ITEM 9.1.2
APPENDIX 2

OPUS

Avon Waste

Proposed Operations Depot Lot 5113 Ashworth Road, York

Traffic Impact Statement

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Proposed Operations Depot
Lot 5113 Ashworth Road, York

Traffic Impact Statement

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1 Introduction

1.1 Background

Avon Waste operate a waste management and recycling service to some 33 Local Government communities throughout the Western Australian Wheatbelt. They have been operating for some 30 years and the business has been steadily growing through that time.

Clients include Local Governments, State Government agencies and Private businesses. Services offered include recycling, waste collection, bulk waste handling and landfill management.

Avon Waste have outgrown their current operations centre in the York Townsite and propose to relocate their transport depot and operations centre to Lot 5113 Ashworth Road, located immediately adjacent the intersection of Ashworth Road and the Perth Chidlow Road (aka "Great Southern Highway")

The proposal for this site is for a transport depot which is intended to be used for the garaging, maintenance and operations of Avon Waste's fleet of vehicles. There will be no transport, storage or processing of waste at the site. Avon Waste operational activities will continue to be undertaken from Avon Waste recycling centre in York Industrial area, Northam Landfill and various other Local Government waste management facilities around the Wheatbelt.

This Traffic Impact Statement has been provided to assist in assessment of the proposed development.

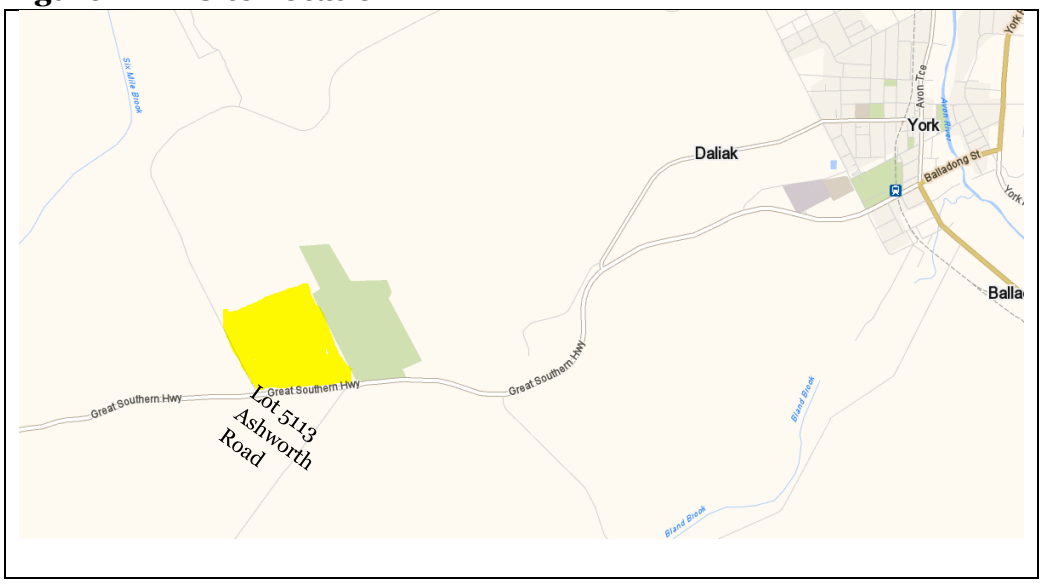
2 Existing Conditions

2.1 Location

Lot 5113 Ashworth Road is located immediately north east of the intersection of the York-Chidlow Road and Ashworth Road in the Shire of York as shown in Figure 1.

The eastern boundary of Lot 5113 abuts a crown reserve which is currently utilised as the York Town Golf course. The unsealed access road to the golf course from the highway is immediately adjacent the boundary with Lot 5113.

Figure 1 Site Location



The York Chidlow Road is a State Highway under the management of Main Roads WA. It is sealed and at this location consists of three constructed traffic lanes; an eastbound lane, eastbound passing lane and westbound lane. A default speed limit of 110km/h applies

Ashworth Road is an access road under the management of the Shire of York servicing some 20 properties. Ashworth Road is sealed for approximately 2 kilometres from the Highway then reverts to an unsealed, paved (gravel) road. The far end of Ashworth Road connects to Mokine Road which is a rural regional connector and which provides an alternate (tertiary) connection between Northam and York. A default speed limit of 110 km/h applies to Ashworth Road although the practical operating speed would be lower because of the road geometry.

The intersection of Ashworth Road and the Highway is sealed and configured type BA in accordance with Austroads Guide to Traffic Engineering practice. It is uncontrolled (no Stop or Give Way).

The Golf Course access road at the eastern edge of the property and connecting to the highway is not a legally declared road and is part of a Crown Reserve for Recreation. It is not registered by Main Roads WA or the Shire as a road in their databases and is best described as a formed track driveway to the golf course club house. The connection of the Golf Course driveway to the highway is unsealed and uncontrolled.

2.2 Traffic Volumes

2.2.1 Ashworth Road

Traffic count data is not available from the Shire of York for Ashworth Road. Traffic volumes on Ashworth Road would appear to be less than 200 vehicles per day which is the default assumed traffic volume in the Shire's asset database. During the sight inspection lasting approximately 1 hour at midday no vehicles used the road.

Traffic would include a mix of trucks and light vehicles and predominantly be farming related. There is a designated tourist operation (Olive Oil farm) part way along the road. Operations appear to be low key and primarily on weekends and involve occasional delivery vehicles and tourist cars.

EDIT 9/10/15
Traffic data supplied by the Shire of York for the period 11 April 2013 to 30 April 2013 records average daily traffic of approximately 60 vehicles per day with 6.6% heavy vehicles. This information is well within assumptions made in the report and makes no difference to recommendations.

A default speed limit of 110km/h applies and operating speed is estimated in the region of 80-100km/h at this location.

Ashworth Road is not a Restricted Access Vehicle Approved route. (Source MRWA on line RAV mapping system)

Ashworth Road is currently a designated school bus route. (Source Department of Transport)

2.2.2 Perth-Chidlow Road

The following traffic data for Perth-Chidlow Road has been sourced from Main Roads WA "Wheatbelt Traffic Digest 2008/09-2013/14"

Site	Date of traffic count	Average Daily Traffic (Mon-Sun)	Percentage Heavy Vehicles
West of Ashworth Road	2011/12	1560	16.8
South of Morris Edwards Drive	2012/13	1380	13.7

2.3 Road Safety

There are no recorded traffic accidents at the intersection of Ashworth Road and Great Southern Highway in the 5 year period to 2013/14. (source Main Roads WA Crash Analysis Reporting System (CARS))

3 Proposed Development

The proposed development consists of a transport depot. Activities are proposed to include an administrative office, mechanical workshop, maintenance areas, garaging, storage of equipment, employee facilities and associated support activities.

Normal operating hours of the depot are proposed to be 7:30am to 5:00pm Monday to Friday, with some occasional Saturday maintenance work.

In addition to normal working hours vehicles would regularly depart from the depot in the early morning to reach various remote towns, and in some instances would stay away overnight.

No waste management or freight operations are intended on the site and all such operations by Avon Waste occur at existing approved landfill, recycling and waste transfer sites.

A site plan is attached in Appendix 1.

4 Forecast Traffic Volumes

4.1 Freight Movements – Operational Activity

4.1.1 Total Vehicle Movements - Current

Avon Waste currently operate a total fleet of 23 collection vehicles. Collection vehicles are non-articulated 2-3 axle trucks of varying capacity, most typically in the 10-12 tonne range

Daily operations consist of around 11 vehicles per day leaving the depot in the morning and returning between 2-5pm. Not all vehicles return to the depot every night and some operations require overnight stays in remote locations.

In addition to operations movements there would be a fuel delivery truck (about once per fortnight) and occasional delivery vehicles. These might include articulated semi trailers.

Light vehicle movements would consist of staff arriving and departing each day (nominally 15 light vehicle movements in and out per day)

4.1.2 Future predictions

Avon Waste activity has steadily grown over 30 years to this point. Operations are dependent on service contracts and some continued growth of activity is likely. To add context, one truck movement per week would service a typical Local Government rural district and Avon Waste have steadily added new districts to their service over the years. Business growth is dependent on a competitive market, government initiatives and is problematic to precisely predict.

Based on historical business growth the additional growth in truck movements is likely to average one (1) additional truck movement added for each year of operation of the depot.

4.1.3 Design Vehicle Requirements

Currently operations include only non-articulated 2-3 axle trucks, possibly with some deliveries by articulated 3-4 axle trucks (semi-trailers)

Opus recommends the crossing place to the property, internal access roads and turning areas be designed for a worst case 4 axle articulated truck and trailer.

Adjoining public roads are already designed for this standard of vehicle.

5 Traffic Impact

5.1 Access Arrangements

5.1.1 Preferred Access Location

Three options for access have been considered.

Option 1. Ashworth Road (recommended)

Option 2. Golf Course Access driveway (not recommended)

Option 3. Direct access to Highway (not recommended)

A safe access could be readily constructed onto Ashworth Road (Option 1) at the local crest in the road about 30 metres south of the existing access gate. This location provides close proximity to the highway, compliant sight distances in both directions, access to a lower order, lower operating speed, and lower traffic volume local road. This option is recommended from a minimum traffic impact assessment only and without regard for any other design or planning constraints on the development.

As an alternative there are several locations along the Highway where a new access might be constructed with adequate traffic sight distance in both directions. Construction of access direct to the Highway (Option 3) would include construction of a crossing place to a commercial full sealed standard suitable for heavy vehicles as specified by Main Roads WA.

Main Roads WA has an existing policy to discourage direct access to Highways where alternatives exist. This is in order to reduce the number of traffic conflict points on highways which pose a potential collision point and potentially impede traffic flows.

Option 3 would therefore be higher cost, higher risk and less favourable from a Highway planning perspective.

The existing access to the property via the Golf Course access driveway (Option 2) is not legally dedicated and not properly constructed for commercial vehicle access. Problematically there would be issues of legality, permission, insurance liability and similar. If approved there would be significant costs to upgrade the road and access to the Highway.

Option 2 is unlikely to be achievable without considerable negotiations with several Government Departments (Main Roads WA, Shire of York, Landgate, Department of Planning) to allow the access, and if permitted would require significant infrastructure upgrades. Opus suggests there

would need to be a compelling reason or absence of alternative option to convince the government agencies to allow this.

5.2 Road Safety

A formal road safety audit has not been undertaken.

There are no recorded accidents at the intersection of Ashworth Road and the York Chidlow Road in the 4 year period to 2013/14.

Ashworth Road is a "low order rural road" constructed to a sealed standard and compliant to Austroads Guide to Traffic Engineering Practice. A "low order rural road" is a minor road or access place which generally serves only a few properties and has a low volume of traffic.

York Chidlow Road is a three lane highway at the intersection with Ashworth Road with 2 eastbound lanes and one westbound lane. The Highway has a longitudinal grade of around 5% (estimated) falling towards the west. Sight distances in both directions exceed 500 metres.

Advance warning signs of the intersection appear to be missing on some approaches and the addition of "drop down road name tags" to the signs might be beneficial.

6 Infrastructure Upgrades

6.1 Access Design

The Shire of York has provided a copy of their standard crossing place requirement but with the proviso this is not intended for industrial depots, which would include this proposal. The Shire does not have a standard specification for industrial crossing place.

Opus recommends that Avon Waste design the crossover access onto Ashworth road to suit an articulated truck (semi-trailer). An unsealed crossing place is unlikely to be satisfactory for Avon Waste operations or acceptable to the Shire and Opus therefore recommend the crossing place should be sealed in asphalt or concrete. An appropriately designed.

NB The crossing place is the section of driveway that connects from the property boundary to the constructed road pavement and must be constructed to the standard of the managing road authority.

6.2 Ashworth Road

Ashworth Road is currently constructed with a 6.2 metre sealed carriageway on an 8m pavement.

Austroads rural road design standard recommends a carriageway width of 6.2-7.0 metres and pavement width of 7.2-8.5 metres for a road carrying 150-500 vehicles per day. A minimum 7.0 metres sealed carriageway is recommended for roads carrying 15% or more heavy vehicles.

Opus has not tested pavement strength or durability and it is presumed the Shire has designed and constructed Ashworth Road for "as of right" rural traffic which includes light and heavy trucks up to and including semi trailers.

Upgrading of Ashworth Road is therefore not recommended.

6.3 Highway Intersection

The existing Highway includes one westbound lane and two eastbound lanes with Ashworth Road joining on the northern side.

The Guide to Traffic Engineering Practice Part 5: Intersections at Grade", Austroads 2008, figure 6.41 provides warrants for rural turning lanes.

Intersection traffic assessment for auxiliary turning lane warrant

York Chidlow Road Traffic Assume 1380 vehicles per day 2 directions (2013/14 count) 10% peak hour one direction => 69 vehicles per hour
Ashworth Road Less than 200 vehicles per day 2 directions– assume 200 Plus additional development traffic Approx. 56 vehicles per day 10% peak hour turning => 13 vehicles per hour
Austroads Guide Figure 6.41 Type BA intersection ("Basic Intersection – no turning lanes)

Upgrading of the intersection of Ashworth Road is therefore not recommended.

Predicted traffic growth over a 10 year period will not alter this recommendation.

7 Summary and Conclusions

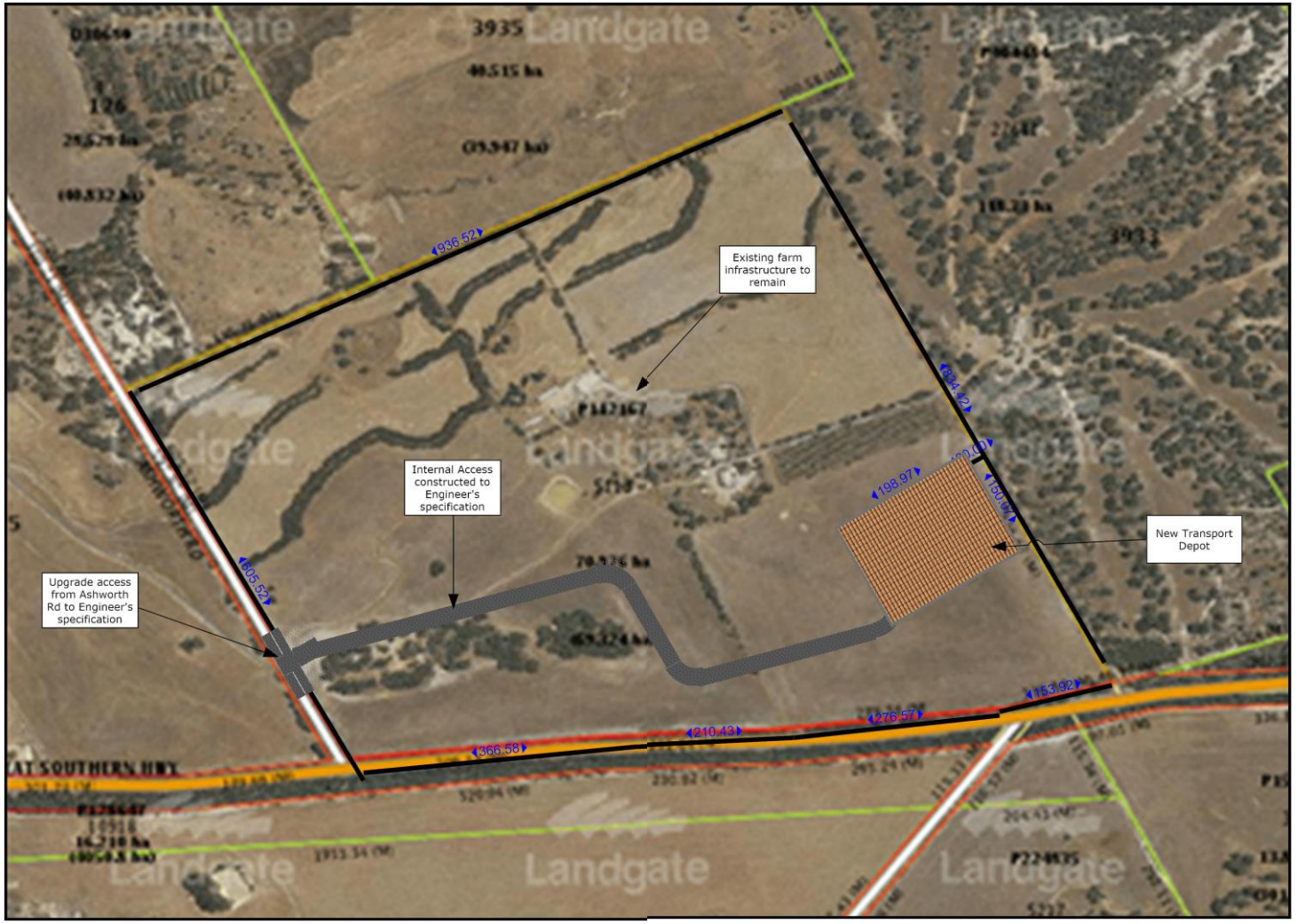
Opus recommends that access to the new development

- Could be safely and effectively provided in accordance with Austroads guidelines
- Would be best positioned in Ashworth Road at the crest in the road approximately 30 metres south of the existing crossover
- The access to be designed and constructed for a design Semi trailer vehicle to a sealed standard with suitable strength pavement
- Widening of Ashworth Road is not required
- Upgrading of the intersection of Ashworth Road and the York-Chidlow Road is not required

These recommendations are based on

- The assumption that the current average daily traffic volume on Ashworth Road is less than 200 vehicles per day. (no traffic count available)
- The existing Ashworth Road pavement has been constructed to an engineering standard suitable for “as of right” vehicles up to semi trailer size

Appendix 1. Site Plan



Appendix 2. Site Photos

Plate 1. Ashworth Road approach to intersection

Plate 2. Entering sight distance looking west

Plate 3. Entering sight distance looking east

Plate 4. View of Ashworth Road from intersection

Plate 5. Highway approach to intersection from the East

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