

## Alexander Edward CULLEN ISO

MICE

1861 - 1950

**INDUCTED IN 2013**

Alexander Cullen, renowned harbour engineer, was born in Brisbane on 21 December 1861. He began his long association with the Queensland coast in 1878 as a Civilian Assistant with the Admiralty Coast Survey, in HMS "Pearl." When the commission was completed in 1880, he worked for six months on railway surveys in North Queensland, becoming an assistant to J.B. Henderson on water-supply investigation in Brisbane and in Western Queensland. Resigning for health reasons in 1882, he did six months contract surveying for the Lands Department and then joined the Department of Harbours and Rivers as a nautical surveyor. He worked as far north as the Gulf of Carpentaria before transferring in 1890 to the Department of Ports.

In 1893, Cullen became Nautical Surveyor and Engineer to the newly formed Marine Board which had absorbed the Department of Harbours and Rivers. In 1896, he removed a major restriction to the port by blasting a cut, 1.5m deep, through the Lytton Rocks at the river mouth. He also prepared a scheme for the improvement of the river upstream to Victoria Bridge which involved extensive dredging, the construction of training walls, and

the easing of sharp bends in the upper reaches. He aimed at reducing both the amount of maintenance dredging and the height of river floods by forming the largest possible channel which would be swept clean by the tidal flow. Designed intuitively based on his intimate knowledge of the river, it proved very successful when completed several years later.

In 1902, Cullen was appointed Engineer for Harbours and Rivers in a reorganised Department and went off on a study tour of USA. Visiting England in 1912 where he purchased a dredging plant, a start was made on construction of a river training wall and reclamation of tidal flats behind them. Cullen made Brisbane a most successful river port some 25km upstream of the river mouth with wharves for overseas shipping all the way from the City to Pinkenba.

Although Brisbane was the chief port throughout his career, Cullen had an influence on the direction of some twenty gazetted ports in Queensland, as well as Napier Port in New Zealand. He represented Australia on the Council of Intuition of Civil Engineers, retiring in 1931 to establish a consulting practice in harbour and civil engineering with his son.