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**Site Selection Study
LNG Production and Export Precinct –
Public Release Document
Department of Infrastructure and Planning**

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Executive Summary

The Department of Infrastructure and Planning (“DIP”) is seeking to examine the emerging liquefied natural gas (“LNG”) industry in the Port of Gladstone. DIP has commissioned Connell Wagner to identify and rank sites within the Port at which plant and associated infrastructure could be located to form an LNG precinct commencing at 3 Mtpa production, with potential to expand to 10 Mtpa.

The purpose of this study is to inform the Government about the infrastructure issues surrounding the development of an LNG industry in Queensland for the purpose of significant future Government deliberations and decisions, and about establishing a location and recommendations regarding common user infrastructure for an LNG industry.

This study is running in parallel with a separate commission being undertaken by McLennan, Megasanik & Associates to investigate the “Viability and State Cost / Benefit” of establishing an LNG industry in Queensland.

The scope of this study includes the following:

- Review of existing information
- Determination of critical requirements of a conceptual LNG plant and infrastructure allowing for future growth
- Determination of criteria to assess all possible sites
- Determination of a long list of possible sites within the Gladstone region
- Establish a short list and conduct a thorough assessment and ranking of short listed sites

Design criteria for LNG facility operations were established in relation to LNG carrier size and operations, port configuration, loadout wharf facilities, LNG processing plant and associated infrastructure, cryogenic pipeline, safety and security clearance zones. The environment and community, gas delivery capacity and transport and infrastructure considerations for both construction and operation phases were also addressed.

Site assessment criteria were developed and grouped into relevant areas to assist with consideration and ranking of the sites.

The study initially identified a total of 13 sites for high level assessment (refer Section 6). A first cut review was undertaken resulting in a long list of 9 sites, of which 6 were located on Curtis Island. Curtis Island has been considered in many development proposals to date but as yet is primarily undeveloped and requires significant infrastructure to be established, including an access road bridge, in order to facilitate significant development.

The long list of 9 sites were then assessed against pre-determined criteria (refer Section 4) using a “multifactor evaluation technique”. A fatal flaw analysis was undertaken (refer Section 9), in conjunction with a site inspection. The site inspection was undertaken to confirm issues relating to shipping access, land side access, services access, land form and the environment. Interviews were also held with representatives of the Gladstone Economic and Industry Development Board, Central Queensland Ports Authority and the Regional Harbour Master (Maritime Safety Queensland).

Short listed sites were then determined as:

- North China Bay
- Hamilton Point West

Both of these sites are on Curtis Island and are, coincidentally, adjacent.

A more detailed assessment of the two sites was then undertaken. This involved preparation of site layout drawings in order to enable consideration of the practicality of siting of the LNG plant and product loading jetty, barge landing sites to facilitate large module delivery, high level capital expenditure cost comparison, assessment of expansion capability (beyond 10 Mtpa), and ultimately a final ranking of each site.

The study conclusions result in a marginal ranking of the North China Bay site as the preferred development site for an LNG processing precinct. This site ranked only marginally better than the adjacent Hamilton Point West site, however, it is noted that the North China Bay site has the attraction of additional adjacent areas suitable for further LNG operations expansion or for synergistic development.

Although the North China Bay and Hamilton Point West sites are adjacent, they are separated by a ridge, and therefore may not be easily merged.

Notwithstanding the recommendation for North China Bay as a preferred site, it may be that synergies between the two shortlisted sites and potential proponents could be developed. As such, site layouts may be revisited in terms of optimisation, synergistic development opportunities and sharing of common user infrastructure etc. Such opportunities will only become evident following definition of particular proponent requirements and further detailed analysis of the sites and development requirements.

During the course of the study it became evident that further detailed consideration of channel widths and LNG carrier access arrangements, beyond the scope of this study, is required. Work is currently underway by CQPA and MSQ in terms of ship simulation work to address safe vessel movement, and hence any resultant increased dredging requirements. This assessment is critical in order for decisions relating to overall project costs and potential common user infrastructure access requirements to be made.