

## PHASE II PROGRESS UPDATE

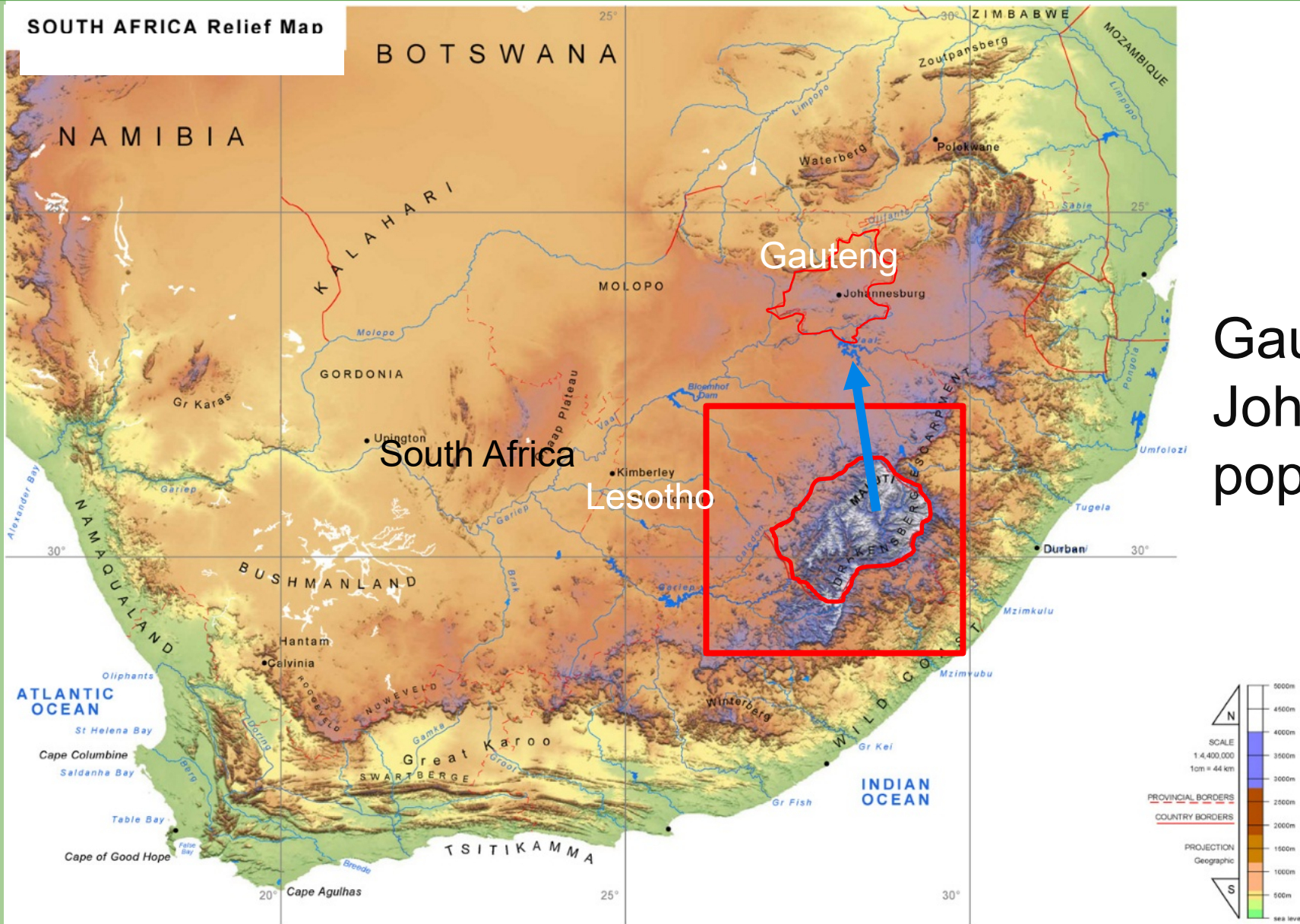
JOHN SAWYER

LHDA

3<sup>rd</sup> April 2019



# PROJECT LOCATION

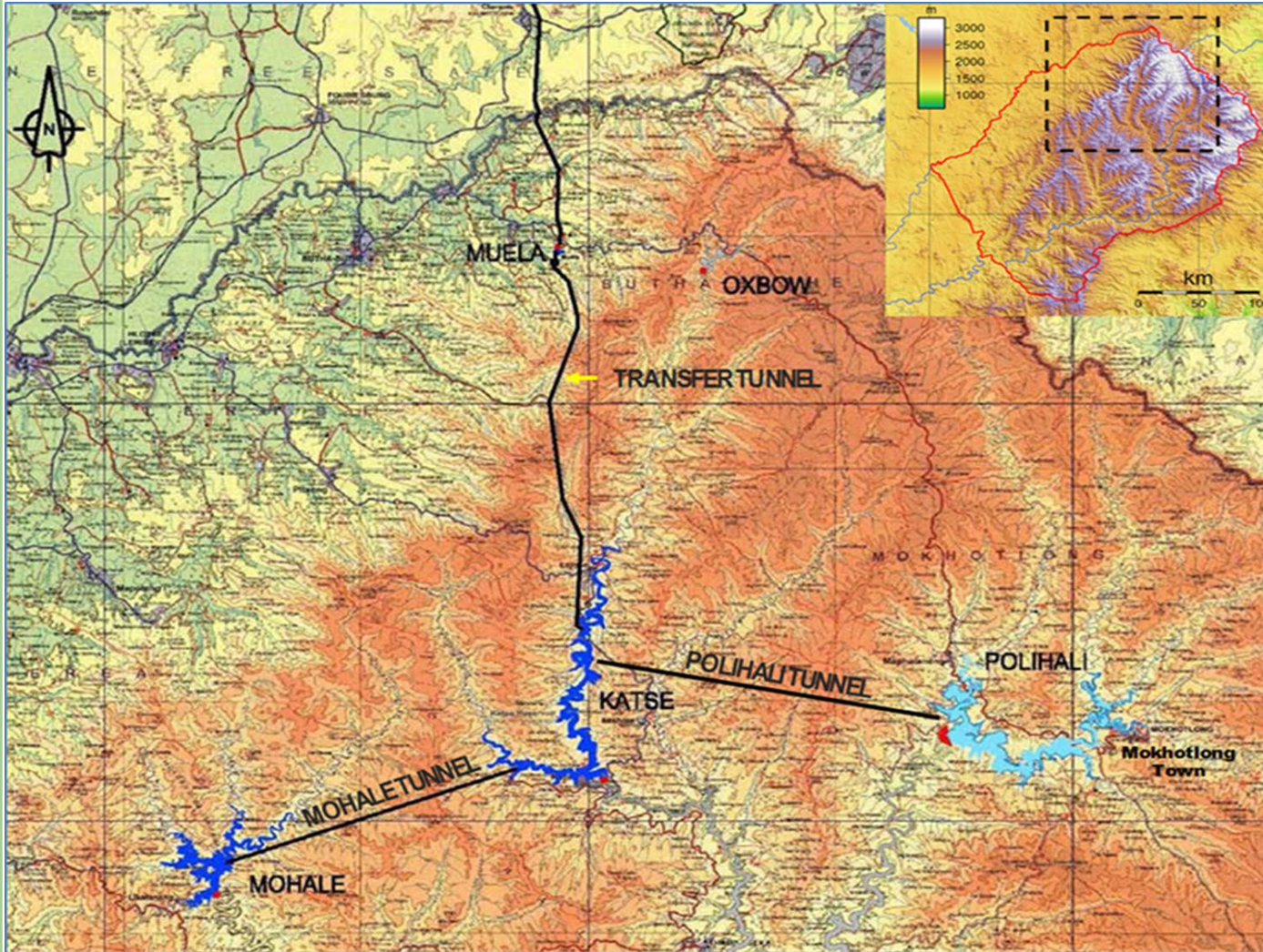


Gauteng Province:  
Johannesburg, Pretoria,  
population >12 million

ation



# PROJECT OVERVIEW



Lesotho:

- Lowlands at 1500m
- Highlands at 3000m
- Senqu (Orange) river

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# PHASE I SCOPE (COMPLETE)



## Phase IA, 17m<sup>3</sup>/s:

- Katse Dam, 185m arch
- Transfer Tunnel, 45km long
- 'Muela Hydropower, 72MW
- Delivery Tunnel, 37km long

## Phase IB , 9m<sup>3</sup>/s :

- Mohale Dam, 145m CFRD
- Mohale Tunnel, 31km long
- Matsoku Diversion Weir, 20m
- Matsoku Tunnel, 6km long



Katse Dam

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# PHASE II SCOPE

## Water Transfer 14.75m<sup>3</sup>/s:

- Polihali Dam, 165m CFRD
- Transfer Tunnel, 38km long
- Infrastructure: roads, power, accommodation
- Environmental, Social & Health Impact Studies & Action Plans,
- Livelihood Restoration

## Hydropower:

- Further feasibility studies
- Works completion parallel to WT



Mohale Dam

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# PHASE II WATER TRANSFER



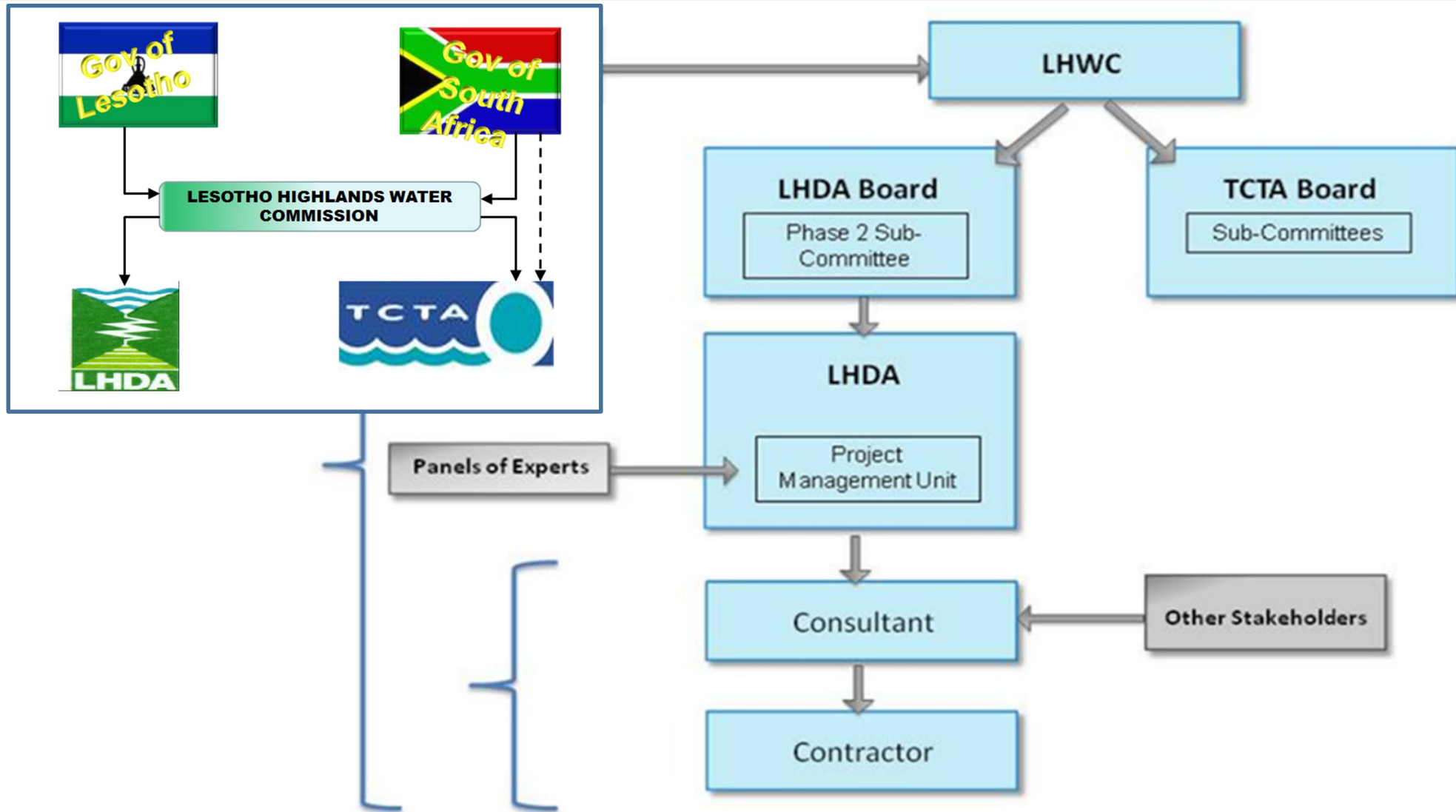
Transfer Tunnel  
Phase 1A

Polihali Transfer Tunnel Phase 2

Katse Dam,  
Phase 1A

Polihali Dam,  
Phase 2

# PROJECT GOVERNANCE

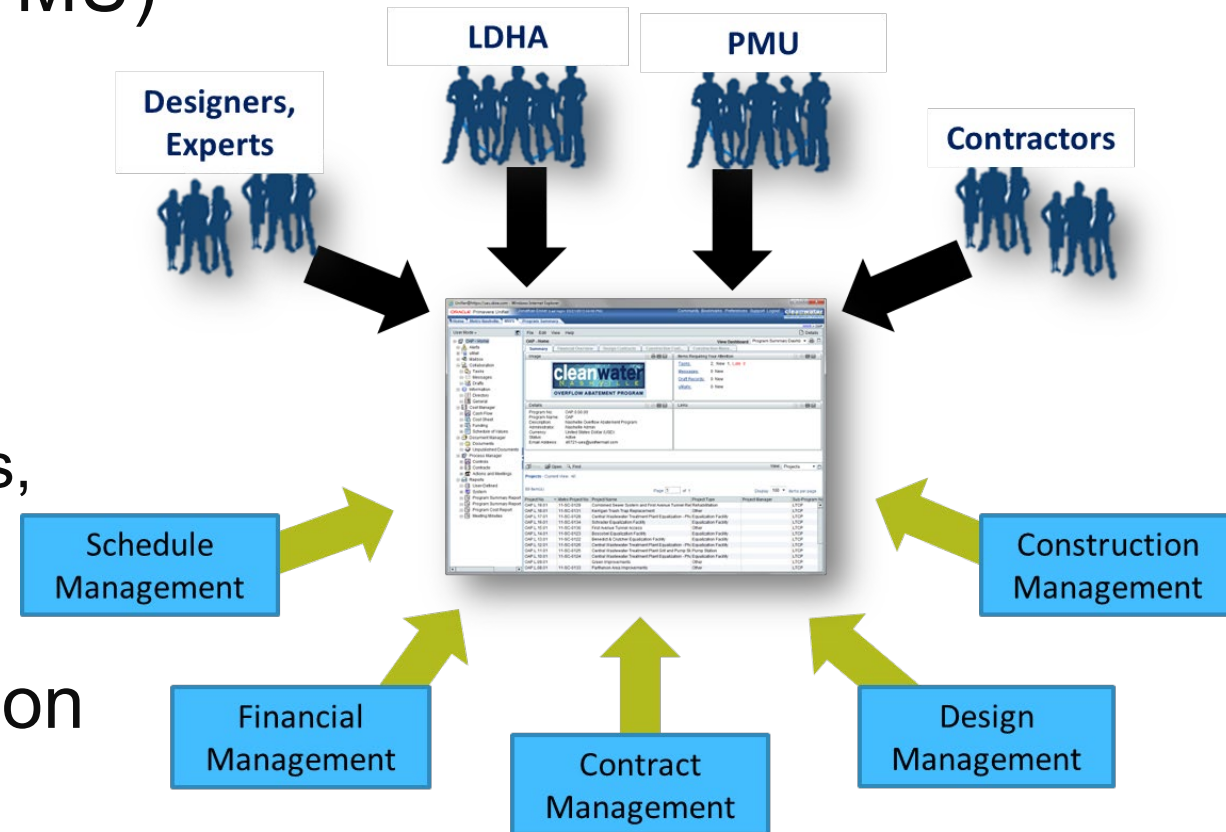


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# PROGRAMME MANAGEMENT

- Integrated Implementation Unit (PMU)
  - environmental,
  - social and
  - engineering disciplines
- Project Policies & Protocols
  - compensation, procurement, communication, SHEQ, land access, labour recruitment, asset survey, environmental policy
- Interface Management + Integration
- Project Controls
  - programme and finance



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- Baseline studies complete
- ESIA complete - Record of Decision issued by DoE
- Environmental Management Plans (EMP) developed
- HIA and PHAP in progress



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# RESETTLEMENT & COMPENSATION

- Community liaison
- Compensation Policy
- Asset registration
- Compensation payment
- Social development
- Livelihood restoration
- YP Internship



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# GEOTECHNICAL INVESTIGATIONS



- Feasibility Studies (2007)
- Stage 1: Client defined
- Stage 2: Engineer defined
- Hydropower (3 sites)



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# ADVANCE INFRASTRUCTURE



- >70km Asphalt Roads
- 132 kV Power Supply
- Telecommunications
- Major Bridges
- Housing, Operations building
- Designed for legacy

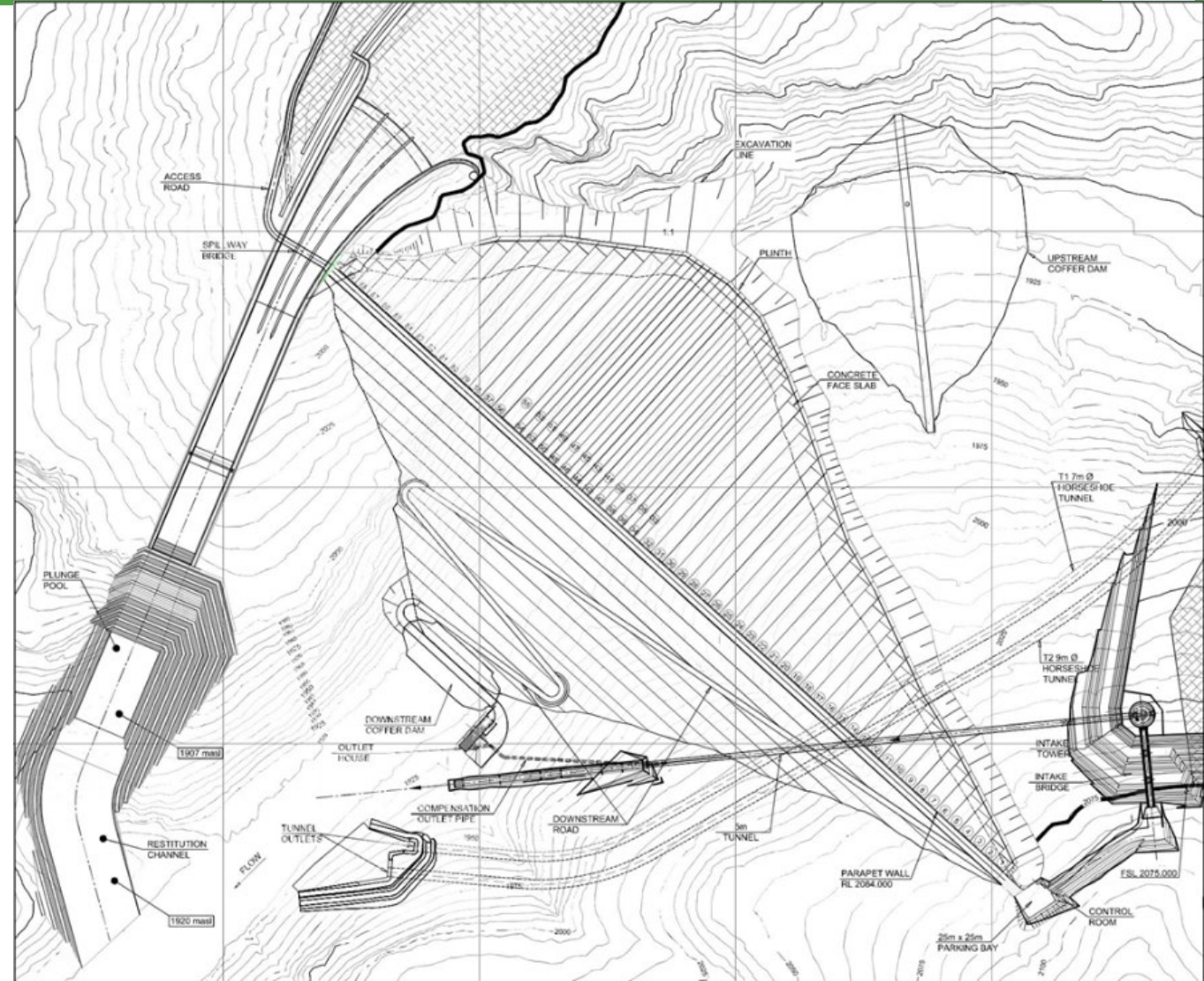


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# POLIHALI DAM

- Preliminary Design Complete
- Spillway CFD, model test
- Tender Design
- Prequalification in progress



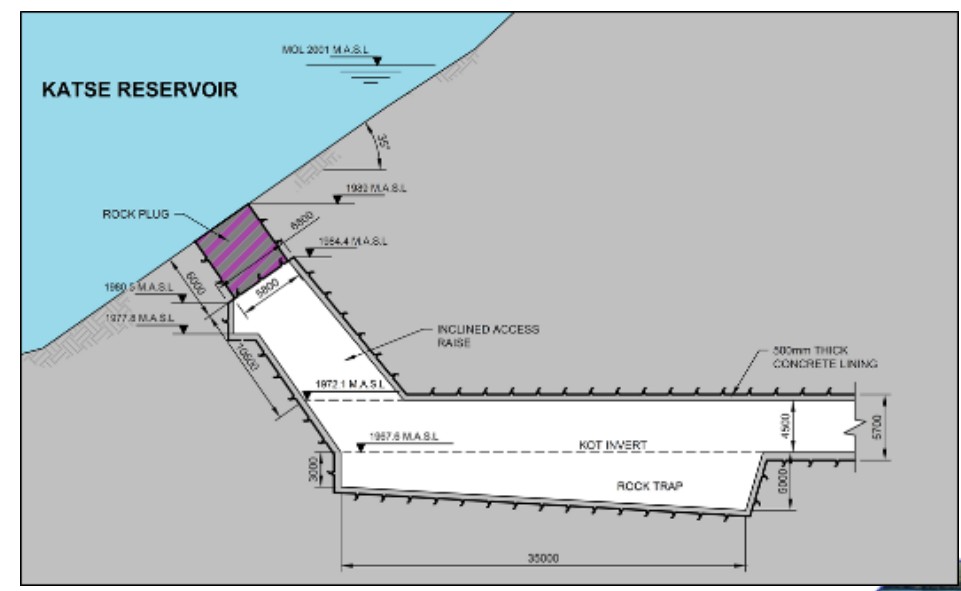
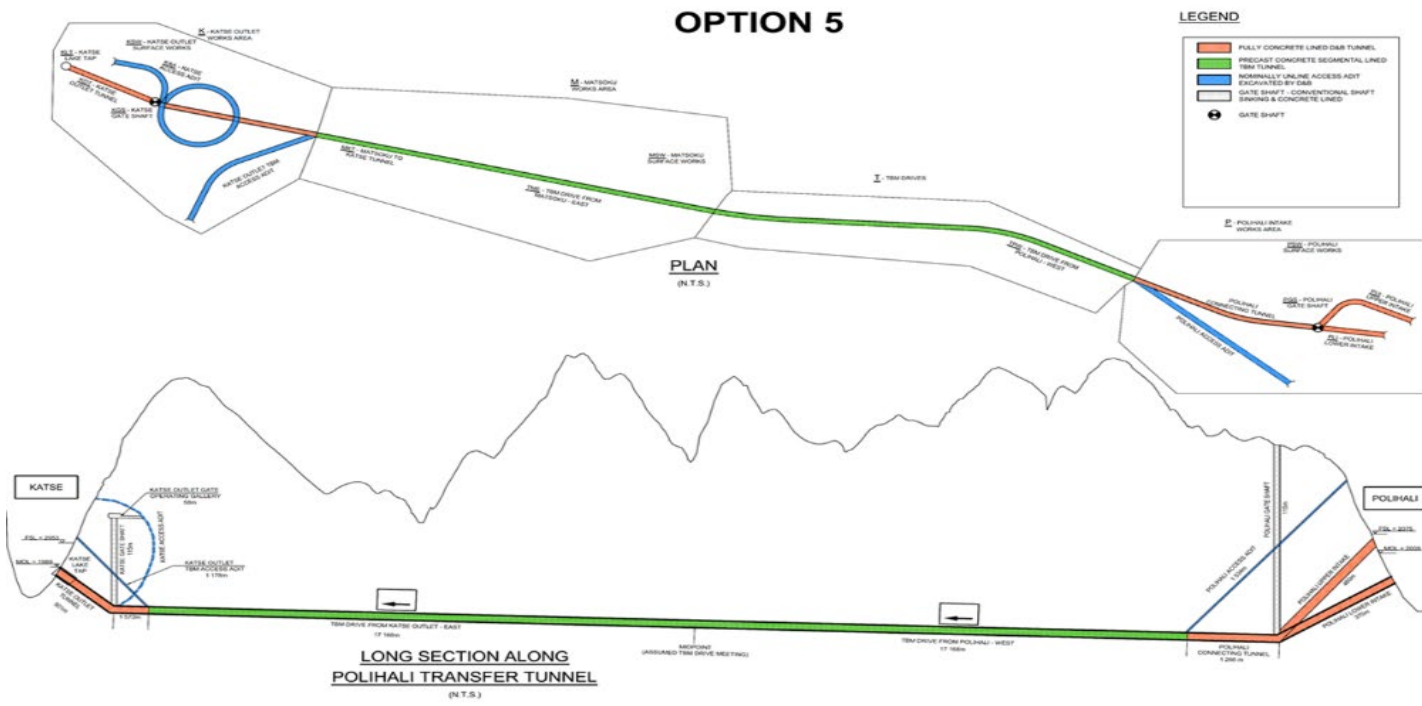
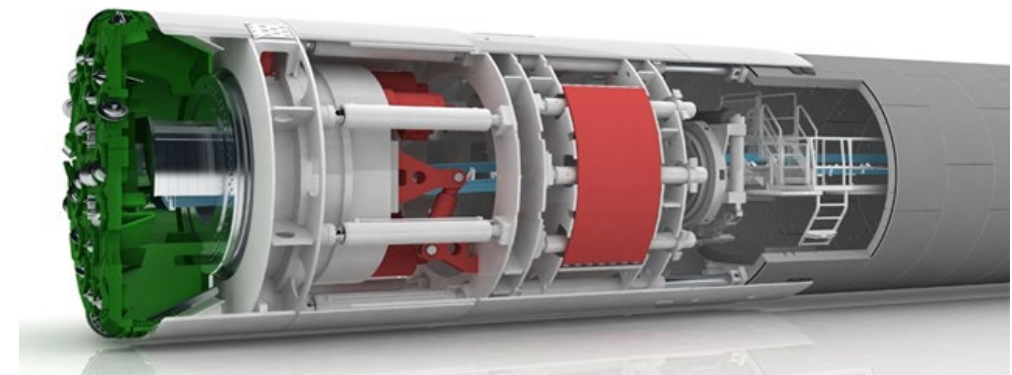
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# POLIHALI TRANSFER TUNNEL



- Preliminary Design Complete
- Tender Design Ongoing
- Prequalification in progress
- Additional Geotechnical investigations



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- 1200MW Pumped Storage Scheme:
  - Technically feasible
  - Not currently economically viable
- Conventional hydropower
  - Small hydro (EFR)
  - Screening studies
  - Options analysis
  - 3 sites selected, 30-90MW
  - Geotechnical investigations
  - Towards 'bankable' feasibility



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# THANK YOU

