

CLIENTS DRIVING INNOVATION – A CASE STUDY

Queensland Sugar Limited – The Townsville Bulk Sugar Terminal Expansion

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The Queensland Sugar Industry

- ⇒ Around 6500 cane farms from Mossman in the north to the NSW border
- ⇒ Harvested cane sent to one of 25 mills for crushing
- ⇒ Raw sugar transported to one of 7 Bulk Sugar Terminals (2.4Mt storage capacity)
- ⇒ Shipped to overseas or local refiners
- ⇒ Crushing season June to November each year




Queensland Sugar Limited

- ⇒ Single desk selling agent
- ⇒ Grower and miller owned
- ⇒ Operator of the Bulk Sugar Terminals
- ⇒ Terminals owned by Sugar Terminals Limited (also grower and miller owned)




Background to the Project

- ⇒ Growth in sugar production during 1990's
- ⇒ Finite storage capacity constrained QSL's approach to marketing
- ⇒ February 1999 review of storage options identified increased port storage as the most cost-effective means of addressing this market issue




Background (continued)

- ⇒ Townsville selected due to strategic location
- ⇒ Best potential for improvement of stock turnover ratio
- ⇒ Project approved on the basis of 400,000t additional storage capacity at Townsville
- ⇒ Other objectives specified:
 - ⇒ Capacity for at least 5 different stockpiles
 - ⇒ Capacity for "blending" of brands
 - ⇒ Increased in-loading and out-loading rates




Controlled Risk Approach

QSL differentiated themselves as a client by:

- ⇒ Involving themselves in decision making;
- ⇒ Going to lengths to understand the true nature of the project risks;
- ⇒ Assuming ownership of decisions involving risk;
- ⇒ Fostering the strongest possible relationship with their project advisors;
- ⇒ Applying an "Alliance" philosophy in a "traditional" environment.




Examples of Breakthrough Outcomes

- ⇒ Facility location
- ⇒ Material handling systems
- ⇒ Foundation systems
- ⇒ Fire services
- ⇒ Stormwater management



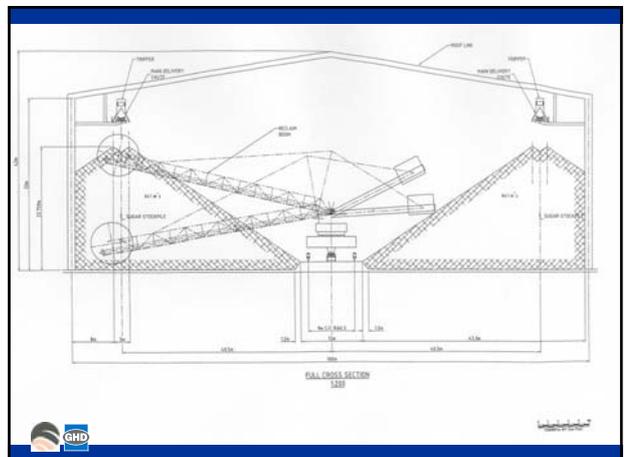
Facility Location

- ⇒ Entered a process to develop a new storage on land adjacent Ross Creek
- ⇒ Concerns expressed in relation to urban impact
- ⇒ Consultative process of options assessment
- ⇒ Identified alternative site – QSL assisted by TPA and State Government to acquire
- ⇒ Advanced design during land procurement process
- ⇒ Developed design sympathetic to prevailing vistas



Material Handling Systems

- ⇒ Design for change – looking for quantum improvements in unit material handling costs
- ⇒ Identified and assessed the available technologies from inside and outside sugar industries
- ⇒ Demonstrated that current (long established) handling techniques are the most cost efficient, with better risk profile
- ⇒ Continual (evolutionary) improvement pursued within conventional retrieval



Foundation Systems

- ⇒ Entire site underlain by compressible marine clays and loose fills
- ⇒ Conventional treatment (piling) brought cost and time penalties
- ⇒ Alternative treatments reviewed
- ⇒ Risk based assessment identified DC/DR approach viable
- ⇒ Saved around \$8M in project cost, plus time



Fire Services



- ⇒ History – Townsville Terminal fire in 1960's
- ⇒ Sprinkler systems traditionally used – very expensive
- ⇒ Unique fire protection system:
 - ⇒ Fire detection
 - ⇒ Closed circuit TV cameras
 - ⇒ Remotely operated water cannons
 - ⇒ Remote fire fighting control location
- ⇒ Win for QSL – Win for Fire Brigade



Stormwater Management

- ⇒ Challenges included:
 - ⇒ Pollution control
 - ⇒ Increased run-off
 - ⇒ Impact on regional drainage infrastructure
 - ⇒ Low elevation of site
- ⇒ Solution included:
 - ⇒ Separated roof water (clean) from site runoff (dirty)
 - ⇒ Pressurised roof drainage pipework
 - ⇒ Use of polishing/detention pond
 - ⇒ Immunising storage facility from water ingress



Summary

- ⇒ Outstanding innovation is possible
- ⇒ Clients must be part of the process
- ⇒ Informed risk-based decision making will lead to project breakthroughs
- ⇒ And it doesn't even have to cost more!

