation and disposal at landfill | Collected by TCL RORO (roll-on roll-off) truck and transported to Mandurah WMC for compaction and transport to Dardanup Landfill                                | Initially daily, increasing to 4 times per day over time   |
| <b>Inert waste type 1</b>   | Stockpiled on compacted limestone base   | Transported to adjoining inert landfill by 'tipper' truck where it will be sorted and complying non-recyclable inert wastes disposed of into the inert tip face | Weekly   |
| <b>Green waste</b>  | Stockpiled in windrow on compacted limestone base and mulched  | Mulched green waste is either used by City of Mandurah or transported to organic recycler, like C-wise in semi trailer for further processing                   | Green waste will be mulched on an as required basis (estimated every 2 months)                     |
| <b>E-waste</b>  | Stored in either a 30 m <sup>3</sup> hook lift bin or specialised cages  | Transported to Mandurah Waste Management Centre for consolidating and collection by Sims E-Recycling  | As required (estimated every month)  |
| <b>Recyclable Metals</b>  | Stored in a 40 m <sup>3</sup> hook lift bin  | Transported to Sims Recycling in Spearwood  | Initially weekly, increasing to daily over time  |
| <b>Whitegoods</b>   | Stored on concrete hardstand area awaiting degassing   | Whitegoods degassed onsite and placed in recyclable metals bin  | Whitegoods to be degassed on an as required basis (estimated every 3 months)                       |
| <b>Tyres</b>  | Stored in a 9 m <sup>3</sup> lift on bin on concrete hardstand   | Collected by Tyrewaste  | As required (estimated every month)  |
| <b>Waste Oil</b>  | Stored in self contained storage container on concrete hardstand   | Collected by Wren Oil who will pump out storage container   | As required (estimated every 2 months)   |
| <b>Household Hazardous Waste</b>  | Items initially placed on external table for sorting prior to placement in purpose built storage shed            | Transported to Mandurah Waste Management Centre for consolidating and collection by ToxFree   | Collection to coincide with Mandurah Waste Management Centre collection (estimated every 2 months) |
| <b>Dry Recyclables (Glass, plastic containers, metal containers, etc)</b> | Stored in 1.5 m <sup>3</sup> bins within purpose built recycling shed (concrete floor)                           | Collected by TCL front lift vehicle who will transport recyclables to the Mandurah Materials Recovery Facility  | Weekly   |



|                                   |   |  |  |
|-----------------------------------|---|--|--|
| <b>Cardboard/paper</b>            | Stored in 1.5 m <sup>3</sup> bins on concrete hardstand   | Collected by TCL front lift vehicle who will transport recyclables to the Mandurah Materials Recovery Facility | Weekly                                 |
| <b>Mattresses</b>                 | Stored in a 9 m <sup>3</sup> lift on bin on concrete hardstand  | Transported to Mandurah Waste Management Centre for consolidating and transport to Garbolgie in O'Connor       | As required (estimated every month)    |
| <b>Compact fluorescent globes</b> | Stored in 1.5 m <sup>3</sup> bins within purpose built recycling shed (concrete floor)                      | Collected by ToxFree   | As required (estimated every 2 months) |
| <b>Car batteries</b>              | Stored on a plastic pallet with self contained bunding within purpose built recycling shed (concrete floor) | Collected by Sims Recycling  | As required (estimated every 2 months) |
| <b>Asbestos</b>                   | Stored in a 9 m <sup>3</sup> lift on bin on concrete hardstand  | Collected by TCL and transported to Dardanup Landfill  | As required (estimated every 2 months) |
| <b>Household batteries</b>        | Stored in 44 gallon drums with plastic liner within purpose built recycling shed (concrete floor)           | Transported to Mandurah Waste Management Centre for consolidating and collection by ToxFree                    | As required (estimated every 2 months) |
| <b>Gas Bottles</b>                | Stored in metal cages within purpose built recycling shed (concrete floor)                                  | Collected by ToxFree   | As required (estimated every 2 months) |

The 40 m<sup>3</sup> waste bins will be removed from site on an "as required" basis (expected to be daily, once the public are aware it is open) via the use of RORO trucks for transport to the Mandurah Waste Management Centre, where the waste will be disposed of into the main pit and compacted into specialised compaction trailers for transport to Dardanup Landfill. The 40 m<sup>3</sup> scrap metal bin will also be removed from site on an "as required" basis via the use of RORO trucks for transport to Sims Recycling for processing. All other recycling bins (e-waste, mattresses, CFLs, batteries, dry recyclables, etc) will be removed from site on an "as-needs" basis. Waste oils will also be removed on a regular basis. Household hazardous chemicals will be temporarily stored in a compliant storage shed and collected by Tox Free to coincide with the collection at the Mandurah WMC.

Greenwaste will be stockpiled on a compacted limestone hardstand and mulched on-site using a horizontal grinder (same process as green waste at the Mandurah WMC). The mulched green waste will be stockpiled onsite and either used by the City of Mandurah or transported in semi trailers to organic recyclers, like C-wise for further processing.

C&D waste will be transported to the inert landfill in tipper trucks on a weekly basis where it will be recycled, with any complying non-recyclable inert waste being disposed of into the existing inert tip face. Contamination from the C&D waste will be transported to the general waste bin in the transfer station for transportation to an appropriate class of landfill for disposal.



While a 9 m<sup>3</sup> bin dedicated to asbestos disposal will be onsite, it is intended that we will not encourage or accept asbestos waste at the transfer station. The bin is provided for internal use only where asbestos waste may inadvertently be found onsite. The asbestos waste will be appropriately wrapped by staff to comply with *Health Regulations* and placed in the bin. The bin will be transported to landfill on an as required basis.

## Outline of Existing Activities

TCL operates a Class 1 inert landfill site and septage disposal site at the Tims Thicket facility. Quarry operations also occur onsite to enable future land filling space – although this activity is nearing its completion. The Tims Thicket facility has been in operation since 1995. In addition to inert landfilling, recyclable material including ferrous and non-ferrous material and C&D waste are separated for recycling. TCL also utilise the inert landfill site for the storage of bins from its industrial waste collection business.

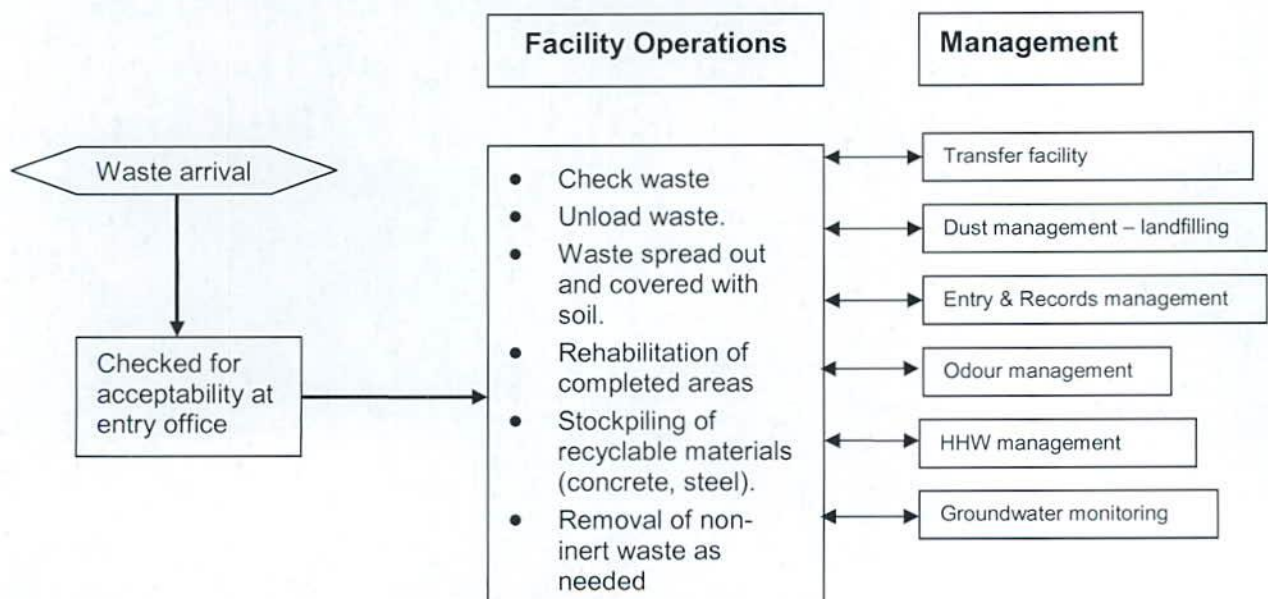
### Inert Landfill Operations

The inert landfill only accepts waste from commercial customers that have approval to utilise the site. All trucks stop at the common gatehouse where the gate attendant inspects the load for compliance with waste acceptance criteria. The gate attendant also checks and verifies the required docket for the load (standard template) and completes the volume requirements of the docket.

If the gate attendant is satisfied with the load, the driver is instructed to drive to the landfill tip face for unloading. The waste is again checked at the tipping area to confirm its acceptance. Unacceptable loads, (dependent upon the level of contamination) if picked up before or during unloading, are required to be removed from the site and taken to a higher class of landfill. In these circumstances the truck registration, operator, time and date are recorded in the site's diary.

Due to the site's location and limesand soil type, stormwater runoff is rare, with stormwater typically infiltrating and entering the superficial aquifer that is located approximately 3 – 4 metres below ground surface level. There are four (4) monitoring bores located around the inert landfill and they are sampled twice yearly in accordance with the DER licence conditions.

A summary of the activities at the Tim's Thicket Inert landfill are outlined in **Figure 5**.



**Figure 5: Process Flow Diagram for the Inert Landfill Facility**



## Septage Treatment Operations

The septage disposal site only receives waste from commercial customers that have approval to utilise the site. All septage trucks stop at the common gatehouse where the gate attendant checks the controlled waste tracking form against the load and ensure that the waste meets the acceptance criteria. The liquid waste is tested for pH and conductivity and a sample taken for future reference and tracking purposes.

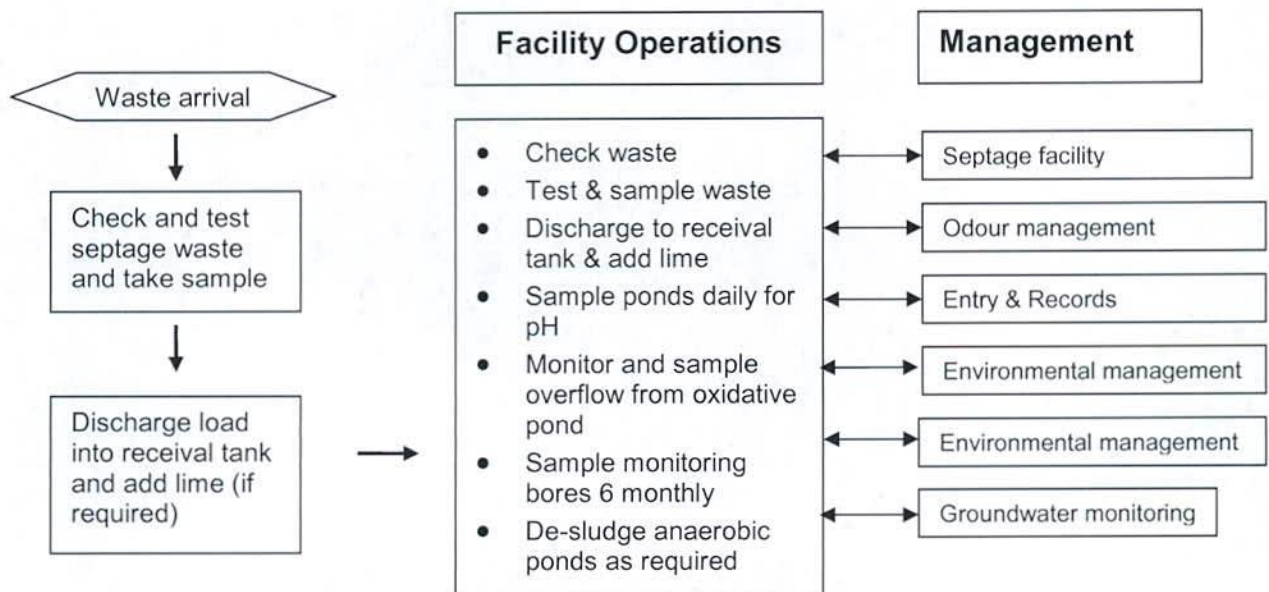
The gate attendant also checks and verifies the required docket for the load (standard template) and completes the volume requirements of the docket.

The tanker is then instructed to discharge the load into the large concrete receival tank, where the pH can be adjusted with bags of liquid lime to maintain an acceptable pH prior to discharge to the current active anaerobic pond. The tanker is also washed out with wash water also being discharged into the receival tank.

The controlled waste tracking form and waste docket are sent to the Transpacific Cleanaway office in Mandurah for closure within the DER waste tracking system and for invoicing purposes.

There are five (5) monitoring bores located around the septage disposal site and they are sampled twice yearly in accordance with the DER licence. Monitoring bore MB1 is located immediately adjacent to the recycling area of the proposed transfer station. It is proposed that no new monitoring bores be installed as groundwater flow is in a westerly direction towards the ocean and MB1 (close proximity), MB6 (west of transfer station) and MB9 (north east of transfer station) will provide sufficient data to ascertain any potential impacts of transfer station operations on the superficial groundwater aquifer.

A summary of the activities at the Tim's Thicket Septage Facility are outlined in **Figure 6**.



**Figure 6: Process Flow Diagram for the Septage Facility**

## Section 5: Assessment of Environmental Risks from Emissions

### 5.1 Risk Identification

The primary environmental risks associated from the construction of the Waste Transfer Station relate to noise, dust and stormwater management. Other environmental emissions or impacts result from air/greenhouse emissions, land contamination and energy usage.

The primary operational environmental risks arise from the Transfer Station relate to noise, odour and stormwater management. Other environmental emissions or impacts result from greenhouse gas emissions and spills/leaks and fire.

### 5.2 Risk Assessment

Risk is assessed in accordance with AS4360. An environmental risk summary for the construction and operation of the Transfer Station is provided in **Table 1** below.

**Table 1: Tim's Thicket Transfer Station Construction & Operational Risk Assessment Table**

| Risk Factor                      | Significance of Emissions | Socio-Political Context                                     | Risk Assessment | Management Measures / Regulatory Control  |
|----------------------------------|---------------------------|---|-----------------|---|
| <b>Construction</b>              |                           |   |                 |   |
| Air Emissions – Dust             | 1 Insignificant           | 1 nearest sensitive receptor > 1km away.                    | E               | Water cart.<br><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>  |
| Air Emissions – Greenhouse gases | 1 Insignificant           | 1 nearest sensitive receptor > 1km away                     | E               | Maintenance of machinery exhaust and combustion systems.<br>Use of low sulphur diesel fuel.<br><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>  |
| Noise                            | 1 Insignificant           | 1 nearest sensitive receptor > 1km away.                    | E               | Only operate during daylight hours (7AM – 5PM).<br><i>Environmental Protection (Noise) Regulations 1997</i>   |
| Discharges to Land               | 1 Insignificant           | 1 spill kits available.                                     | E               | Spill management procedure.<br>No chemicals besides hydrocarbons used.<br><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>   |
| Discharges to water              | 1 Insignificant           | 1 no chemicals used   | E               | Construction to occur during Spring and Summer months.<br><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>   |
| Fauna                            | 1 Insignificant           | 1 land is cleared.<br>No known rare fauna proximal to site. | E               | The transfer station is to be located within 2 existing waste operations on the site. Significant trees will be maintained and protected. Minor removal of shrub vegetation required.<br>Fauna relocation programme of the proposed transfer station area will be implemented prior to vegetation removal. The boundary to the Tims Thicket facility is also fenced.<br>Only operate during daylight hours. |



| Operation of Transfer Station    |                           |  |                 |  |
|----------------------------------|---------------------------|--|-----------------|--|
| Risk Factor                      | Significance of Emissions | Socio-Political Context                    | Risk Assessment | Management Measures / Regulatory Control   |
| Air Emissions – Dust             | 1 Insignificant           | 1 nearest sensitive receptor > 1km away.   | E               | Water cart.<br><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>   |
| Air Emissions – Greenhouse gases | 1 Insignificant           | 1 nearest sensitive receptor > 1km away    | E               | Maintenance of machinery exhaust and combustion systems.<br>Use of low sulphur diesel fuel.<br><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>   |
| Noise                            | 1 Insignificant           | 1 nearest sensitive receptor > 1km away.   | E               | Only operate during daylight hours (7AM – 5PM).<br><i>Environmental Protection (Noise) Regulations 1997</i>  |
| Discharges to Land               | 1 Insignificant           | 1 nearest sensitive receptor > 1km away.   | E               | Spill management procedure.<br>Waste chemicals and hydrocarbons stored in (self) bunded areas.<br><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>  |
| Discharges to water              | 2 Minor                   | 1 sealed access and transfer station area. | E               | Clean Stormwater diversion away from Transfer Station to infiltrative basins<br>Transfer Station unloading area roofed and stormwater captured.<br><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> |
| Fauna                            | 1 Insignificant           | 1 site fenced with a lockable gate         | E               | The boundary to the Tims Thicket facility is fenced.<br>The site will only operate during daylight hours.  |



### 5.3 Risk Management

**Tables 2A and 2B** outlines the Risk Management Summary for the proposed construction and operation of the Transfer Station. The Risk Management Summary has taken into account any additive or cumulative effect from the existing inert landfill (at 50 000 tpa) and recycling activities (at 10 000 tpa).

Risk management is primarily controlled through the construction contract and through standard environmental operating procedures and requirements outlined in TPI's National Integrated Management System (NIMS). NIMS includes environmental and greenhouse gas policies and specific environmental procedures relating to:

- water quality management;
- stormwater management;
- land quality management;
- community relations programme; and
- wildlife conservation.

In addition, any Contractors used on site are required to comply with the site's DER Environmental Licence and Works Approval conditions.

#### 5.4A Discussion of Key Risks – Construction of Waste Transfer Station

The key risks for the construction of the Waste Transfer Station are considered to be dust and noise. In addition stormwater has been included as summer thunderstorms can occur.

##### **Dust**

Dust is generated from vehicle and machinery movement preparing the site foundations and landscaping.

Management of dust is by the use of a water cart and or water sprays.

Due to the distance to the nearest residence and the small amount of dust that could be generated, dust monitoring is not proposed (unless complaints are received). Under DER licence conditions *no visible dust* is permitted to leave the premises boundary.

##### **Noise**

Noise is generated by machinery and plant used to construct the Waste Transfer Station. Access to the site is via public roads and there is not expected to be a noticeable increase in traffic movement associated with construction activities.

Management of noise comes from the use of, and maintenance of, machinery mufflers and operations only occurring daylight hours 07:00 to 18:00 Monday to Friday.

Due to the distance to the nearest residence, noise monitoring is not proposed (unless complaints are received). It is important to note that the Tims Thicket facility has been in operation since 1995 and no formal noise complaint has been received during this time.

##### **Stormwater**

Stormwater is generated from rainfall events either emanating from the construction area or running into or through the construction area. This has the potential to increase the amount of suspended solids in runoff as well as any contaminants that may result from spillages or leaks by machinery during construction.

Management of stormwater involves the installation of diversion drains around the construction area and the isolation of stormwater within the construction area as well as undertaking construction works during the dry spring and summer months.

#### **5.4B Discussion of Key Risks – Operation**

The key risks for the Tim's Thicket operations (inert landfill and waste transfer station) are considered to be dust, groundwater contamination, asbestos, odour and noise. Stormwater risk is the same as for construction and is addressed above. Noise is a lower risk as noise will only come from trucks as they unload and reload.

##### **Dust**

Dust is generated from vehicle and machinery movement on unsealed roads and from the application of soil as cover material. Dust will not be generated from the transfer station as access roads for use by residents are bituminised and wastes will be deposited directly into bins by residents.

Management of dust is by the use of a water cart in the inert landfill area and its access roads.

Dust monitoring is not proposed unless dust complaints are received. Note that no dust complaints have been received by the DER. Under DER licence conditions *no visible dust* is permitted to leave the premises boundary.

##### **Groundwater contamination**

Groundwater contamination potentially would occur from contaminated stormwater entering the superficial groundwater system.

The transfer station will include sealed and kerbed access roads and a sealed area for the transfer station and recycling area with stormwater runoff being directed to three (3) infiltrative basins around the transfer station. In addition, the most probable area for potential stormwater contamination is the transfer station unloading area and it is proposed to roof the unloading area to capture stormwater and minimise any potential for contamination.

Inert waste is checked both as it enters the site as well as when it is tipped at the landfill tip face. Non-inert waste that is unloaded is collected and placed in bins for removal to an appropriate class of landfill site.

The Tims Thicket facility currently has nine (9) monitoring bores in operation that are sampled on a biannual basis in accordance with DER licence conditions. Four (4) monitoring bores relate to the inert landfill and five (5) monitoring bores relate to the septage facility. The existing monitoring bores (in particular MB1, MB6 and MB9) provide sufficient coverage of the proposed transfer station (westerly and easterly direction) and it is not proposed to install any additional monitoring bores. The location of the existing monitoring bores is detailed in **Attachment 2**.



**Table 2A: Tim's Thicket Environmental Risk Management Summary – Construction of Transfer Station**

| Risk identification                 |  |  |   | Risk Analysis (prior to controls) |            |              | Risk Management  | Residual Risk Analysis |            |              |
|-------------------------------------|--|--|---|-----------------------------------|------------|--------------|--|------------------------|------------|--------------|
| Issue                               | Event / Incident   | Potential Impact   | Causes  | Consequence                       | Likelihood | Risk Ranking | Management / Control Measures  | Consequence            | Likelihood | Risk Ranking |
| Construction activities             | Noise – impacts on local residents and fauna                                 | Disturbance to residents.<br>Disturbance to sensitive habitats                           | Lack of appropriate management and engineering controls | 2                                 | 2          | Low          | Distance to nearest resident is > 1-km.<br>Only operate between 0700 and 1700 Monday to Friday.<br>All plant with mufflers.      | 1                      | 1          | Low          |
|                                     | Dust – impacts on local residents and fauna                                  | Disturbance to residents.<br>Disturbance to sensitive habitats                           | Lack of appropriate management and engineering controls | 2                                 | 2          | Low          | Distance to nearest residents > 1-km<br>Use of a water cart or sprinklers.   | 1                      | 1          | Low          |
|                                     | Stormwater Contamination – impacts on environment                            | Disturbance to residents.<br>Disturbance to sensitive habitats                           | Lack of appropriate management and engineering controls | 2                                 | 2          | Low          | Stormwater drains to divert uncontaminated stormwater away from construction area.   | 1                      | 1          | Low          |
| Plant equipment exhaust emissions   | Air quality – impacts on local residents and fauna.<br>- impacts on climate. | Reduction in air quality to residents.<br>Reduction in air quality to sensitive habitats | Lack of appropriate management and engineering controls | 1                                 | 1          | Low          | Maintenance of equipment to manufacturer's specifications.<br>Distance to nearest residents > 1-km<br>Use of low sulphur diesel. | 1                      | 1          | Low          |
| Refuelling / maintenance activities | Soil contamination – site impacts  | Contamination of soil and stormwater   | Lack of appropriate management and engineering controls | 2                                 | 3          | Medium       | Spill management procedures.<br>Spill absorbent and booms kept on site   | 1                      | 2          | Low          |

Table 2B: Tim's Thicket Environmental Risk Management Summary – Operation of the Transfer Station, Septage Facility & Inert Landfill

| Risk identification  |  |  |  | Risk Analysis (prior to controls) |            |              | Risk Management  | Residual Risk Analysis |            |              |
|--|--|--|--|-----------------------------------|------------|--------------|--|------------------------|------------|--------------|
| Issue  | Event / Incident   | Potential Impact   | Causes   | Consequence                       | Likelihood | Risk Ranking | Management / Control Measures  | Consequence            | Likelihood | Risk Ranking |
| Operational Activities – transfer station and inert landfill operation | Noise – impacts on local residents and fauna                           | Disturbance to residents.<br>Disturbance to sensitive habitats                                     | Lack of appropriate management and engineering controls  | 2                                 | 2          | Medium       | Distance to nearest resident is > 1-km.<br>Only noise is from vehicles/mobile equipment.   | 1                      | 1          | Low          |
|  | Dust – impacts on local residents and fauna                            | Disturbance to residents.<br>Disturbance to sensitive habitats                                     | Lack of appropriate management and engineering controls  | 3                                 | 2          | Medium       | Distance to nearest residents > 1-km<br>Use of a water cart / sprinklers.<br>Protection from surrounding vegetation and topography.  | 1                      | 1          | Low          |
|  | Stormwater Contamination – impacts on environment                      | Disturbance to sensitive habitats  | Lack of appropriate management and engineering controls  | 2                                 | 2          | Medium       | Transfer station and access roads sealed and kerbed. Stormwater directed to 3 infiltrative basins around transfer station.<br>Litter traps to all infiltrative basins.<br>Multi tiered unloading area is roofed and stormwater is redirected away bin loading area.<br>Loading area is cleaned up after bin is loaded. | 1                      | 1          | Low          |
|  | Groundwater contamination – impacts on local residents and environment | Disturbance to residents.<br>Disturbance to sensitive habitats<br>Disturbance to groundwater users | Lack of appropriate management and engineering controls. | 4                                 | 1          | Medium       | Bi- annual sampling and analysis of 9-monitoring bores throughout site.<br>Compliance with waste acceptance criteria   | 2                      | 1          | Low          |
|  | Odour – impacts on local residents                                     | Disturbance to residents.  | Lack of appropriate management..                         | 3                                 | 2          | Medium       | Emergency response spill system in place and spill kits in trucks.   | 2                      | 1          | Low          |
| Asbestos   | Air quality – impacts on residents.                                    | Human health impacts   | Lack of appropriate management                           | 4                                 | 1          | Medium       | Ensuring asbestos is not received at the site.<br>If asbestos found, placed in a lined container for correct disposal.   | 1                      | 1          | Low          |
| Spills / Leaks   | Soil contamination – site impacts                                      | Contamination of soil and water  | Lack of appropriate management and engineering controls  | 1                                 | 3          | Low          | Spill management procedures.<br>Spill absorbent in re-fuelling vehicle.<br>Couplings maintained and have lock down features  | 1                      | 2          | Low          |



## **Odour**

Odour is generated from the breakdown of solid and liquid organic wastes. The placement of putrescible waste in bins at the transfer station could result in odour being generated before the bins are removed from the site for disposal. In addition, odour may be generated from recycling bins that have organic residues in or on them.

To reduce the risk of odour being detected beyond the boundaries of the premises, waste bins will be covered each night and will be removed from the site when full. This will also apply to recycling bins. Because residents will be dropping off their waste at the site, if excessive odour is generated it will be raised by residents using the facility and action will be taken to address the odour before it leaves the premises. This could be by covering and removal of the waste or by the use of deodorants.

Odour is not expected to be generated by the inert landfill operation due to the types of waste permitted to be land filled.

The septage facility utilises liquid lime to modify the pH of incoming liquid waste in order to manage the pH of the ponds and thus prevent the formation of offensive odours. The Tims Thicket facility was opened in 1995 and it has never received an odour complaint to date.

While there are a number of potential odour sources from the site, these odours can be effectively managed through administrative and operational measures, and the risk of odour from the site impacting on the nearest residential premises is considered extremely **Low**.

## **Asbestos**

Asbestos, although primarily a health issue, is managed by the DER. Asbestos is currently not accepted at the site and this will not change once the transfer station is constructed. Waste is checked at the entry and signage advises customers that asbestos is not accepted at the site.

If asbestos is discovered at the site, it will be placed into a lined bin (off limits to customers) for removal to an appropriate class of landfill facility.

## **Noise**

Noise is generated by machinery and plant used to operate the inert landfill site, to clean up around the transfer station, potential C&D recycling (crushing and screening) and from increased number of vehicles.

As the Transfer Station is designed for both residents, there will be increased traffic along Tim's Thicket Road and moving around the premises. There is also expected to be a slight increase in the number of trucks using Tim's Thicket Road removing and delivering the transfer station bins. It is also expected that over time as recycling and waste diversion improves, additional handling and or processing of this "resource recovery" is likely, increasing the amount of equipment on site that may contribute to noise.

Management of noise comes from:

- the use of, and maintenance of, machinery / equipment mufflers;
- landfill operations occurring during daylight hours 07:00 to 17:00 Monday to Friday;
- transfer station operations occurring 08:00 to 16:00, Monday through Sunday; and
- placement of screening vegetation around the periphery of the Transfer Station.

Due to the distance to the nearest residence, noise monitoring is not proposed, unless complaints are received. Note that no noise complaints have been received relating to the Tim's Thicket operations since its inception in 1995.

## Section 6 Environmental Performance Objectives, Standards and Measurement Criteria

### 6.1 Objectives and Standards

There are three objectives relating to environmental performance for the construction and operation of the Tim's Thicket Transfer Station:

- No environmental impact from the construction outside of the premises (dust, noise, stormwater); and
- No environmental impact from the transfer station or landfill operation outside of the premises (dust, noise, odour, stormwater); and
- No potentially contaminated water entering the local groundwater system.

### 6.2 Measurement Criteria

The performance objectives, standards and criteria to be used for the construction and operation of the Tim's Thicket Transfer Station and Inert Landfill site are shown in **Table 3**.

## Section 7. Implementation Strategy

TCL uses Transpacific Industry's Nationally Integrated Management System (NIMS) for all its documentation and records management to satisfy its legal, corporate governance, environmental, OHS and insurance obligations. NIMS has allowed TCL to be registered by SAI Global for AS/NZS ISO14001:2004, 9001:2000 and 4801:2001.

Due to the low risk of emissions from construction activities leaving the premises, the primary monitoring involves the use of a Complaints Register. Any complaints received will be investigated and, if required, monitoring will be undertaken to determine whether the complaint breaches any commitment or regulatory requirement.

The principal contingency planning is the cessation of construction activities until works can ensure no further complaints or environmental.



**Table 3: Environmental Performance Objectives, Standards and Measurement Criteria – Tim's Thicket Construction and Operation**

| Environmental Performance Objectives   | Standards   | Measurement Criteria   |
|--|---|--|
| <b>Construction of the Tim's Thicket Transfer Station and Inert Landfill Operation</b> |   |  |
| <b>Machinery and Plant Noise</b><br>- not to exceed 60 dB(A) at premises boundary      | <i>Environmental Protection (Noise) Regulations 19997</i>                 | Machinery only to operate 7AM – 5PM Monday to Saturday and 8AM – 4PM Sunday.<br>Noise complaints register.   |
| <b>Construction dust</b><br>- no visible dust leaving the premises boundary            | No visible dust leaving the premises from construction activities         | Dust complaints register   |
| <b>Stormwater</b><br>- no contaminated stormwater leaves the premises boundary         | <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> | Installation of diversion drains around the construction area and the isolation of stormwater within the construction area.<br>Use of spill control equipment to contain any hydrocarbon spill.  |
| <b>Stormwater</b><br>- no contaminated stormwater leaves the premises boundary         | <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> | Transfer Station stormwater design to accommodate a 1:100 (24H) ARI event using three newly constructed infiltrative basins with litter traps.<br>Transfer station unloading area being roofed to minimise volume of potentially contaminated stormwater that needs to be managed.   |
| <b>Sustainability</b><br>- Minimise scheme energy and water usage at the site          |   | The Tims Thicket facility is self sufficient and has no Government infrastructure for power, water or telecommunications. The site has a integrated renewable energy system incorporating wind turbines, solar panels, battery bank and a back up diesel generator. The system is capable of supporting the power needs of the new infrastructure for the transfer station. The site sources water from the underground aquifer, which is appropriately treated utilising UV sterilisation.<br><br>Transfer station is designed to: <ul style="list-style-type: none"> <li>• utilise natural light and ventilation;</li> <li>• minimise use of diesel for site electricity; and</li> <li>• maximise diversion of waste.</li> </ul> |

### Operation of the Tim's Thicket Transfer Station and Inert Landfill Operation

|  |   |   |
|--|---|---|
| <b>Noise</b><br>- not to exceed 60 dB(A) at premises boundary                    | <i>Environmental Protection (Noise) Regulations 1997</i>                  | Complaints register.  |
| <b>Dust</b><br>- no visible dust leaving the premises boundary                   | No visible dust at premises boundary.                                     | Complaints register   |
| <b>Stormwater</b><br>- no contaminated stormwater leaves the premises boundary   | <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> | Transfer Station stormwater from roads and hardstands directed to infiltrative basins. A roof is provided over the multi tiered loading area to capture stormwater and treat accordingly. |
| <b>Groundwater</b><br>- no contaminated water from site to enter the groundwater | Australian Drinking Water Guidelines 2006                                 | Biannual groundwater monitoring from nine (9) bores up and down gradient of the Transfer Station and Inert Landfill Site. Results reported in annual DER report.                          |
| <b>Odour</b><br>- no unreasonable odour at nearest residence(s)                  | <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> | Complaints Register   |
| <b>Environmental Incidents</b><br>- all incidents reported and investigated      | TCL National Integrated Management System, Incident Reporting Procedure   | Reported and placed into TCL's VAULT incident reporting system and reported in the annual environmental report.   |



## Section 8. Consultation

The proposed waste transfer station does not require formal Planning Approval. No specific community consultation has been undertaken due to the low risk of environmental impact from construction and from the operation of the site, and the site already contains two distinct waste operations. The City of Mandurah will be writing to Dawesville residents outlining the proposed installation and use of the transfer station once a Works Approval has been obtained, as this will allow Mandurah residents an alternative option for their waste disposal to the existing Mandurah Waste Management Centre in Corsican Place.

The consultation undertaken with respect to the Transfer Station construction is outlined in **Table 4**.

**Table 4: Consultation Register**

| Who              | Whom                     | Date         | Topics Discussed   | Outcome   |
|------------------|--------------------------|--------------|--|---|
| City of Mandurah | Kyle Boardman            | Monthly      | Development of the Tim's Thicket site into a waste and resource recovery facility.           | Conceptual design, community needs, notification, approvals processes.  |
| DEC              | Chris Malley, Peter Knol | May 2012     | Transfer station concept; DEC process needed   | Finalise plans and then request a pre-works approval meeting. Now need to go through the Licensing Query process.   |
| DEC              | Licensing Query          | 10/09/2012   | Query emailed to local DEC Office  | Transfer station construction requires a works approval   |
| EPA              | Assessment Branch        | 10/9/2014    | Transfer station proposal referred to EPA for assessment                                     | Verbal advice has been given that the transfer station is likely to have minimal environmental impact and the proposal will be referred back to DER for Works Approval. |
| DER              | Licensing Branch         | Oct/Nov 2014 | Public Consultation during Works Approval process  | Statutory consultation process  |
| City of Mandurah | Kyle Boardman            | Dec 2014     | Letter to local community advising of proposal to construct transfer station at Tims Thicket | Inform the community of Council's plans to construct a transfer station.  |

## Section 9: Commitments – Construction

A register of TCL and City of Mandurah's commitments in relation to the construction of the Transfer Station is outlined in **Table 5**.

**Table 5: Environmental Commitments for the Tim's Thicket Transfer Station Construction**

| No. | Commitment  | Reference: |
|-----|---|------------|
| 1.  | No visible dust to leave the premises boundary.                           | Table 3    |
| 2.  | Construction activities to occur only between 7AM – 5PM Monday to Friday. | Table 3    |

|                                |
|--------------------------------|
| <b>Section 10. Attachments</b> |
|--------------------------------|

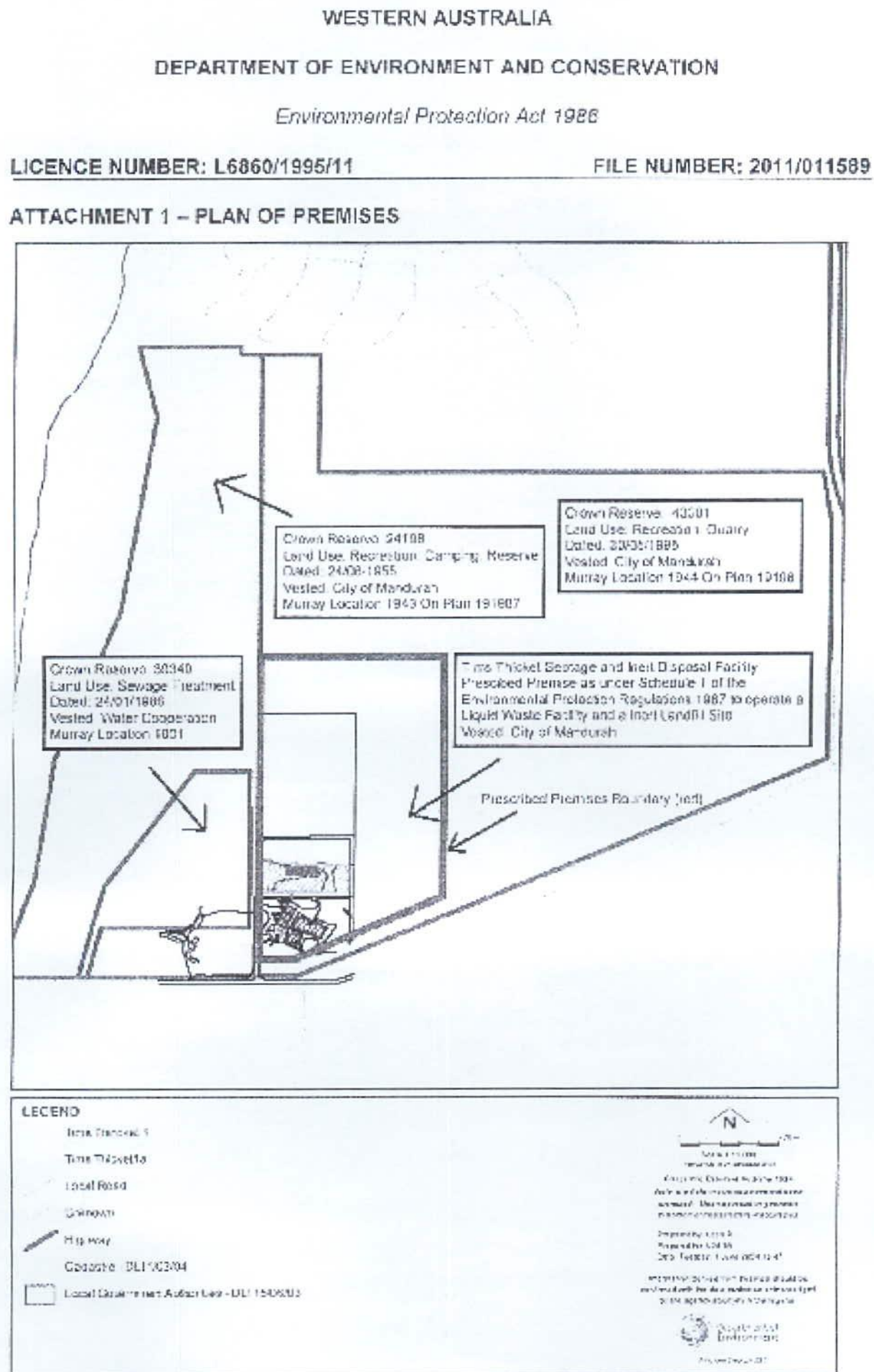
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|--------------|---|--|
| Attachment 1 | Aerial photograph showing Reserve 43301 and nearest residential areas.            |  |
| Attachment 2 | Cadastral Plan of Site (from DER Licence)   |  |
| Attachment 3 | Aerial photograph of septage disposal area overlain with Transfer Station outline |  |
| Attachment 4 | Design Drawings   | Cross Sections, Transfer station layout, Stormwater management system. |
| Attachment 5 | Survey details of site including location of all 9 monitoring bores.              |  |



Attachment 1: Airphoto showing location of Tim's Thicket Site in relation to Dawesville









**Attachment 3:      Transfer Station footprint and access ways (in proximity to Septage ponds)**



WORKS AND SERVICES  
DIRECTORATE

TIMS THICKETT  
PROPOSED WASTE MANAGEMENT FACILITY

CITY OF MANDURAH

JOB NO. T.B.A

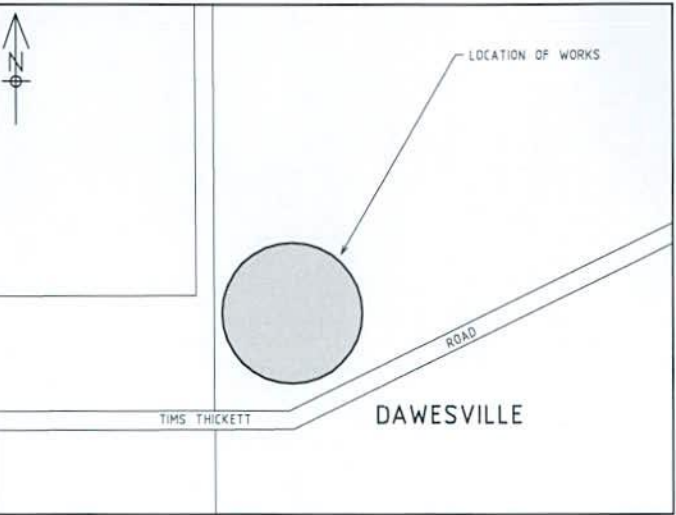


AREAS AND VOLUMES:

|                       |                    |
|-----------------------|--------------------|
| 1200m <sup>3</sup>    | * TOTAL VOLUME CUT |
| ASPHALT               | * 294 TONNES       |
| GRAVEL                | * 1123 TONNES      |
| LIMESTONE             | * 3340 TONNES      |
| CONCRETE AREA         | * 1400             |
| RETAINING WALL LENGTH | * 75m              |
| KERB                  | * 475m             |

DRAWING INDEX

|            |                                |
|------------|--------------------------------|
| RDS 221001 | - ARIEL AND PLAN               |
| RDS 221002 | - PLAN                         |
| DRN 221004 | - PLAN                         |
| TT 221005  | - TURNING TEMPLATE             |
| MD 221006  | - 3D MODEL                     |
| RW 221007  | - RETAINING WALL               |
| LS 221008  | - LONG SECTION (MAIN)          |
| LS 221009  | - LONG SECTION (SERVICE TRACK) |
| XS 221010  | - CROSS SECTIONS               |
| XS 221011  | - CROSS SECTIONS               |
| XS 221012  | - CROSS SECTIONS               |
| XS 221013  | - CROSS SECTIONS               |



LOCATION PLAN  
N.T.S.



PLAN  
SCALE: 1:2000



**Attachment 4:      Transfer Station Design Schematics**





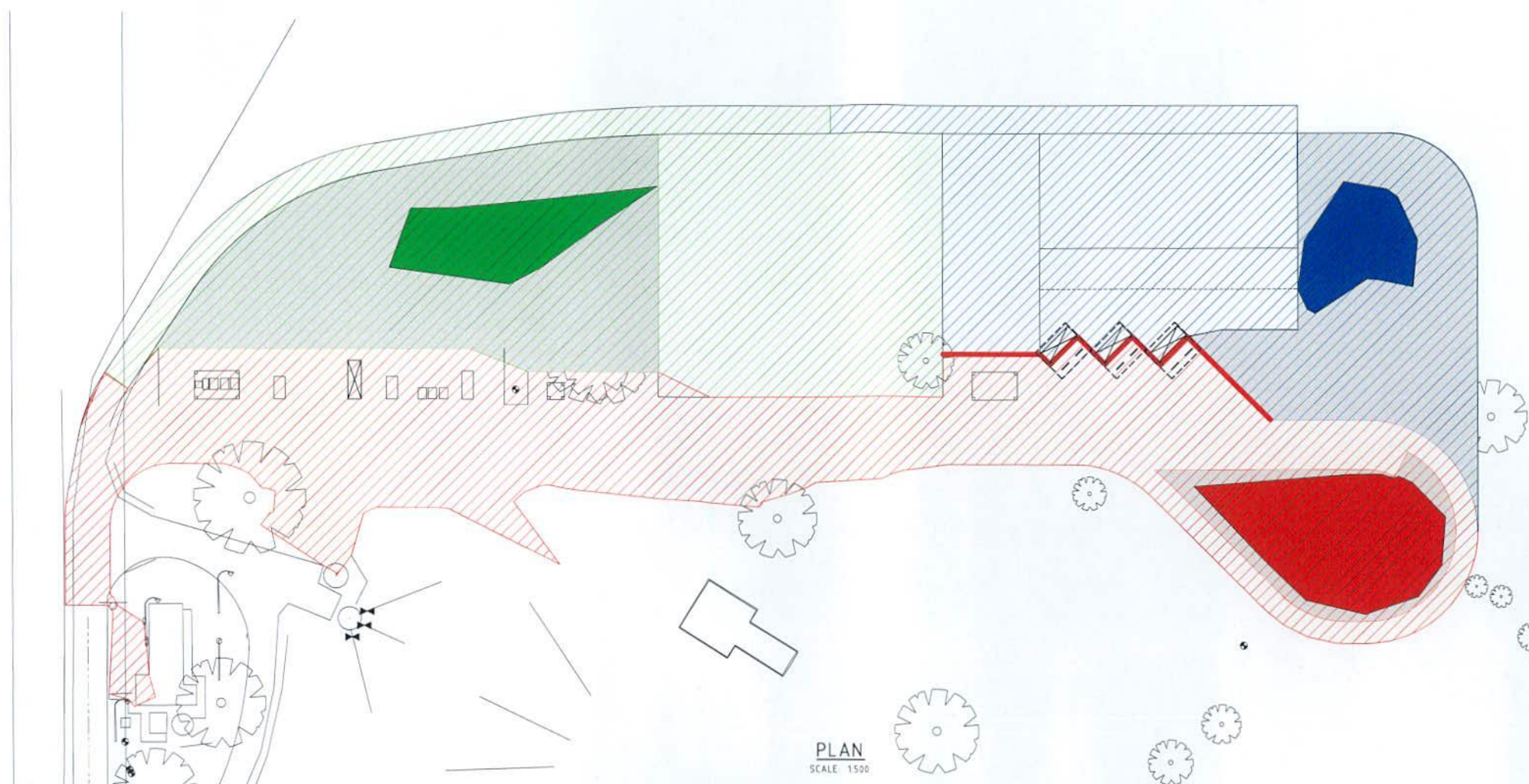





















TIM'S THICKETT DRAINAGE CALCULATIONS

LEGEND:

- |   |                                    |
|---|------------------------------------|
|  | GREENWASTE CATCHMENT AREA          |
|  | GREENWASTE LANDSCAPE AREA          |
|  | GREENWASTE INFILTRATION BASIN      |
|  | ROAD CATCHMENT AREA                |
|  | ROAD LANDSCAPE AREA                |
|  | ROAD INFILTRATION BASIN            |
|  | GENERAL RUBBISH CATCHMENT AREA     |
|  | GENERAL RUBBISH LANDSCAPE AREA     |
|  | GENERAL RUBBISH INFILTRATION BASIN |

## SERVICES

- 
- WATER
- GAS
- GAS - (HIGH PRESSURE)
- TELSTRA
- TELSTRA - OPTIC FIBRE
- ELECTRICITY
- SEWER
- SEWER - PRESSURE MAIN




## NOTES:

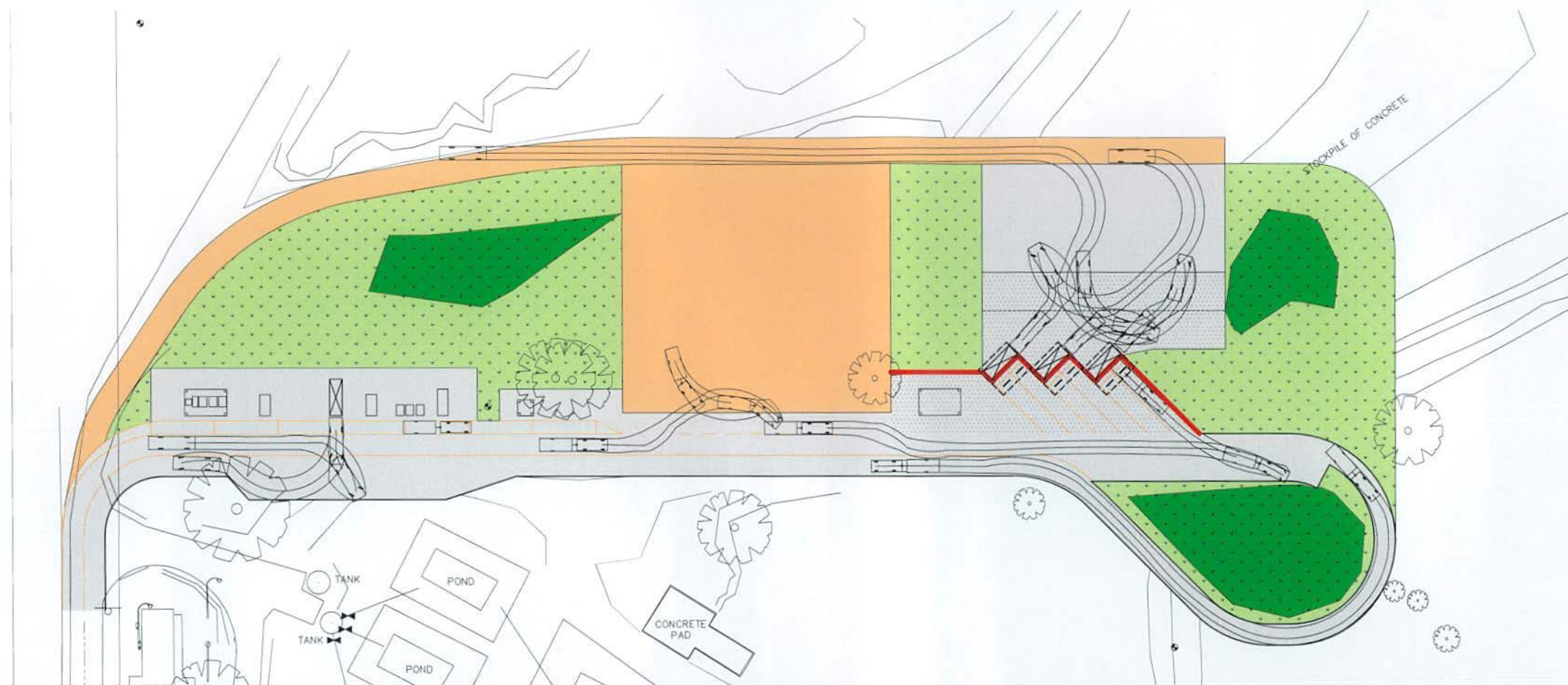
- 1 SERVICES SHOWN IN APPROXIMATE LOCATIONS ONLY REFER TO SERVICE AUTHORITY PLANS BEFORE COMMENCING WORKS
- 2 ALL REINSTATEMENTS MATERIALS TO BE OF THE SAME TYPE PRIOR TO COMMENCEMENT OF WORKS
- 3 STD ### REFERS TO CITY OF MANDURAH STANDARD DETAIL DRAWING NUMBER
- \* FRENCHES TO BE BACKFILLED TO STD 806
  - \* MANHOLE CONSTRUCTION TO STD 801
  - \* GULLY CONSTRUCTION TO STD 804

REFERENCE DRAWINGS / DOCUMENTS

|  |  |
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| NO | DATE  | REVISION                | BY | CHKD | APPR | DATE | CADD File Nos   | NOT TO BE USED FOR CONSTRUCTION<br>UNTIL SIGNED APPROVED | DESIGNER TO COMPLETE | WORKS AND SERVICES<br>DIRECTORATE |  | TIMS THICKETT - DAWESVILLE<br>WASTE TRANSFER STATION<br>DRAINAGE |    |           |                 |                   |    |                          |
|----|-------|-------------------------|----|------|------|------|---|--|----------------------|-----------------------------------|---|--|----|-----------|-----------------|-------------------|----|--------------------------|
|    |       |                         |    |      |      |      | AUTOCAD<br>1/15 WIS - PLANNING FOR<br>2015-2016 TMS<br>THICKETT DESIGN<br>DRAWING NOS. 2210 TMS | CIVILCAD<br>N/A  | APPROVED             |                                   |   | DESIGNED   | RC | 12/3/2012 | JOB NO<br>T.B.A | SCALE<br>AS SHOWN | A1 | DWG NO<br>RDS 221004 / 0 |
|    |       |                         |    |      |      |      | SURVEYED<br>BY: COM   | DATUM<br>AHD & PCG                                       | POSITION             |                                   |   | DRAWN  | RC | 12/3/2012 |                 |                   |    |                          |
| A  | 04/12 | ISSUED FOR CONSTRUCTION | PC |      |      |      | DATE N/A  |  | DATE                 |                                   |   | DRAFT CHECK  |    |           |                 |                   |    |                          |





**LEGEND**










-  NEW MOUNTABLE KERBING (TYPE 3)
-  SITE PLAN CONSTRUCTION LINES
-  LINEMARKING
-  NEW PAVEMENT CONSTRUCTION  
175mm LIMESTONE @ 95% MDD  
100mm ROAD BASE @ 98% MDD  
25mm ASPHALT AC10 WEARING COURSE
-  NEW CONCRETE CONSTRUCTION  
100mm BEDDING SAND  
300mm CONCRETE
-  200mm LIMESTONE @ 95% MDD
-  INFILTRATION BASIN AREA
-  EXISTING TREE
-  DESIGN CONTOURS

Diagram illustrating the layers of the ground and the location of various underground utilities:

- WATER
- GAS
- GAS - (HIGH PRESSURE)
- TELSTRA
- TELSTRA - OPTIC FIBRE
- ELECTRICITY
- SEWER
- SEWER - PRESSURE MAIN




- 1 SERVICES SHOWN IN APPROXIMATE LOCATIONS ONLY REFER TO SERVICE AUTHORITY PLANS BEFORE COMMENCING WORKS
- 2 ALL REINSTATEMENTS MATERIALS TO BE OF THE SAME TYPE PRIOR TO COMMENCEMENT OF WORKS
3. STD ### REFERS TO CITY OF MANHATTAN STANDARD DETAIL DRAWING NUMBER.
  - TRENCES TO BE BACKFILLED TO STD B06
  - MANHOLE CONSTRUCTION TO STD B01
  - GULLY CONSTRUCTION TO STD B04

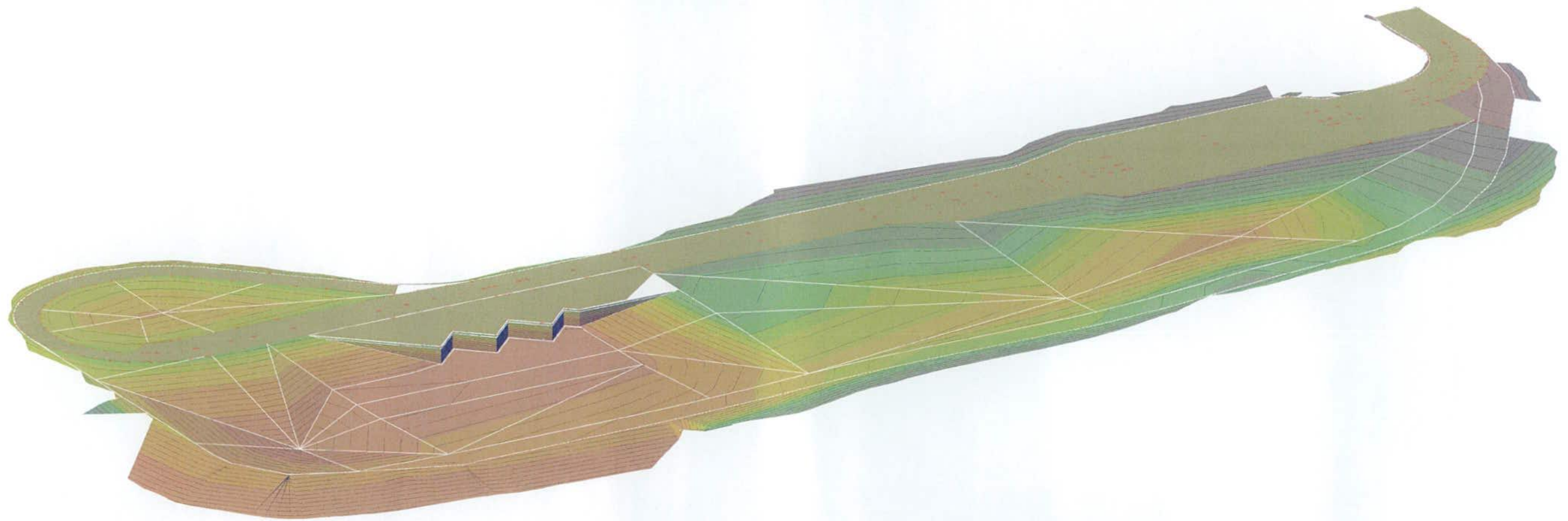
| ROAD | MRWA CODE |
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REFERENCE DRAWINGS / DOCUMENTS


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|----|------|----------|----|------|------|------|---|---|-----------------------|--------------------------------|--|----------------|-------|---------|----------------|
| NO | DATE | REVISION | BY | CHKD | APPR | DATE | CADD File Nos   | NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED APPROVED | DESIGNER TO COMPLETE  | WORKS AND SERVICES DIRECTORATE | <br><b>TIMS THICKETT - DAWESVILLE WASTE TRANSFER STATION TURNING TEMPLATE</b> | SCALE AS SHOWN | A1    | DWG NO. | RDS 221005 / 0 |
|    |      |          |    |      |      |      | AUTOCAD CIVILCAD  | APPROVED _____  | DESIGNED RC 12/3/2012 |                                |  | JOB NO.        | T.B.A |         |                |
|    |      |          |    |      |      |      | U:\WASTE\PLANNING FOR 2013-2016\TIMS THICKETT DESIGN DRAWINGS\CADD 2210 SW5 |   | DRAWN RC 12/3/2012    |                                |  |                |       |         |                |
|    |      |          |    |      |      |      | SURVEYED DATUM  | POSITION _____  | DRAFT CHECK           |                                |  |                |       |         |                |
|    |      |          |    |      |      |      | BY: C.O.M.  | DATE _____  | DESIGN ENGINEER       |                                |  |                |       |         |                |
|    |      |          |    |      |      |      | N/A   | AND & PEG   |                       |                                |  |                |       |         |                |





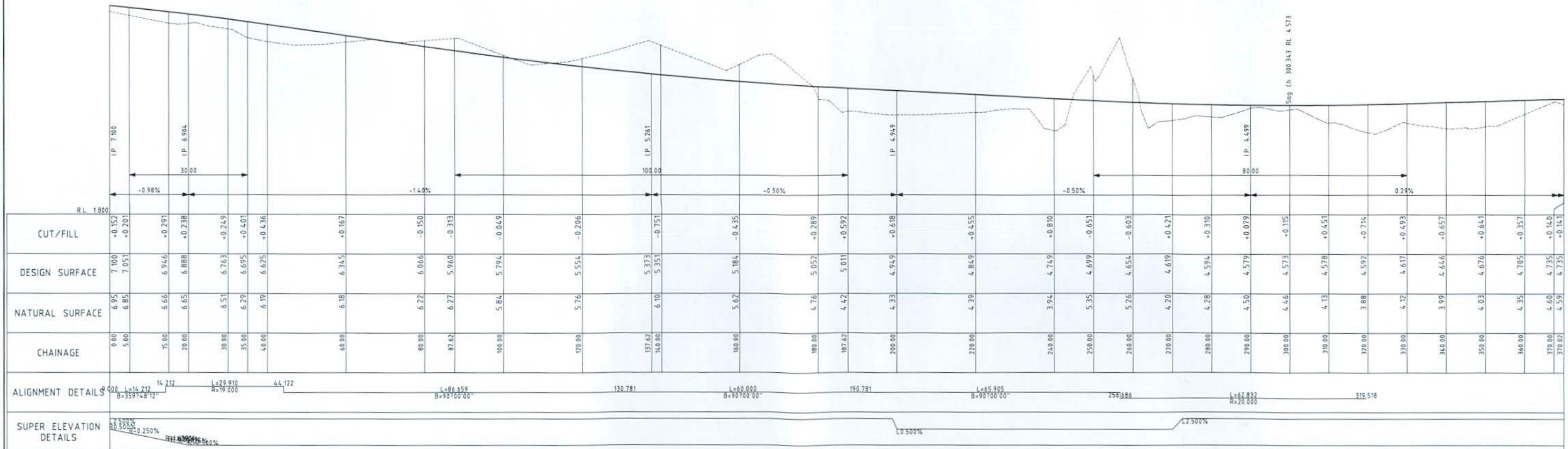
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| NO | DATE  | REVISION                | BY | CHKD | APPR | DATE | C.A.D. File Nos   | NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED APPROVED | DESIGNER TO COMPLETE  | WORKS AND SERVICES DIRECTORATE |  | TIMS THICKETT - DAWESVILLE WASTE TRANSFER STATION 3D MODEL |
|----|-------|-------------------------|----|------|------|------|---|---|---|--------------------------------|---|--|
|    |       |                         |    |      |      |      | AUTOCAD<br><small>U:\WS13-14\PLANNING FOR 2013-2014\TIMS THICKETT\DESIGN DRAWINGS\RDS 2210.DWG</small><br>CIVILCAD<br>N/A | APPROVED _____<br>POSITION _____<br>DATE _____        | DESIGNED RC 12/3/2012<br>DRAWN RC 12/3/2012<br>DRAFT CHECK _____<br>DESIGN ENGINEER _____ | JOB NO. T.B.A                  |   | SCALE: AS SHOWN<br>A1<br>DWG NO. RDS 221006/ 0             |
| A  | 04/12 | ISSUED FOR CONSTRUCTION | RC |      |      |      | SURVEYED<br>BY: COM<br>DATE: N/A<br>DATUM<br>AHD & PCG  |   |   |                                |   |  |



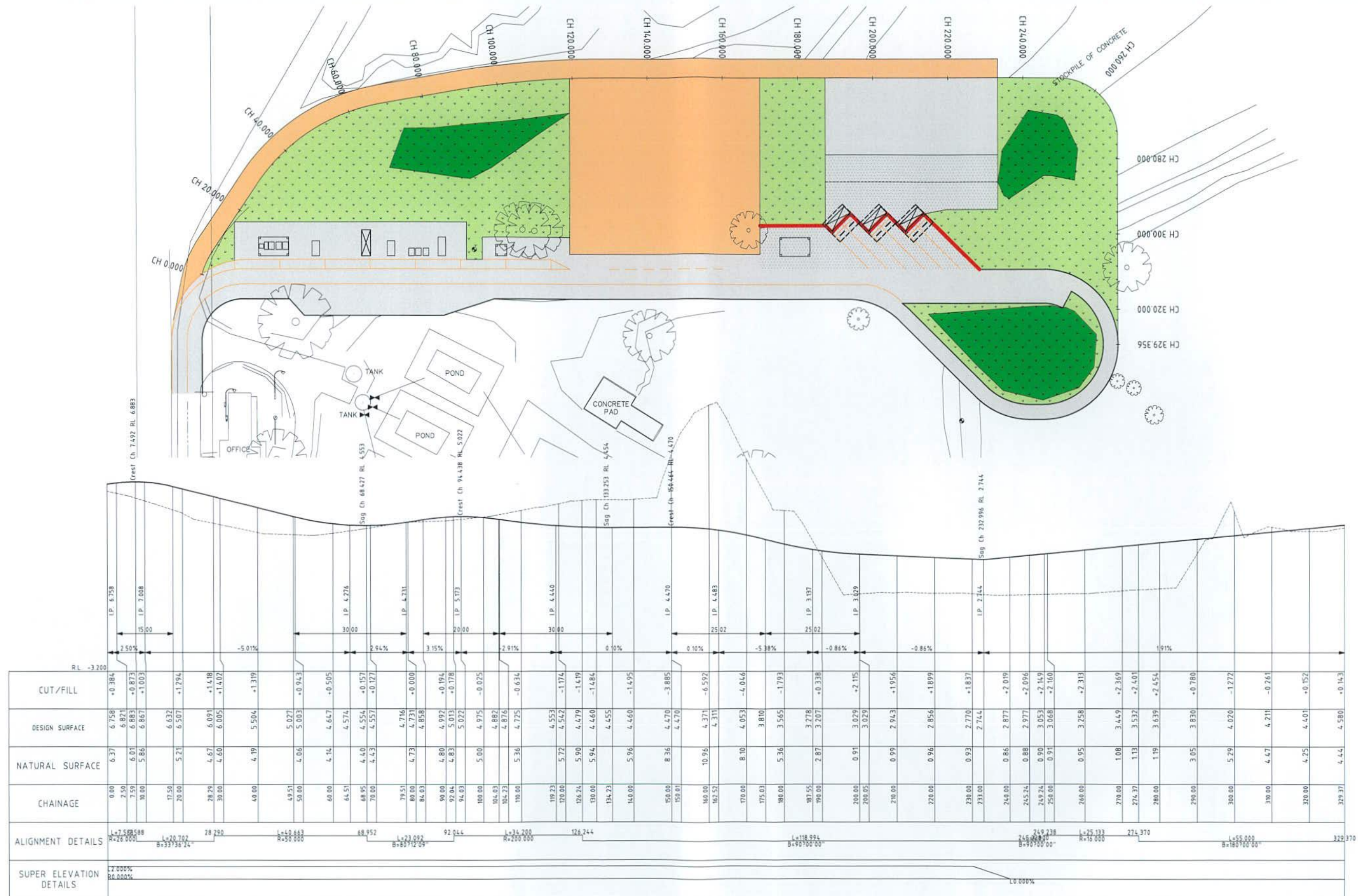






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| NO. DATE                        |  | REVISION |  | BY | CHKD | APPR | DATE | C.A.D. File Nos |          | NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED APPROVED. |  | DESIGNER TO COMPLETE |    | WORKS AND SERVICES DIRECTORATE |         |  | TIMS THICKETT - DAWESVILLE WASTE TRANSFER STATION LONG SECTION - MAIN |    |  |
|                                 |  |          |  |    |      |      |      | AUTOCAD         | CIVILCAD | APPROVED   |  | DESIGNED             | RC | 3/4/14                         | JOB NO. |  | AS SHOWN  | A1 |  |
|                                 |  |          |  |    |      |      |      | SURVEYED BY PW  |          | POSITION   |  | DRAWN                | RC | 3/4/14                         | T.B.A   |  |   |    |  |
| 0 04/14 ISSUED FOR CONSTRUCTION |  |          |  |    |      |      |      | DATE N/A        |          | DATE   |  | DESIGN ENGINEER      |    |                                |         |  |   |    |  |




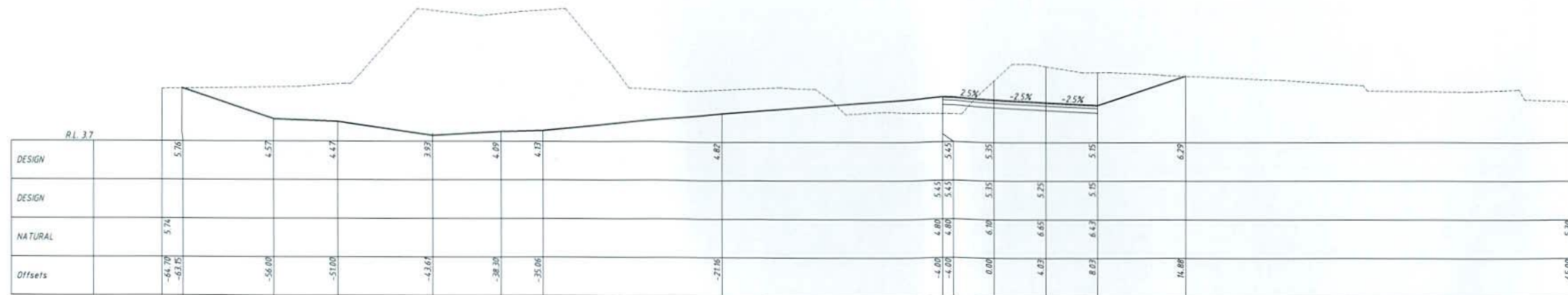


| NO | DATE | REVISION | BY | CHKD | APPR | DATE | CADD File Nos    | NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED APPROVED | DESIGNER TO COMPLETE | WORKS AND SERVICES DIRECTORATE | TIMS THICKETT - DAWESVILLE WASTE TRANSFER STATION LONG SECTION - SERVICE TRACK |
|----|------|----------|----|------|------|------|------------------|---|----------------------|--------------------------------|--|
|    |      |          |    |      |      |      | AUTOCAD CIVILCAD | APPROVED  | DESIGNED RC          | JOB NO                         | SCALE AS SHOWN   |
|    |      |          |    |      |      |      | N/A              | POSITION  | DRAWN RC             | T.B.A                          | A1   |
|    |      |          |    |      |      |      |                  | DATE  | DRAFT CHECK          |                                | DWG NO   |
|    |      |          |    |      |      |      |                  |   | DESIGN ENGINEER      |                                | RDS 221009/ 0  |

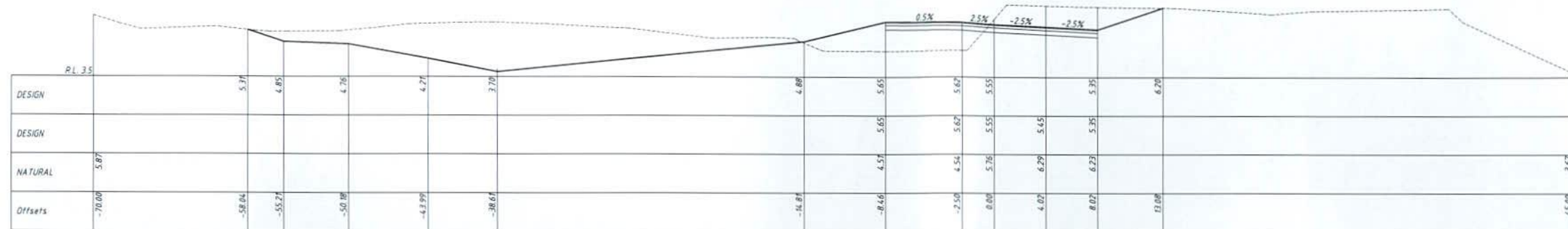




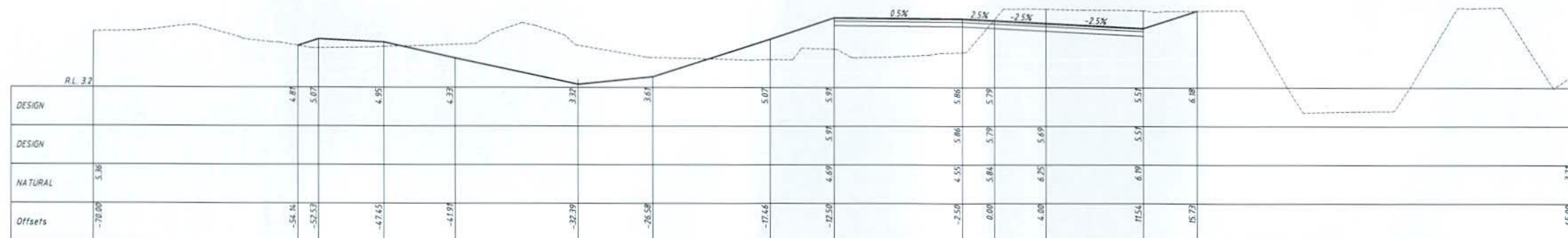
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| NO | DATE  | REVISION                | BY | CHKD | APPR | DATE | CADD File Nos   | NOT TO BE USED FOR CONSTRUCTION<br>UNTIL SIGNED APPROVED | DESIGNER TO COMPLETE | WORKS AND SERVICES<br>DIRECTORATE |  | TIMS THICKETT - DAWESVILLE<br>WASTE TRANSFER STATION<br>CROSS SECTIONS |          |           |        |               |
|    |       |                         |    |      |      |      | AUTOCAD<br>U:\SW\13-14\PLANNING FOR<br>2013-2014\TIMS<br>THICKETT\DESIGN<br>DRAWINGS\RDS_2210.DWG | CIVILCAD<br>U:\CIVIL\DATA\N<br>XXXXX.CC6                 | DATE                 |                                   |   | DESIGNED   | RC       | 12/3/2012 |        |               |
|    |       |                         |    |      |      |      |   |  | APPROVED             |                                   |   | DRAWN  | RC       | 12/3/2012 |        |               |
|    |       |                         |    |      |      |      | SURVEYED<br>BY PW   | DATUM<br>AHD & PCG                                       | POSITION             |                                   |   | DRAFT CHECK  |          | JOB NO    | T.B.A  |               |
| 0  | 04/14 | ISSUED FOR CONSTRUCTION |    |      |      |      | DATE XX/XX/XXXX   |  | DATE                 | DESIGN ENGINEER                   |   | SCALE  | AS SHOWN | A1        | DWG NO | RDS 221010/ 0 |



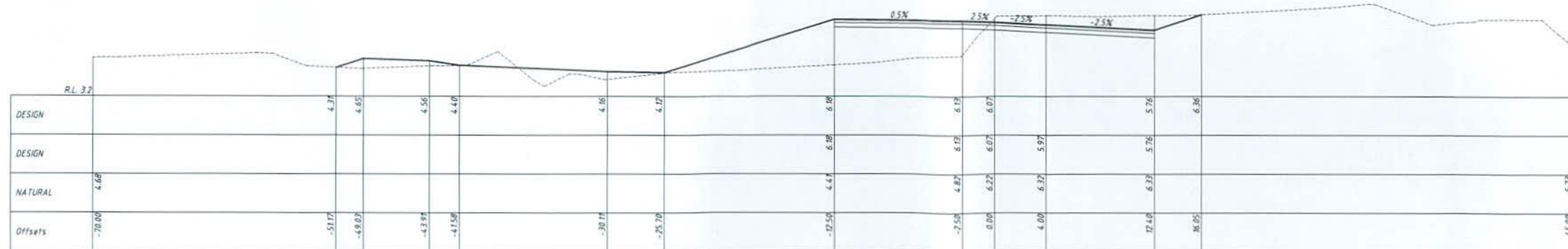
Ch 140.000



Ch 120.000



Ch 100.000



Ch 80.000

REFERENCE DRAWINGS / DOCUMENTS

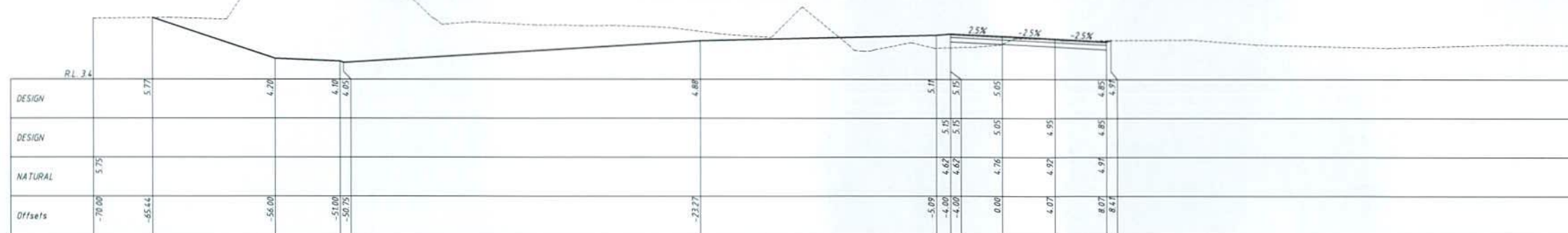
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|-----|------|----------|----|------|------|------|---|---|-----------------------|--------------------------------|--|
|     |      |          |    |      |      |      | AUTOCAD U:\VIEWS\DRAWING FOR 2013-2014\TIMS THICKETT\DESIGN DRAWINGS\RDS 2210.DWG |   | DESIGNED RC 12/3/2012 |                                | SCALE AS SHOWN   |
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|     |      |          |    |      |      |      | SURVEYED BY PW  | POSITION  | DRAFT CHECK           | JOB NO. T.B.A                  | DWG NO. RDS 221011/ 0  |
|     |      |          |    |      |      |      | DATUM AHD & PCG   | DATE  | DESIGN ENGINEER       |                                |  |
|     |      |          |    |      |      |      | DATE XX/XX/XXXX   |   |                       |                                |  |


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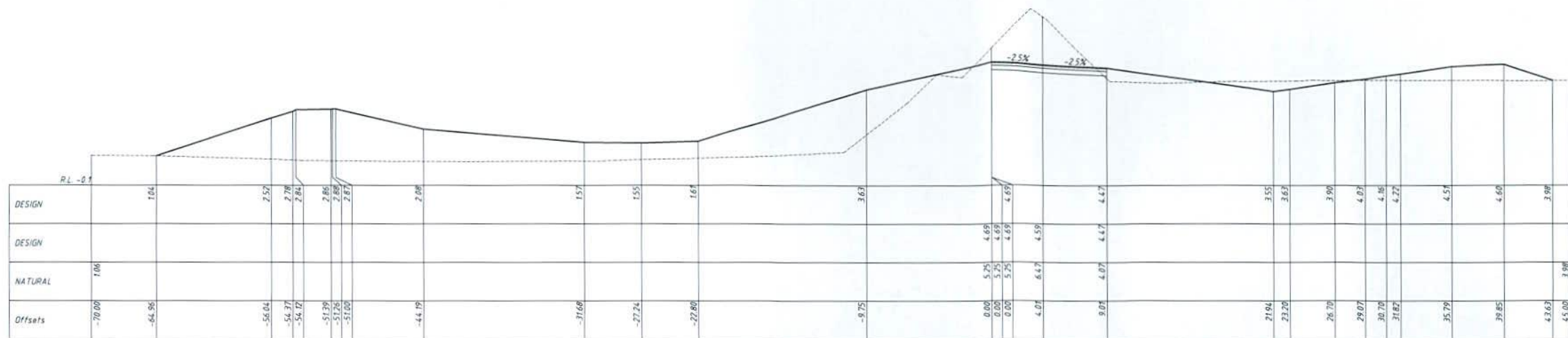
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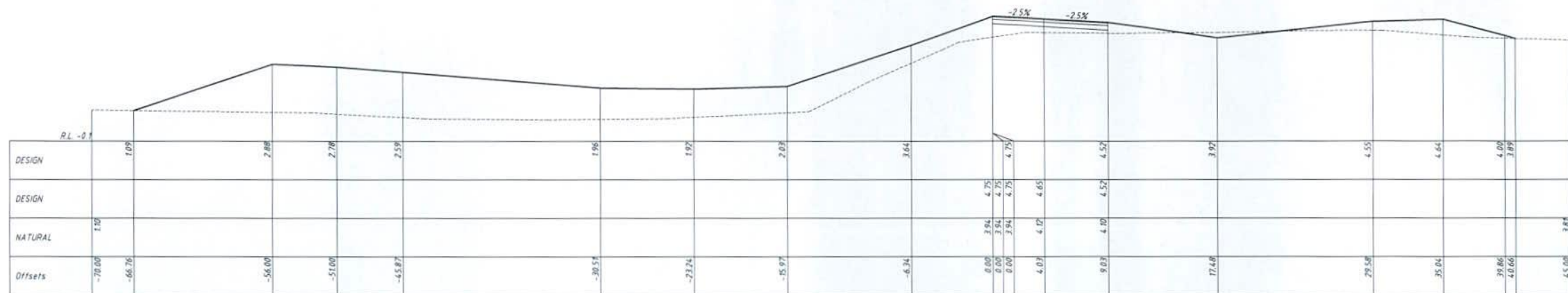




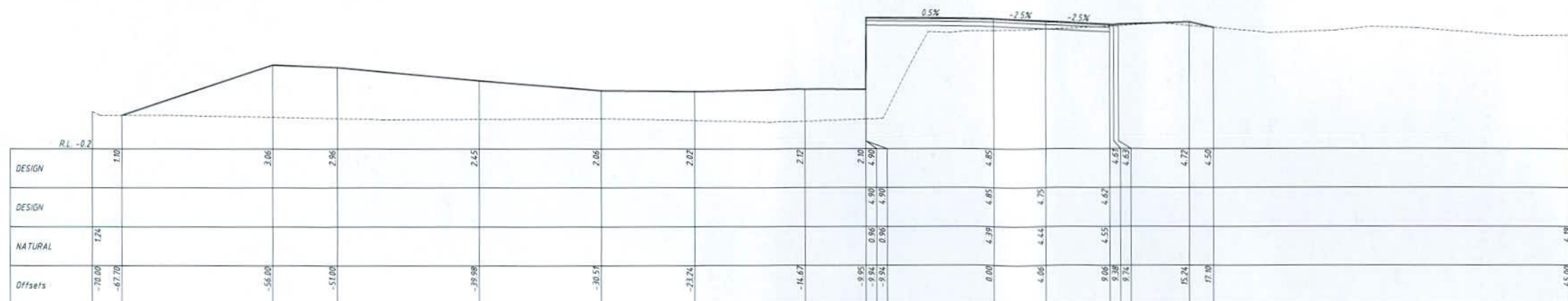
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| NO. | DATE  | REVISION                | BY | CHKD | APPR | DATE | CADD File Nos   |                    | NOT TO BE USED FOR CONSTRUCTION<br>UNTIL SIGNED APPROVED | DESIGNER TO COMPLETE |                 |           |  | TIMS THICKETT - DAWESVILLE<br>WASTE TRANSFER STATION<br>CROSS SECTIONS |                   |    |                                   |
|     |       |                         |    |      |      |      | AUTOCAD<br>UNWTD-14-SPANNING FOR<br>2010-2014 TMS<br>THICKETT DESIGN<br>DRAWINGS-RDS 221012 | CIVILCAD<br>N/A    | APPROVED .....   | DESIGNED             | RC              | 12/3/2012 |   |  |                   |    | WORKS AND SERVICES<br>DIRECTORATE |
|     |       |                         |    |      |      |      |   |                    | POSITION .....   | DRAWN                | RC              | 12/3/2012 |   |  |                   |    |                                   |
|     |       |                         |    |      |      |      | SURVEYED<br>BY: PW<br>DATE: N/A   | DATUM<br>AHD & PCG | DATE .....   | DRAFT CHECK          |                 |           |   |  |                   |    |                                   |
| 0   | 04/14 | ISSUED FOR CONSTRUCTION |    |      |      |      |   |                    |  |                      | DESIGN ENGINEER |           |   |  | SCALE<br>AS SHOWN | A1 | DWG NO<br>RDS 221012/ 0           |



Ch 250+920



Ch 240+000



Ch 220+000

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| NO | DATE  | REVISION                | BY | CHKD | APPR | DATE | C.A.D. File Nos  | NOT TO BE USED FOR CONSTRUCTION<br>UNTIL SIGNED APPROVED. | DESIGNER TO COMPLETE  | WORKS AND SERVICES<br>DIRECTORATE | TIMS THICKETT - DAWESVILLE<br>WASTE TRANSFER STATION<br>CROSS SECTIONS |
|----|-------|-------------------------|----|------|------|------|--|---|-----------------------|-----------------------------------|--|
|    |       |                         |    |      |      |      | AUTOCAD<br>D:\1503-150-ANNEX FOR<br>200-250\1503<br>THICKETT\DESIGN<br>DRAWINGS\RDS 2210.DWG |   | DESIGNED RC 12/3/2012 |                                   |  |
|    |       |                         |    |      |      |      | CIVILCAD<br>N/A  | APPROVED _____  | DRAWN RC 12/3/2012    |                                   |  |
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|    |       |                         |    |      |      |      | DATUM<br>AHD & PCG   | DATE _____  | DESIGN ENGINEER       |                                   |  |
|    |       |                         |    |      |      |      | DATE N/A   |   |                       | JOB NO. T.B.A                     |  |
| 0  | 04/14 | ISSUED FOR CONSTRUCTION | RC |      |      |      |  |   |                       |                                   |  |



SCALE AS SHOWN A1 DWG NO RDS 221013/ 0



**Attachment 5: Tims Thicket facility Monitoring Bore Locations**






| Point Data |          |          |       |                 |
|------------|----------|----------|-------|-----------------|
| Point No.  | Easting  | Northing | Level | Remarks         |
| 1          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 1  |
| 2          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 2  |
| 3          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 3  |
| 4          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 4  |
| 5          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 5  |
| 6          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 6  |
| 7          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 7  |
| 8          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 8  |
| 9          | 47014.83 | 62042.23 | 1.24  | Monitor Bore 9  |
| 10         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 10 |
| 11         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 11 |
| 12         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 12 |
| 13         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 13 |
| 14         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 14 |
| 15         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 15 |
| 16         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 16 |
| 17         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 17 |
| 18         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 18 |
| 19         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 19 |
| 20         | 47014.83 | 62042.23 | 1.24  | Monitor Bore 20 |

- NOTES:
- 1. HEIGHT DATUM IS AHD
  - 2. HORIZONTAL DATUM IS PCG 94
  - 3. LEVEL TAKEN ON PIPE COLLAR

Project:

TIMS THICKET MONITOR BORE LOCATIONS  
180 TIMS THICKET ROAD, DAWESVILLE



DRAWN: P.B.


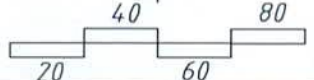
CHECKED: K.B.

DATE: 14.06.2013

SCALE: 1:1000 @ A1

S13-079

02

City of Mandurah South WaterCAD1313-479 Tims Thicket Monitor Bore.dwg

TIMS THICKET ROAD



**ATTACHMENT 2**

**CLEARED VEGETATION PHOTOGRAPHS**









