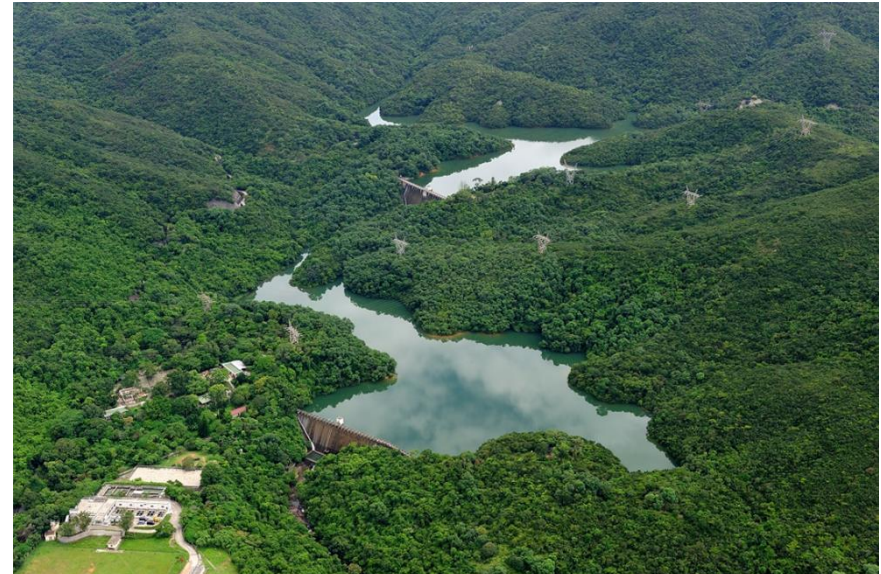


Replacement & Rehabilitation Programme (R&R) of Water Mains in Hong Kong

Water Supplies Department

- ❖ To provide reliable and adequate supplies of quality water to a population of over 7.3 million.
- ❖ 17 impounding reservoirs
- ❖ 21 water treatment plants
- ❖ 5MCM fresh water production
- ❖ 2MCM sea water for flushing



Problem Identification

- ❖ About 7,800 km of water mains (fresh water and salt water).
- ❖ A substantial portion of them was laid more than 30 years ago.
- ❖ Progressively approaching the end of their service life.
- ❖ Increasing number of main burst and leakage cases causing inconvenience to the public and loss of precious water.



Project Goal

- ❖ To improve the condition of the water supply network so as to maintain a reasonable level of services to consumers.
- ❖ To replace or rehabilitate about 3,000 km of aged water mains in 15 years



Project Implementation - Key Issues

- ❖ To avoid **unnecessary water supply disruption** to consumers as a result of excessive amount of works,
- ❖ To avoid **unnecessary traffic disruption** during construction as a result of excessive road opening works, and
- ❖ Having **cost effectiveness** of the works with priority given to water mains more susceptible to leakage and bursting.
- ❖ To tackle the problems arising from the ageing of water mains **in a cost effective manner** whilst **minimizing the effects on the general public**, the aged water mains are required to replace and rehabilitate in Stages in a systematic manner.

Project Implementation - Key Issues

- Traffic/Restricted working hours
- Environmental concerns esp. in urban areas
- Unforeseen site conditions / complicated interfaces with other utilities
- Maintain water supply to suit different consumers and business undertakings



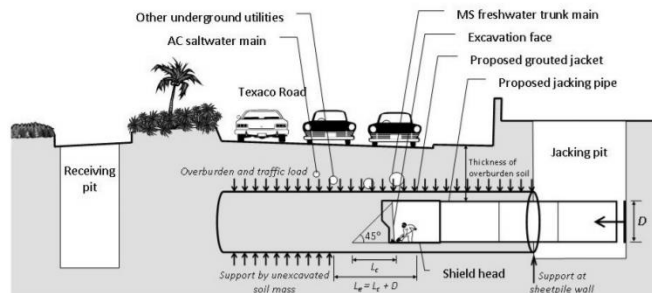
Project Implementation - Key Strategies

1) Replacement method

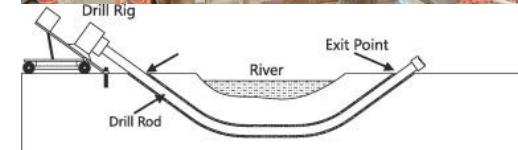
Open Cut Method



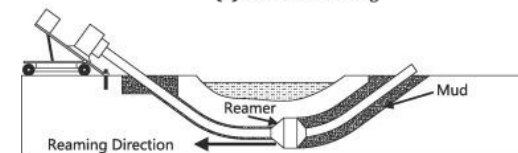
Pipe Jacking



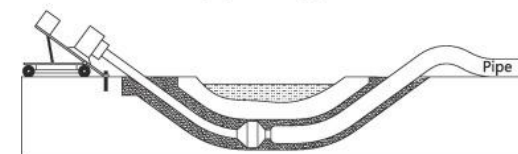
Directional drilling



(a) Pilot hole drilling



(b) Reaming process



(c) Pullback process

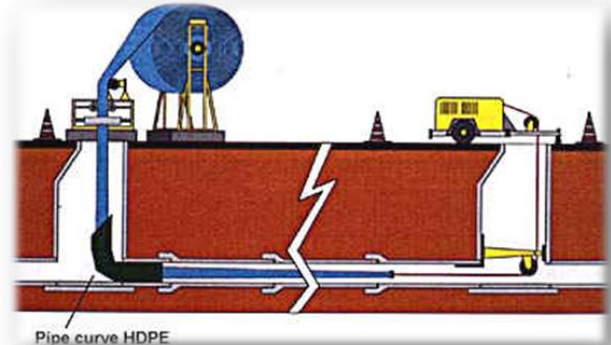
Project Implementation - Key Strategies

2. Rehabilitation Method

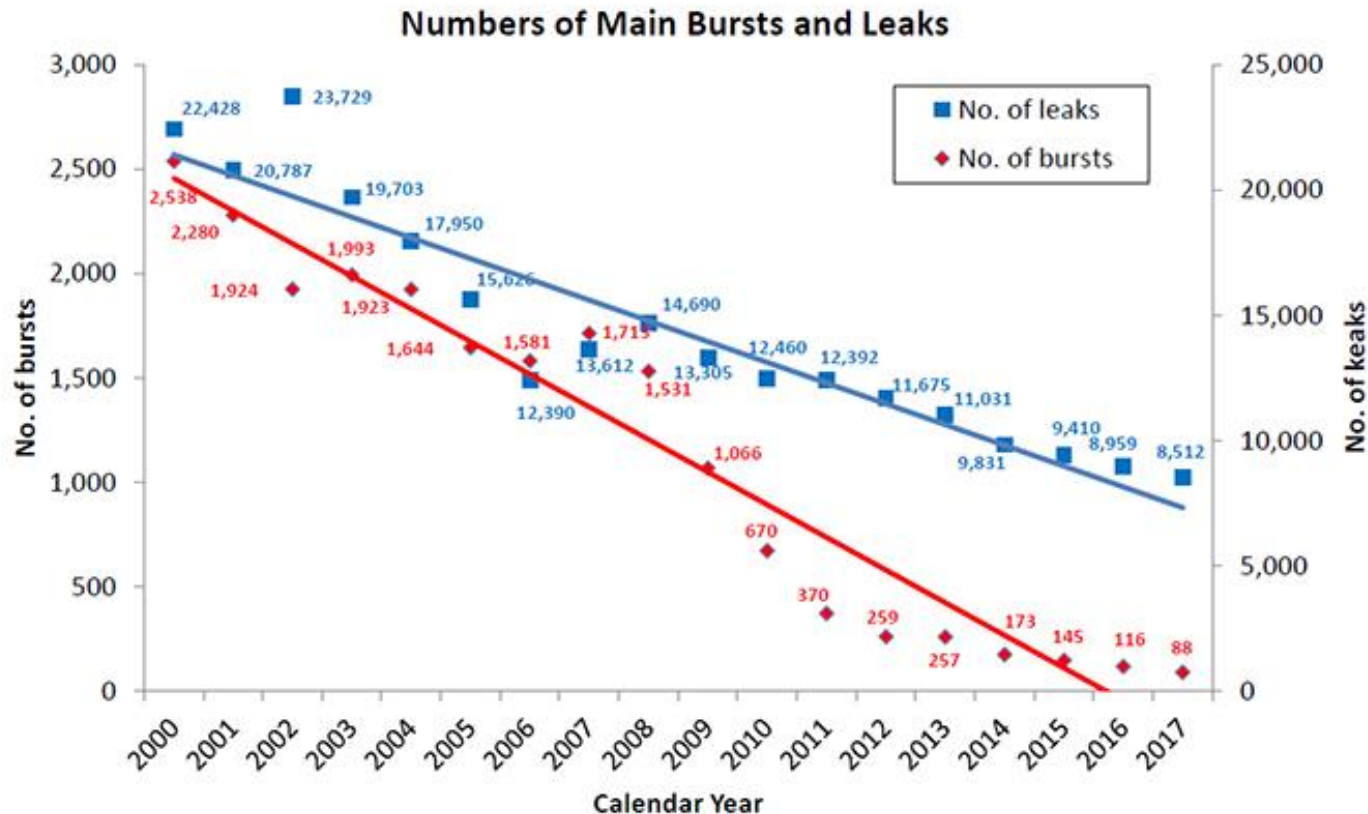
Non-Structural Lining by Glass Fiber Coating Works



Fully Structural Compact Pipe



Benefits of the Project



What's next... Water Intelligent Network (WIN)

THANK YOU!