Appendix 13
Traffic Assessment
CONTENTS

1.0 INTRODUCTION

1.1 Background
1.2 Scope of Report

2.0 EXISTING TRAFFIC CONDITIONS

2.1 Existing Traffic Volumes
2.2 Road Inventory and Traffic Controls
2.3 Intersection Capacity Analysis
2.4 Vehicle Access to Site

3.0 THE PROPOSED OPERATIONS AND CONSTRUCTION OF THE RRF

3.1 The Facility and Site Layout
3.2 Facility Operation and Recycling Process
3.3 Vehicular Access and Internal Traffic Circulation
3.4 Plant Output
3.5 Operating Hours and Staffing
3.6 Car Parking Provision
3.7 Estimated Daily and Hourly Vehicle Movements
3.8 Distribution of Vehicles to Road Network
3.9 Traffic Movements During Construction Stages

4.0 TRAFFIC IMPACTS OF PROPOSED RCF

4.1 Access, Internal Traffic Circulation and Parking
4.2 Effects of Increased Traffic on Intersection Performance
4.3 Effects of Increased Traffic on Road Network
1.0 INTRODUCTION

1.1 Background

This traffic impact assessment for the proposed Resource Recovery Facility to be operated by Resource Co Pty Ltd on Lot 1, DP 589097 Nos. 35-37 Frank Street, Wetherill Park has been prepared for the E.I.S. being prepared by Nexus Environmental Planning Pty Ltd. The site is shown in Figure 1, Site Location.

1.2 Scope of Report

This report addresses the transport issues involved in the proposed facility and the traffic impacts on the regional road network in the vicinity of the site.

In a letter to Mr Ben Sawley Resource Co Pty Ltd dated 1/10/15, the NSW Planning and Environment listed the Secretary’s Environmental Assessment Requirements (SEARS) and advised that the E.I.S. must address the following specific matters:

- Traffic and Transport – including:
  - details of all traffic types and volumes likely to be generated during construction and operation, including a description of haul routes;
  - an assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model;
  - detailed plans of the proposed layout of the internal road network and parking on site in accordance with the relevant Australian standards; and
  - detailed plans of any proposed road upgrades, infrastructure works or new roads required for the development.

- Parking:
  - The Fairfield Citywide DCP Chapter 12 – Car Parking, Vehicle and Access Management – Amend. 10 states that the parking spaces required for a Resource Recovery Facility are “to be determined by a car parking survey of a comparable facility”.


2.0 EXISTING TRAFFIC CONDITIONS

2.1 Existing Traffic Volumes

a) Annual Average Daily Traffic Volumes (AADT)

Historical traffic volumes at RMS Counting Stations in The Horsley Drive (MR609), Gipps Road (MR646), Ferrers Road (RR7153) and Cowpasture Road (MR648) were published by the RMS until 2005. Later counts have been provided by request. Available volumes are listed in Table 2.1a. The Counting Station locations are shown in Figure 3A.

Table 2.1a – AADT Volumes

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Horsley Drive</td>
<td>66240 Fairfield Railway</td>
<td>37927</td>
<td>40889</td>
<td>40373</td>
<td>41273</td>
<td>40354</td>
<td>40934</td>
<td>40722</td>
<td>40021</td>
<td>41881</td>
<td>93 to 2015 +0.45%</td>
</tr>
<tr>
<td></td>
<td>66089 West of Cumb. Hwy</td>
<td>16005</td>
<td>19487</td>
<td>22336</td>
<td>18240</td>
<td>19645</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>66245 West of Maugham Cr.</td>
<td>14600</td>
<td>21267</td>
<td>20815</td>
<td>21564</td>
<td>19972</td>
<td>21295</td>
<td></td>
<td></td>
<td></td>
<td>93 to 2009 +2.4%</td>
</tr>
<tr>
<td></td>
<td>65140 West of Ferrers Rd</td>
<td>17627</td>
<td>18833</td>
<td>19376</td>
<td>19278</td>
<td>17547</td>
<td>28713</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>65095 East of Wallgrove Rd</td>
<td>17656</td>
<td>19244</td>
<td>18913</td>
<td>17084</td>
<td>28774</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gipps Road</td>
<td>68225 South of Long St</td>
<td>17574</td>
<td>22784</td>
<td>22395</td>
<td>21067</td>
<td>18820</td>
<td>19488</td>
<td>17926</td>
<td></td>
<td></td>
<td>96 to 2012 +0.7%</td>
</tr>
<tr>
<td>Cowpasture Road</td>
<td>65152 South of The Horsley Dr.</td>
<td>18119</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrers Road</td>
<td>66237 Supply Canal</td>
<td>8571</td>
<td>11333</td>
<td>16184</td>
<td>17250</td>
<td>17449</td>
<td>11278</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70074 South of Gt West Hwy</td>
<td>9134</td>
<td>12554</td>
<td>18113</td>
<td>18399</td>
<td>18703</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cowpasture</td>
<td>65151 South of Prairievale Rd</td>
<td>17354</td>
<td>22794</td>
<td>25771</td>
<td>28879</td>
<td>32609</td>
<td>28365</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A 7 day Classification and Volume Survey by CFE (Centre For Excellence) in November 2015 on Frank Street showed an ADT of 3432 and an AWT of 4452.

A 7 day Classification and Volume Count was conducted by CFE in The Horsley Drive between Elizabeth Street and Canley Vale Road in February 2016. The ADT was 23151 and the AWT was 26235. The count locations are shown on Figure 2A.

The historical data from 1996 to the latest current count shows that the annual average growth rate per annum is generally less than 0.5% on all regional roads in the vicinity of the subject site. Between 2005 and 2009 there has been a reduction of some 6200 vpd in Ferrers Road and increase of some 11200 vpd in The Horsley Drive west of Ferrers Road.
FIGURE 3A
EXISTING AADT COUNT STATIONS
FIGURE 2A
LOCATION OF VEHICLE CLASSIFICATION COUNTS

LEGEND

VEHICLE CLASSIFICATION COUNT LOCATION

N
2.1 (Continued)

b) Comparison between AAWT and AADT

AAWT data has been obtained in 2012 from the RMS website at Station 68225 in Gipps Road and Station 66240 in The Horsley Drive and from the CFE survey in Frank Street.

<table>
<thead>
<tr>
<th>STATION</th>
<th>AAWT</th>
<th>AADT</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>68225</td>
<td>23800</td>
<td>19400</td>
<td>1.227</td>
</tr>
<tr>
<td>66240</td>
<td>45800</td>
<td>40400</td>
<td>1.134</td>
</tr>
<tr>
<td>Frank Street</td>
<td>3432</td>
<td>4452</td>
<td>1.297</td>
</tr>
</tbody>
</table>

The RMS Counting Stations are located in Figure 3A.

c) Peak Hour Traffic Volumes:

Traffic Volume and Pedestrian Counts were made from 7:00-9:00am and 4:00-6:00pm on Tuesday 24th November and Wednesday 25th November 2015 at 6 intersections on the road network surrounding the subject site at 35-37 Frank Street, Wetherill Park, as shown in Figure 2. The peak hours were generally 7:30-8:30am and 4:00-5:00pm. A further count was carried out at Daniel Street/Elizabeth Street and a partial count at Elizabeth Street and The Horsley Drive from 4:00pm to 6:00pm on the 2/2/16. The counts are shown in Figure 3C for the am and pm peak hours. The peak hour Pedestrian Movements at the signalised pedestrian crossings ranged from 0 to 4.

2.2 Road Inventory and Traffic Controls:

- Frank Street is a 2 lane industrial road. The movements at the Elizabeth Street intersection are controlled by Give Way signs. The movements at Redfern Street are controlled by Stop signs.
- Elizabeth Street is a 4 lane industrial road with traffic signal control at the Victoria Street and The Horsley Drive intersections. Victoria Street is a 4 lane industrial road with additional right turning lanes at the Elizabeth Street and Walter Street signalised intersections.
- The Horsley Drive is a 4 lane industrial road with additional right turn bays at the signalised intersections.
- Redfern Street is a 2 lane industrial road and movements at the Walter Street tee intersection are controlled by Give Way signs.
- The signposted speed limits are 50km in Frank Street, 60km Redfern Street, Elizabeth Street and Gipps Road and 70km in The Horsley Drive.
**LEGEND**
- **AM PEAK HOUR** 7:30-8:30AM = 1023
- **PM PEAK HOUR** 4:00-5:00PM = (846)
- **PM PEAK HOUR** 4:00-5:00PM = (761)
- COUNT ON 2/2/16
- PEDESTRIAN MOVEMENT = [ ]
- INTERSECTION NUMBER = °

**FIGURE 3C**
EXISTING PEAK HOUR TRAFFIC COUNTS
FOR AM PEAK HOUR 7:30-8:30AM AND
PM PEAK HOUR 4:00-5:00PM
2.3 Intersection Capacity Analysis (SIDRA 6.1)

The Classification Counts in Frank Street show that the percentages of heavy vehicles (Austroad Classes 3 to 12) were as shown in Table 2.3A in the 7:30-8:30am peak hour and in the 4:00-5:00pm peak hour. These percentages were used in the SIDRA analysis of intersections 1 to 3, as located in Figure 2.

In The Horsley Drive Upgrade – M7 Motorway to Cowpasture Road corridor study for the RMS, the percentage of heavy vehicles is stated to range from 18 to 22% in Section 2.1.1 of the Preferred Option Corridor Report by Hills Environmental, August 2015: The report does not state whether the daily volumes are weekday or 7 day. An additional Classification Count was carried out in The Horsley Drive, midblock between Canley Vale Road and Elizabeth Street to check the heavy vehicle volumes in the eastbound and westbound directions for this report. In the analysis of intersections 2, 4, 5 and 6 the percentage of heavy vehicles is based upon the percentage of heavy vehicles Class 3 to 12 by direction from The Horsley Drive Count, as shown in Table 2.3A.

All 6 intersections located in Figure 2 have been analysed using SIDRA Version 6.1. The network performance is determined by the Level of Service (LoS) Average Delay (AVD), Degree of Saturation (DoS) and maximum delay on the critical movement at the intersections during peak hours. The Level of Service criteria for intersections are explained in Table 4.2 taken from the RTA Guide to Traffic Engineering Developments.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Delay per Vehicle (secs/veh)</th>
<th>Traffic Signals, Roundabout</th>
<th>Give Way &amp; Stop Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>&lt;14</td>
<td>Good operation</td>
<td>Good operation</td>
</tr>
<tr>
<td>B</td>
<td>15 TO 28</td>
<td>Good with acceptable delays spare capacity</td>
<td>Acceptable delays &amp; spare capacity</td>
</tr>
<tr>
<td>C</td>
<td>29 TO 48</td>
<td>Satisfactory</td>
<td>Satisfactory, but accident study required</td>
</tr>
<tr>
<td>D</td>
<td>43 TO 56</td>
<td>Operating near capacity</td>
<td>Near capacity &amp; accident study required</td>
</tr>
<tr>
<td>E</td>
<td>57 TO 70</td>
<td>At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode</td>
<td>At capacity, requires other control mode</td>
</tr>
</tbody>
</table>

The results of the SIDRA analysis are set out in Table 2.3
2.3  (Continued)

Table 2.3A  Percentage of Heavy Vehicles Class 3 to 12 in Frank Street and The Horsley Drive.

<table>
<thead>
<tr>
<th></th>
<th>Peak Hours</th>
<th>Frank Street</th>
<th>The Horsley Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Eastbound</td>
<td>Westbound</td>
</tr>
<tr>
<td>7:30AM – 8:30AM</td>
<td></td>
<td>38.6%</td>
<td>30.62%</td>
</tr>
<tr>
<td>4:00PM – 5:00PM</td>
<td></td>
<td>21.41%</td>
<td>38.54%</td>
</tr>
</tbody>
</table>

Assumptions of Peak Hour Heavy Vehicle Movements by Direction for SIDRA Analysis:

- **Elizabeth Street, Walter Ave & Hassall Street**
  - Southbound  AM: 12.36%
  - PM: 7.32%
  - Northbound AM: 13.82%
  - PM: 14.11%

- **Victoria Street**
  - Eastbound AM: 13.82%
  - PM: 14.11%
  - Westbound AM: 12.36%
  - PM: 7.32%

- **Frank Street and Redfern Street**
  - Eastbound AM: 38.6%
  - PM: 21.41%
  - Westbound AM: 30.62%
  - PM: 38.54%
2.3 (Continued)

Table 2.3 – Intersection Performance

<table>
<thead>
<tr>
<th>No</th>
<th>Location</th>
<th>Sign/ Control</th>
<th>Peak Hour</th>
<th>Level Of Service (LoS)</th>
<th>Degree of Saturation (DoS)</th>
<th>Average Delay (Av)</th>
<th>Critical Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frank St/Elizabeth St</td>
<td>G</td>
<td>AM</td>
<td>A</td>
<td>0.457</td>
<td>4.7</td>
<td>RHT from Frank St (57.4 secs)</td>
</tr>
<tr>
<td>1</td>
<td>Frank St/Elizabeth St</td>
<td>G</td>
<td>PM</td>
<td>A</td>
<td>0.344</td>
<td>4.4</td>
<td>RHT from Frank St (43.2 secs)</td>
</tr>
<tr>
<td>2</td>
<td>Redfern St/Walter St</td>
<td>G</td>
<td>AM</td>
<td>A</td>
<td>0.273</td>
<td>5.6</td>
<td>RHT from Redfern St East (19.1 secs)</td>
</tr>
<tr>
<td>2</td>
<td>Redfern St/Walter St</td>
<td>G</td>
<td>PM</td>
<td>A</td>
<td>0.383</td>
<td>5.9</td>
<td>RHT from Redfern St East (21.6 secs)</td>
</tr>
<tr>
<td>3</td>
<td>Frank St/Redfern St</td>
<td>ST</td>
<td>AM</td>
<td>A</td>
<td>0.247</td>
<td>10.5</td>
<td>RHT from Redfern St North (14.6 secs)</td>
</tr>
<tr>
<td>3</td>
<td>Frank St/Redfern St</td>
<td>ST</td>
<td>PM</td>
<td>A</td>
<td>0.341</td>
<td>10.1</td>
<td>Through movement from Redfern St South (16.4 secs)</td>
</tr>
<tr>
<td>4</td>
<td>Victoria St/Elizabeth St</td>
<td>S</td>
<td>AM</td>
<td>C</td>
<td>0.814</td>
<td>35.0</td>
<td>RHT from Victoria St West (50.1 secs)</td>
</tr>
<tr>
<td>4</td>
<td>Victoria St/Elizabeth St</td>
<td>S</td>
<td>PM</td>
<td>C</td>
<td>0.899</td>
<td>39.7</td>
<td>RHT from Victoria St West (46.4 secs)</td>
</tr>
<tr>
<td>5</td>
<td>Victoria St/Walter St</td>
<td>S</td>
<td>AM</td>
<td>B</td>
<td>0.768</td>
<td>23.5</td>
<td>RHT from T-Way road (51.0 secs)</td>
</tr>
<tr>
<td>5</td>
<td>Victoria St/Walter St</td>
<td>S</td>
<td>PM</td>
<td>D</td>
<td>0.874</td>
<td>47.0</td>
<td>RHT from T-Way road (83.5 secs)</td>
</tr>
<tr>
<td>6</td>
<td>Elizabeth St/The Horsley Dr</td>
<td>S</td>
<td>AM</td>
<td>B</td>
<td>0.790</td>
<td>21.3</td>
<td>RHT from Elizabeth St (42.7 secs)</td>
</tr>
<tr>
<td>6</td>
<td>Elizabeth St/The Horsley Dr</td>
<td>S</td>
<td>PM</td>
<td>C</td>
<td>0.872</td>
<td>29.5</td>
<td>RHT from The Horsley Drive East (43.5 secs)</td>
</tr>
</tbody>
</table>

NOTE

S = SIGNALS
ST = STOP
G = GIVEWAY
R = ROUNDABOUT

All intersections are providing a satisfactory Level of Service.

2.4 Vehicle Access to Site

The existing vehicular crossings in Frank Street are to be retained. These crossings were constructed for the previous use of the site by Sims Metal and are shown on the Survey plan prepared by William L. Backhouse Pty Ltd. All trucks are proposed to enter and exit using the western vehicular crossing. This crossing will have to be widened to 13.5 metres as noted on Sheet 1A of Drawing No. 1162-15.
(2.4 continued)

The existing crossing on the eastern side of the site is to be used by staff and visitor vehicles only for entry and exit.

As B-Doubles are to be used to transfer PEF for export, the B-Double routes are shown on Figure 3B. The section of Redfern Street between Hassall Street and Walter Street and The Horsley Drive east of Elizabeth Street are not B Double truck routes.
FIGURE 3B
B DOUBLE TRUCK ROUTES