

OPEN CHANNEL DRAIN



Executive Council agreed on Friday, 5th July 2013 that the original consent for the Airport Project should be amended to include an Open Channel drain between Dry Gut and the neighbouring Gut to the South of Dry Gut. The alternative design for the Open Channel has now been adopted under the Airport Project.

The Process for Alternative Designs

The contract signed with Basil Read in November 2011 is a Design, Build and Operate (DBO) contract. This permits Basil Read to develop and submit alternative designs that meet the contract specifications. Generally, alternative designs are considered internally within the Airport Project by the independent certifier and Project Management Unit. However, significant changes from the Reference Design require consent from Executive Council. This is set out under the Airport Development Ordinance (2006).

The Reference Design

In 2008, it was proposed that two culverts be constructed beneath the Dry Gut fill to convey the runoff from the Dry Gut catchment and the south western portions of the Airfield footprint. The original Reference Design was replaced at tender stage. Basil Read proposed a design involving a single culvert coupled with an attenuation dam upstream of the culvert inlet. This was adopted as the Reference Design within the Design Build and Operate (DBO) Contract.

During the design stage a number of alignment options were investigated for the culvert, but risks were associated with them all, relating primarily to the risk of culvert subsidence.

Important Note:

Whilst there were concerns regarding potential culvert subsidence, this is not to be confused with the expected settlement of the fill in Dry Gut. The settlement monitors on site show that for the last 15m raised in Dry Gut, there has been less than 2 millimetres of settlement. This is well within the acceptable levels. (see Dry Gut—2,000,000m³ fill on page 4)

Basil Read therefore considered alternatives to the culvert design. This resulted in a proposal to construct an open drainage diversion channel through the ridge to the south of Dry Gut. The open channel design will now replace the culvert and attenuation dam. Further details on the open channel are provided over-leaf.

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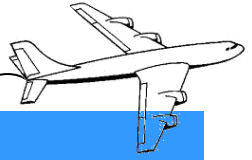
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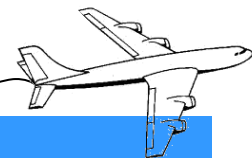
DRY GUT



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Approximate location of the Open Channel Drain shown on photograph above and on page 3

DRY GUT— DESIGN CHANGES



OPEN CHANNEL DRAIN

The Open Channel

The open channel will be cut into the ridge to the south of Dry Gut and will be approximately 391m long. Storm water flows will be discharged into the neighbouring valley immediately south of Dry Gut. The open channel has been designed for 1 in 100 year storm water flows.

The photo opposite shows the view from Bencoolen on the plateau before the open channel is excavated: the fill in Dry Gut is visible behind the plateau.

The open channel proposal has been through rigorous appraisal from technical, financial, economic, social and environmental perspectives.



Technical Considerations

The open channel proposal has been thoroughly reviewed and confirmed as a viable design solution for dealing with drainage in Dry Gut. The open channel design has a number of advantages. For example, without the need to construct the attenuation dam, the impacts on this area further upstream in Dry Gut are reduced.

Since commencing excavation on Prosperous Bay Plain, Basil Read has encountered unforeseen quantities of unsuitable bulk fill material. Following geological assessments, it has been determined that the excavation of the open channel will result in approximately 600,000m³ (equivalent to 48,000 ADT loads) of suitable fill material. This will go directly into the Dry Gut Fill. This is an important added bonus for the Airport Project. Without this material, the Airport Project would have had to source fill material from locations other than Prosperous Bay Plain. Had we proceeded with the reference design, we would have needed to open new quarries and transport material to Dry Gut: this in itself would have had financial, economic, social and environmental implications.

Financial & Economic Considerations

Construction of the open channel is cost neutral when compared to the reference design. Long-term savings are expected in terms of maintenance requirements as the channel offers far greater ease of access in comparison to the culvert. A major benefit arising from the Open Channel Proposal is the gaining of suitable fill material within Dry Gut itself and avoidance of costs associated with opening new quarries and transporting material from outside Prosperous Bay Plain.



Environmental Considerations

Much of the original Environmental Statement (ES) for the Airport Project remains valid for the open channel. In addition, Basil Read carried out an Environmental Impact Assessment (EIA) and this shows that the environmental impacts of the open channel range from minor adverse to moderate beneficial.

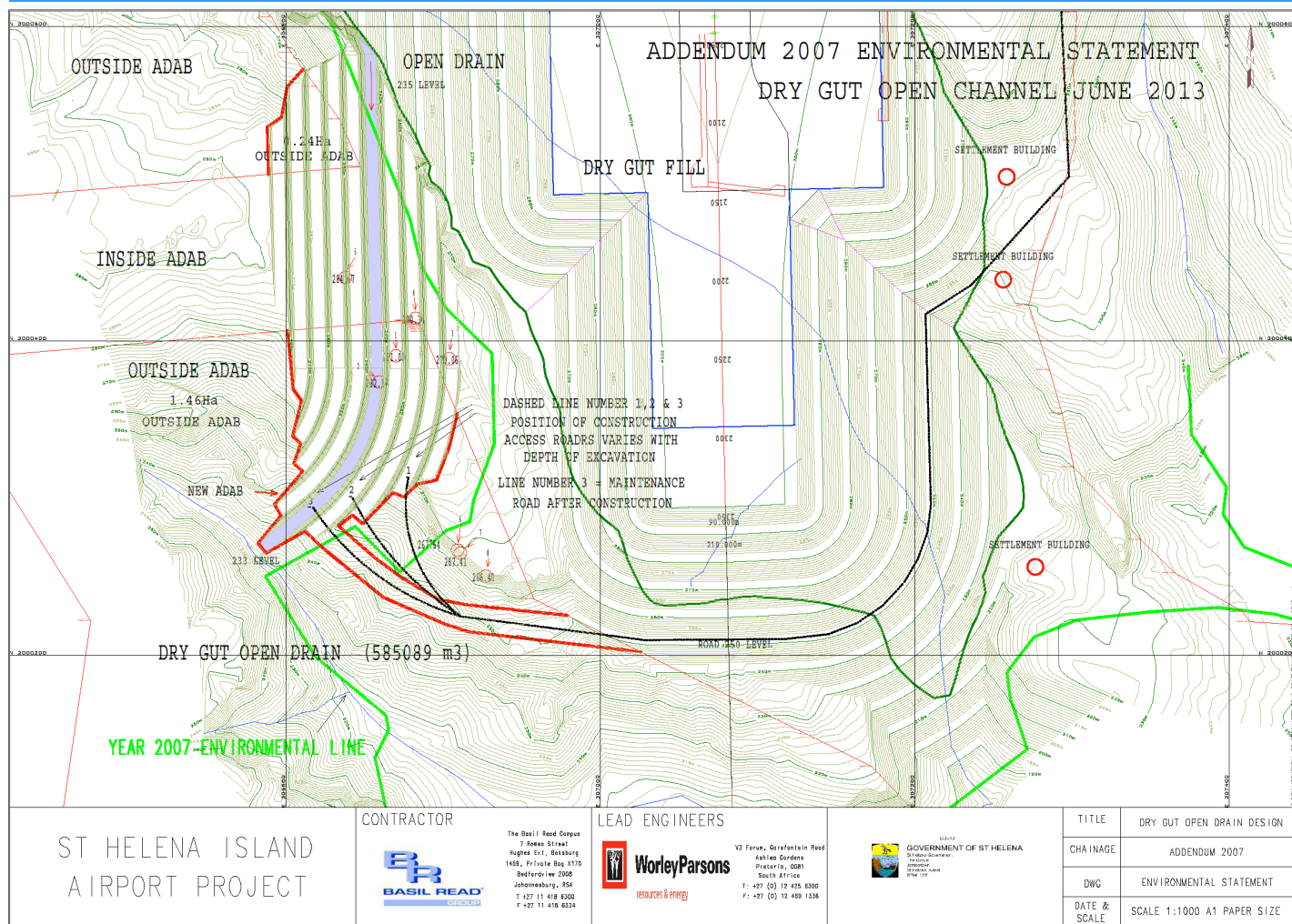
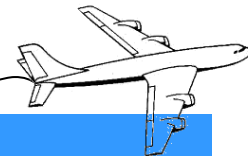
Suitable mitigation measures have been identified to reduce the minor adverse impacts of the open channel and these have been built into the design. The Airport Project will be working with local stakeholders to take forward the planned mitigation.

Important Note:

The Planning Statement and accompanying information presented to Executive Council are available online at www.sainthelenaaccess.com. Hard copies are also available at the Access Office and at the Public Library in Jamestown.

DRY GUT— DESIGN CHANGES

OPEN CHANNEL DRAIN



The map above shows the location of the open channel in blue. The Planning Statement and accompanying information presented to Executive Council are available online at www.sainthelenaaccess.com. Hard copies are also available at the Access Office and at the Public Library in Jamestown.

DRY GUT - 2,000,000m³ fill

We're also pleased to announce that this morning we reached the milestone of 2,000,000m³ of fill material in Dry Gut. This represents 25% of the required 8,000,000m³.

After accomplishing the 1,000,000m³ on 23rd April, to reach today's milestone it took:

- 61 dayshifts and 54 nightshifts.
- The dayshift consists of 4 teams, 5 x 40 tonne ADTs per team and the nightshift consists of 4 teams, 5 x 40 tonne ADTs per team.
- Each truck carries 15m³ of excavated material.
- 64,730 truck loads was transported into Dry Gut.
- This gave an average of 17,391m³ of fill material per day.
- To date the ADT (Articulated Dump Trucks) have travelled 330,000 kilometers (206,250 miles)

Since starting the fill in Dry Gut at 197m above sea level, the height has raised by 38m (to 235m above sea level).