



# DH ENVIRONMENTAL CONSULTING

*Providing solutions to aquatic problems through  
assessment, education and planning*

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10 September 2003

**Chand Ecosense Joint Venture  
P O Box 238  
Plumstead 7801**

Attention: Emily Herschel (By email):

Dear Sir/Madam,

## **N21 (R300) TOLL ROAD: ASSESSMENT OF FARMERS ALTERNATIVE ROUTE (AQUATIC ECOSYSTEMS)**

### **DRAFT LETTER REPORT**

Your Letter of Appointment dd 14 August 2002 refers:

A. Approach

In terms of the brief provided to me for assessing the alternative route to the northern section east of the N7, I have proceeded as follows:

- 1 Accompanied the field orientation trip (August 18th, 2003);
- 2 Using **GIS** overlain the route on the 2002 CTCC aerial photographic series, and identified areas of possible interaction with aquatic ecosystems (here it should be noted that as a **GIS** cover for the route was not provided to the specialists, the route we have overlain may deviate slightly from that shown on the maps provided);
- 3 Identified 14 possible sites for further field assessment;
- 4 Undertaken site visits on 8th and 9th September 2003;
- 5 Assessed the results and compiled this draft Letter Report and supporting tables as per the required format, and as an Addendum to the original Southern Waters report. Please note that the Table is necessarily more detailed than required in the Terms of Reference, but the appropriate columns may be extracted as desired in the production of the composite report. Additional mapping and photographic details will be provided in the final report,

B. Findings:

My findings may be summarized as follows:

1. **Baseline environment:** The alternative route traverses hilly agricultural lands devoted

- variously to animal husbandry (dairy farming), wheat, pastures and some viticulture;
2. Affected environment: The environment traversed by the route is highly modified in terms of land use. Furthermore, the stream drainages that remain in the shallow valleys between the fields are modified to various degrees, and in some cases almost totally devastated. Notwithstanding this these zones provide the only vestiges of remnant natural vegetation and habitat within the local landscape. In some cases construction of the road may provide some measure of rehabilitation;
  3. The alternative routes intersect a number of aquatic environments, chiefly a number of stream drainage lines (12 sites), the Diep River and a combined wetland/stream site (see accompanying spreadsheet file for site details and map);
  4. Almost without exception the stream drainage sites are moderately to severely impacted by agricultural activities, but nonetheless form part of the greater local catchment discharging to the Diep River. As such the integrity of these streams may not be impaired further as a consequence of the construction of the Toll Road, nor may the construction of said route impart any short, medium or long term impact on the local or downstream environments of the individual streams or the Diep River ecosystem itself;
  5. Any construction activities that encroaches on the bed or banks of any of the identified sites is deemed to fall within the Listed Activity protection provided by the Water and Environmental Management Acts. As such, a formal directive will be required from the Department of Water Affairs and Forestry (DWAF), the level of protection that needs to be afforded to each of the identified sites;
  6. Any possible interference to baseflow (groundwater) that may be caused by the proposed construction should be qualified by reference to the (separate) geohydrological report (Parsons and Associates);
  7. With the exception of the Diep River crossing, all of the identified conflicts are deemed to require relatively minor management protection. However, and if not already requested, a uniform directive, such as that employed for the Platinum Toll Road in the Northern Province, should be sought before proceeding to the design stage of the individual crossings;
  8. Mitigation of the impacts of the minor crossings will entail nil alteration of the hydraulic character of the stream courses, and appropriate management and entrainment of runoff such as may be directed into these stream lines, both during and post-construction, and as described in the original report;
  9. The crossing of the Diep River will present a major undertaking that is likely to attract considerable attention (environmental concern) and require a greater level of impact assessment. Again this needs to be directed by the Licensing Office of the DWAF;
  10. With respect to the foregoing it is recommended that the Bellville Licensing Office of the DWAF be approached (Mrs Toni Belcher van Driel and Mrs Hester Lyons) and briefed on the nature of the identified sites, and a directive for further action sought. It is further recommended that these officials be shown typical examples of the sites that are to be crossed by the route so that they may fully understand the present nature and condition thereof.

I trust that you will find the above to address the aquatic ecosystem component of this study in terms of identifying and qualifying those sites that will be affected by the proposed alternative route. Please do not hesitate to contact me should you require any further clarification.

Sincerely,

**Dr W R Harding**