MEMORANDUM

TO:	Director of Planning	**YOUR REF:**	F08-0231 (P08-0343 KB)
ATTN:	Kayla Bryson		
FROM:	Director of Environment	**DATE:**	23 May 2008

SUBJECT: NRA SAVANNAH SEAWALLS;
BLOCK 28D PARCELS 296-302, 120, 119, 111, 108, 53 & 158

The Department's Technical Review Committee has reviewed the above noted application and additional information offered, including the Storm Surge Assessment completed by W.F. Baird & Associates Coastal Engineers Ltd. and the presentation from Public Meeting number 3 of November 2007. The TRC provides the following comments for consideration.

1. Given the fact that the coastal engineering modeling is outside the core competencies of the DoE and given the cost of the project estimated at $4-6 million dollars and the irreversible aesthetic and physical damage it will cause, the DOE recommends that it would be prudent of the NRA to retain third party consultants to peer review the Storm Surge Assessment completed by W.F. Baird & Associates Coastal Engineers Ltd. (in which the top of wall elevations are determined) and the design of the wall as engineered by Orth-Rodgers and Associates Inc. This could be initiated by asking the subject firms to provide names and contacts of other firms of similar expertise which are able to review their work. The NRA could then choose and retain a suggested firm. Alternatively, Dr. Dick Seymour of the Scripps Institution of Oceanography was retained to review the same type of models for the Port project and could be contacted to provide similar assessment.

2. The site is located on an unknown thickness of the Pedro Castle Formation which is formed of finely crystalline dolostone, dolomitic limestone, and limestone, underlain by the Cayman Formation which is formed of finely crystalline dolostone. (The Cayman Islands: Natural History and Biogeography; Geology of the Cayman Islands; Brian Jones). Caves, cavities, sinkholes and solution-widened joints are common in both the Cayman and Pedro Castle Formations (Void-filling deposits in karst terrains of isolated oceanic islands: a case study from Tertiary carbonates of the Cayman Islands; Brian Jones). Therefore, the DOE has the following questions regarding the construction of the proposed wall in/over this material:
   a. Will roads need to be constructed in order for equipment to access the wall location? If so, how will the fill material used to construct the road be prevented from flowing through the many cavities and joints into the marine environment and later removed from the porous surface of the rock once construction is complete?
   b. What method will be used to excavate this very hard, porous material?

3. The construction drawings state that casings or limited mobility grouting will be used when grouting the precast piles through all voids encountered. However, the DOE emphasizes that grout must be prevented from flowing freely through the many cavities and joints in

the rock and into the marine environment where it could cause an adverse impact. This also applies to the concrete used to backfill adjacent to the wall at ground surface.

4. The cliff and ironshore are included in the Pedro Bluff Tropic Bird Zone sensitive habitat area. The White-tailed Tropicbird is typically present in Grand Cayman from January to late August with nesting season between late January and July. The DOE surveyed the property on April 16, 2008 and found evidence of previous nesting activity and sighted a Tropicbird flying along the bluff. There were no current nests found and, as the breeding season begins in late January, it is likely there will be no nesting in 2008. However, there is no reason why the site could not be used for breeding in the future. Should the construction of the wall be approved by CPA and construction be scheduled to occur between January and August, the DOE asks that we be notified prior to works commencing. If it is determined that any aspect of the construction works is likely to affect nesting of Tropicbirds, the DOE asks that those aspects be postponed until after the Tropicbirds have completed nesting or are satisfactorily mitigated during the nesting season.

5. The DOE reviewed the presentation from Public Meeting number 3 of November 2007 which outlines the solutions that were considered and explains the evaluation process which led to the conclusion that the seawall is the best option. The DOE cautions that it should be well understood by the public that, should the wall perform as indicated by the models and the consultants, the wall will not protect against flooding from the North Sound or other sources and that it will prevent only the majority (not all) of inland flooding caused by a Category 2 hurricane approaching from the south. The DOE agrees that additional mitigation measures may be needed in conjunction with the wall and encourages the applicant to further investigate these now.

Please do not hesitate to contact the Department should you have questions.

Linda Bishop
Research Officer
Assessment and Compliance
For Director of Environment