



COMMENTS ON REPORT BY HIGHWAY REVIEW COMMITTEE (hrc)

From a reading of the Highway Review Committee (HRC) report it is clear that a number of professional specialists undertook an extensive review of a wide range of technical issues which in their opinion should have been considered in the preparation of the feasibility study and design of the Solomon Hochoy Highway Extension to Pt. Fortin. Unfortunately, their review and comments did not seem to include a review of the Terms of Reference and Scope of Works for the project. As a consequence, whilst there are meaningful comments relating to the feasibility and design, there are comments about issues that were beyond the scope of the original Terms of Reference and Scope of Works. Their report also includes a number of factual errors.

Some specific comments include:

1. The Terms of Reference for the study undertaken by Trintoplan is for the design of a highway. One cannot expect that the Lea-Trintoplan team could have responded to the suggested Integrated Watershed Management Study as such a study was clearly completely outside the scope of services to which Lea-Trintoplan responded. This project was for a highway design and therefore all the studies, assessments etc. would have been done on the basis of work required for a highway extension.
2. It would appear that some members of the Highway Review Committee (HRC) have done reviews of design reports and technical reports without the benefit of seeking clarification on the contents of the referenced documents from the originators of the documents. This is particularly so with respect to the Environmental Component and the Social Impact component of the review. This is unfortunate especially considering that wide ranging and often inaccurate comments have been made. It is normal professional ethics that in situations like this, there should be discussion between the reviewers and the originators of the documents.

EXECUTIVE SUMMARY: INTRODUCTION

“The exercise demonstrated the advent of an era of enlightenment -----.”

It should be pointed out that while the age of ICT has led to a high level of environmental awareness and activism in developing countries, it has not concurrently highlighted the lack of information (e.g. hydrologic in the case of T&T) on which such awareness can move forward. An analogy with the density of car ownership amply illustrates this point: It has been rapidly possible to achieve high levels of car ownership per capita in developing countries e.g. Brazil, India, Nigeria, T&T to name a few - some of which are close to the developed world. However, to reach the state of corresponding transportation infrastructure is another, and challenging, matter. It is our humble view that the abovementioned report should take cognizance of the dichotomy between what is desirable and what is possible.



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SUMMARY OF FINDINGS

Hydrology and Hydraulics:

"However, the analyses are not carried out in the context of an Integrated Watershed Management Plan for the South Oropouche River Basin."

It should be pointed out that so far no Integrated Watershed Management Plan for the South Oropouche River Basin is available. Moreover, such plans - out of necessity - are multi-disciplinary and comprise many study fields ranging from Anthropology, Archaeology ---- Economics--- Public Health --- Sociology ---- Zoology. It is beyond the scope of Hydrologic and Hydraulic Engineering as would be carried out for the extension of the highway.

EXECUTIVE SUMMARY – GENERAL

The majority of readers (perhaps 95% or more) will only read the executive summary. Therefore, it ought to be accurate and balanced.

Section 7 (Page 117 - 139)

Section 7.3.3, Page 129, Sub-section: Estimation of Peak Flows

"The analyses undertaken did not include a multiple-day rainfall event with subsequent flood event with the consequence that the peak flows could be seriously underestimated."

Such analysis requires the use of a rainfall/runoff model. However application of such models is not possible in T&T due to hydrologic data limitations. In its absence, Antecedent Moisture Condition (AMC) II (which assumes five preceding days of rain totaling 3.5 cm) was used in the NRCS Method.

Section 7.3.3 Page 131, Sub-section: Hydraulic Design of Bridges (Last sentence in the penultimate paragraph)

"- - a 50-year 24-hour rainfall event causes a flood event with a return period which is smaller than 50 years."

Lack of correspondence between design peak rainfall and the resulting peak streamflow is well known in engineering hydrology, and should be considered in hydrologic design. However, there is no measured relationship known for T&T. In the absence of such information, a higher curve number of 70 was used for the South Oropouche River; compared to a lower value of 60 for the smaller streams. This aspect was inadvertently not mentioned, in an explicit manner, in the mentioned Hydrology and Hydraulics Report.

It may be noted that the author had explicitly mentioned this aspect in his report for the 60 inch diameter natural gas pipeline river crossings for the Atlantic LNG Train IV Project for the TRINTOPLAN/KBR in 2003. In that case, fracture of the pipeline at a river crossing by hydrodynamic forces can lead to release of a buoyant plume of odourless, colourless and flammable gas and a public disaster, and in the absence of information, AMC III - the most severe antecedent moisture condition - was used.

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1.0 REGIONAL AND URBAN PLANNING

The HRC recommends that *“the planning of the proposed Debe to Mon Desir segment of the extension of the SHH needed to have been undertaken as part of a comprehensive plan that seeks to balance land use and transportation needs of south west Trinidad and to do so with a minimum of disruption of human communities. Given the limited land space that is available in Trinidad and Tobago, and the large land take associated with road infrastructure such as highways and interchanges, the Planners need to come up with mechanisms and approaches that would effectively address long term congestion problems and provide the accessibility that is needed to improve connections between the various areas of the country without severely impacting the lives of people.*

The above observation makes reference to the responsibility of **“the planners”**. But there is no definition of who these planners are. This could and should mean the Town and Country Planning Division for land use planning and the Highways Division of the Ministry of Works for transportation planning. The scope of works for the project did not include a land use planning study for the south west region. However, the design did include seeking an alignment that minimised disruption to communities to the extent that was practicable.

4.0 HUMAN SETTLEMENTS

This section of the review report recommends as follows:

- *Expand the Study Area to cover the South West Region so as to ensure that sustainable development possibilities can be viewed from the stand point of the Human Settlement Perspective.*
- *Draw on current and ongoing studies to ensure integration development strategies are achieved.*
- *Embrace a staged infrastructural upgrading programme to substantially improve the road connections within the Peninsula and to those Settlements to the east which whilst having the effect of opening up possibilities for enterprising endeavours, job opportunities and economic pursuits.*
- *Let GOLCONDA be the chosen site for Village Expansion – an Integrate Human Settlement.*
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These recommendations are clearly extra and additional to the scope of work for the feasibility study and design of the highway extension. These recommendations are therefore the basis for an additional and separate study for the south west region.

6.0 TRAFFIC AND TRANSPORTATION

A factual error is observed in the last line of page 112. That line states: *“It is also the opinion of the consultants that Trintoplan did consider the alternative route option being suggested by the HRM.”*



6.0 TRAFFIC AND TRANSPORTATION (Cont'd)

It is not clear how the HRC arrived at this opinion, but if the alternative route is the one suggested by the HRM from Debe to Mosquito Creek, this alignment alternative was not in fact conceived or considered as a genuine alternative route.

Another factual error is observed in the first bullet line of page 115. That line states *“The Trintoplan pre-feasibility study of 1998 did include the alternative northern route suggested by the HRM.”*

The northern route included in the 1998 pre-feasibility did not include a link from Debe to Mosquito Creek as proposed by the HRM. The northern route referred to in the 1998 study is the widening of the South Trunk Road from Cross Crossing to St. Mary's junction and then a new 4-lane highway cross country from St. Mary's junction to Pt. Fortin. This is also part of the proposed highway improvements in the 2005 study, in addition to the extension of the SHH from Golconda to Mon Desir to link up with the “northern route” from St. Mary's junction

It is not clear what the 4th bullet sentence of page 115 is saying.