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Our reference: J00740 - Strumosa

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Rustenburg Local Municipality
Waste Management Department

For the attention of Mr W Senne

Dear Sir,

TRAFFIC ASSESSMENT FOR STRUMOSA WASTE DROP-OFF CENTRE AND ON-SITE COMPOSTING FACILITY

1 Background

The Rustenburg Local Municipality (RLM) is currently planning to build a waste drop-off centre and on-site composting facility at Strumosa, Rustenburg. The proposed site is 30ha in extent and is located on the north eastern corner of the intersection of Strumosa Road with Watsonia Road – see *Figure 1*.

As part of the proposed development application BKS (Pty) Ltd, now known as AECOM SA (Pty) Ltd, was appointed to do a preliminary traffic impact assessment of the proposed development and identify further investigations that will be required.

2 Status Quo

The identification of the study area was based on the layout of the current road network, present traffic conditions and the development's expected trip generation. As a result, the following intersections were considered in the study (see *Figure 1*):

- Dr Moroka Street / Strumosa Road;
- Lekkerbreek Road / Strumosa Road;
- Watsonia Road / Strumosa Road; and
- Bethlehem Drive / Watsonia Road.

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The existing road network and intersection layouts are illustrated in *Figure 2*. The existing traffic volumes at each of the intersections within the study area were surveyed during the weekday morning (06h30 – 09h00) and afternoon (15h30 – 18h00) peak periods on 24 October 2012. The existing peak hour traffic volumes were calculated and are presented in *Figure 3*.

During the traffic surveys, the following were observed:

- Acceptable capacity is currently available at the intersection of Lekkerbreek Road / Strumosa Road with minimum delays and vehicle queues.
- The intersections of Strumosa Road / Watsonia Road, Dr Moroka Road / Strumosa Road and Bethlehem Drive / Watsonia Road experience capacity constraints. Traffic police regulate the traffic at Strumosa Road / Watsonia Road and it is evident that upgrading measures will be required at these intersections.

3 Proposed Development

The proposed development site is 30ha in extent and will comprise a mixed use development, consisting of the following components:

- Waste Drop-off Centre;
- Extruder and Store;
- Compost Producing Area;
- Hydroponics/Aquaculture Facility;
- Crafter's workshop and market;
- Education Centre; and
- Kiosk/Restaurant.

It is expected that the proposed development will generate less than 150 additional peak hour trips and will not have a major traffic impact on the surrounding road network.

4 Proposed Access Arrangements

The exact location and number of accesses to the development are currently being finalised. Preliminary indications are that two accesses will potentially be provided, mainly owing to the layout of the site and location of wetland areas – see *Figure 1*. The one access is planned on Strumosa Road and the other access on Lekkerbreek Road via an existing access to the site. In the long term it is also possible to provide access to the site from Watsonia Road with a link to Olympia Stadium.

5 Proposed Road Improvements

Although detailed capacity analyses have not been undertaken, it is expected that the following typical road improvements will be required on the surrounding road network to cater for the existing and potential development traffic:

- Installation of traffic signals at the following intersections:

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- Watsonia Road/ Strumosa Road;
- Dr Moroka Road / Strumosa Road; and
- Bethlehem Drive / Watsonia Road.
- Construction of the accesses on Strumosa Road and Lekkerbreek Road with road widening to cater for exclusive turning lanes. These accesses will need to be controlled by means of a one-way stop.

6 Conclusions and Recommendations

From this preliminary investigation it is concluded that:

- An urban agriculture and waste education centre is planned for Strumosa, Rustenburg. The development will consist of a waste drop-off centre, extruder and store, compost producing area, hydroponics/aquaculture facility, crafter's workshop and market, education centre and kiosk/restaurant.
- It is expected that the proposed development will generate low additional peak hour trips and will not have a significant impact on the surrounding road network.
- Existing capacity constraints prevail on the surrounding road network and new traffic signals will be required at the intersection of Strumosa Road and Watsonia Road, Bethlehem Drive and Watsonia Road.

It is recommended that:

- The proposed site development plan be finalised and the required accesses confirmed; and
- A detailed traffic impact study be conducted as part of the rezoning application.

Please do not hesitate to contact me should you wish to discuss the above or need any further assistance.

Regards,

Gary Edwards (PrEng)
for AECOM SA (Pty) Ltd

7 References

1. McTrans, Highway Capacity Software – Version 5.2, McTrans Centre, University of Florida.
2. Transportation Research Board: National Research Council, Highway Capacity Manual. 2000. Washington D.C.
3. Department of Transport, *Guidelines for Traffic Impact Studies*, 1995