

## TUNNEL LINK FROM THE KA HO HARBOUR TO THE COLOANE THERMAL POWER PLANT ROUNDABOUT (preliminary study and project design)



**Client / Employer** Government of the Macao Special Administrative Region  
Infrastructure Development Office

**Service** Design by CONSULASIA, LDA.

**Investment** Approx. MOP 190,000,000 (estimate)

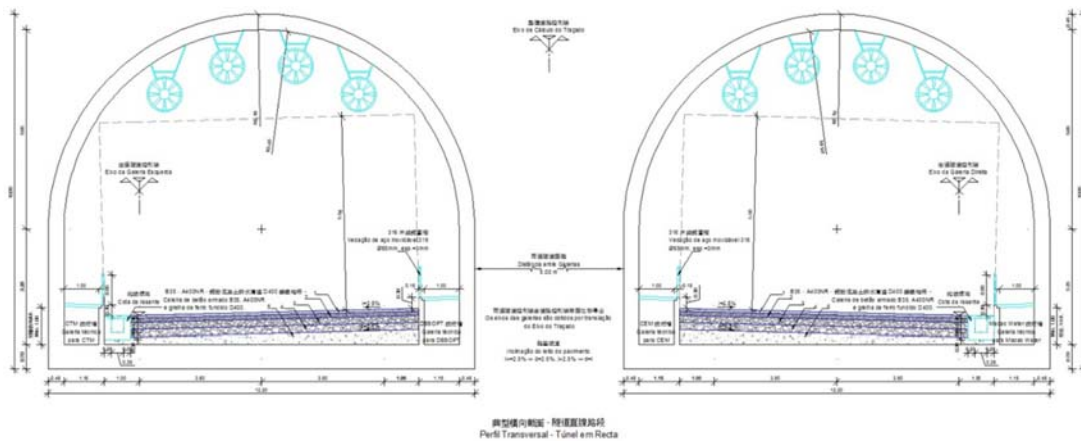
**Contract Price** MOP 947,800

**Time Schedule** March 2006 to December 2006

**Description of the Project** Following a public tender of the Infrastructure Development Office, CONSULASIA was invited to develop the Previous Study and the Project Design of Tunnel Road Link Connection of the Coloane Thermal Power Plant Roundabout and the KA-HÓ Harbor.

The implementation of this tunnel route is extremely important as it will allow the flow of trucks between the Coloane Container Terminal Harbour and COTAI Area to be done faster and more safely. The existing road of mountainous route is quite sinuous and narrow, so it is not suitable for heavy goods transit. This new tunnel will also facilitate the transit traffic of residents and tourists between the Southeast Zone of Coloane (namely the Hac Sa Beach and the Ka-Hó village) and the COTAI.

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The project involves the following specialties:

Road mapping	Ventilation and Smoke Evacuation System
Lighting	Structure / Geology / Temporary and Permanent Monitoring
Electricity	Water Supply System
Drainage	Fire Fighting Service
Speaker System	Vehicle Detection System in Counter-Traffic and Speed Detection.
Digital Signalling System	Geological and Geotechnical Prospecting Plans
CCTV System	Intercom System

All these specialties have been taken into account in order to provide the tunnel with all the components to provide a quality service, aiming at ease of operation and maintenance over the life of the infrastructure.

The main criteria that underpinned the development of the previous study were:

- \_ Availability of land;
- \_ Type cross-section of the road;
- \_ Geological conditions of the massif and the stability of the terrain;
- \_ Requirements for interior space;
- \_ Equipment sophistication.

It is important to note that given the particular nature of the tunnel, not all aspects could be covered by Local Regulations. Whereby International regulations, rules of good practice and the recommendation of suppliers of equipment were used as far as possible.

The projected tunnel will have a length of 475 meters.