


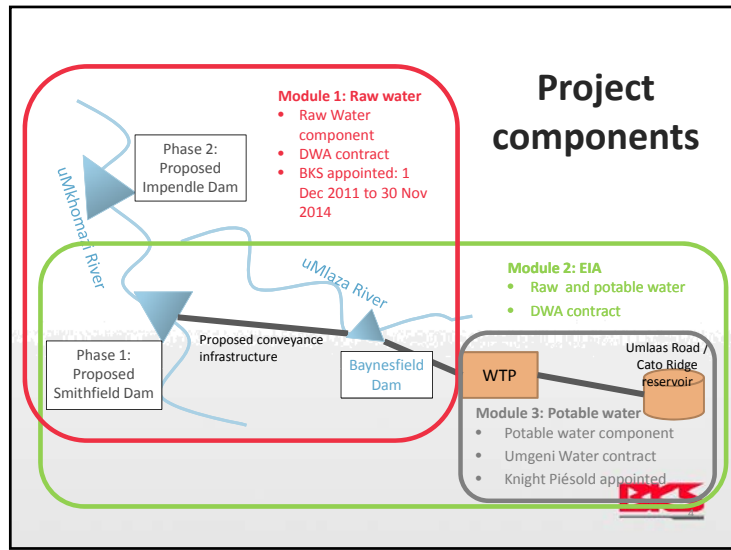
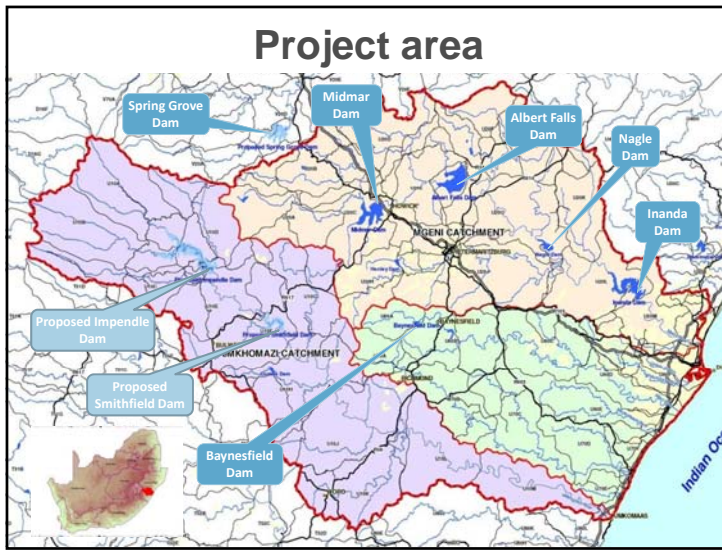



The uMkhomazi Water Project Phase 1

Strategy Steering Committee meeting of the Maintenance of the Water Reconciliation Strategy Study for the KwaZulu-Natal Coastal Metropolitan Areas Study
11 September 2012

Purpose of presentation

- Share available information
- Explain the progress thus far
- Obtain and discuss relevant impacts on the project

Objective of the study

- Undertake a feasibility study to finalise planning of proposed uMWP at a very detailed level so that scheme may be:
 - ✓ accurately compared with other possible alternatives
 - ✓ ready for implementation (detail design & construction) on completion of study

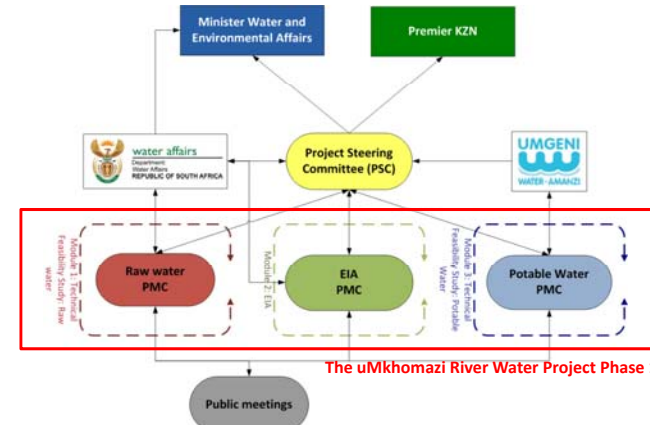
Project Description:

- Develop Smithfield and Impendle dams with conveyance infrastructure transfer water to a balancing dam in the Baynesfield area. This will supply water to a Water Treatment Plant, from where it is conveyed to a tie-in point with the eThekweni distribution system



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Governance of the project



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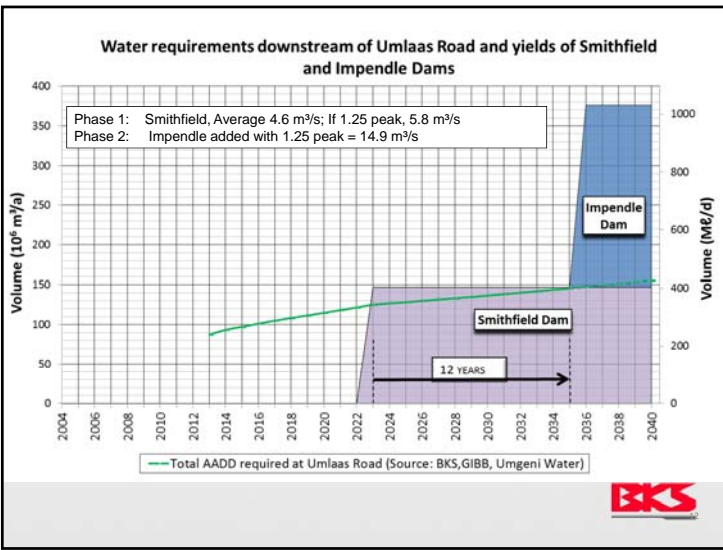
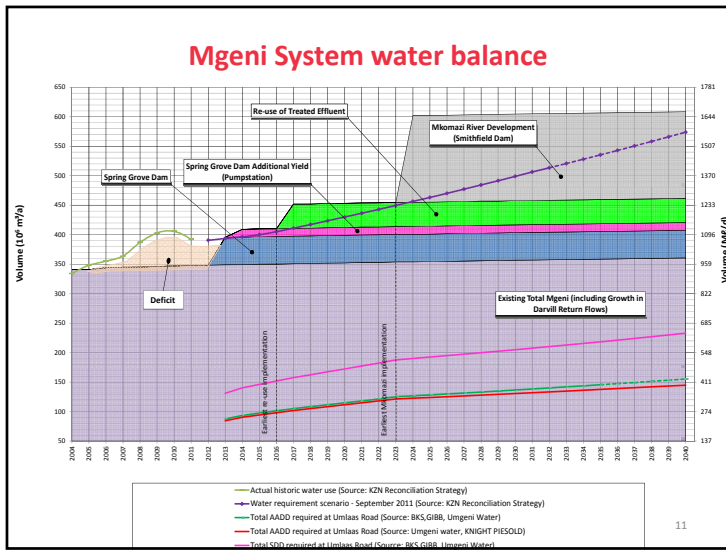
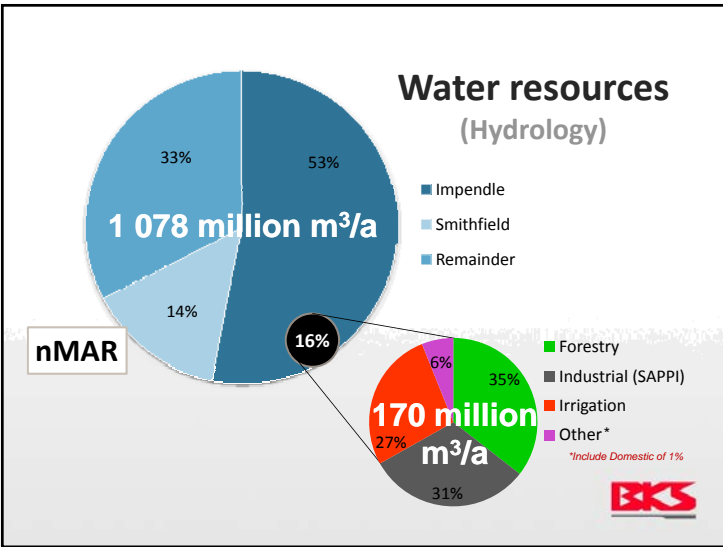
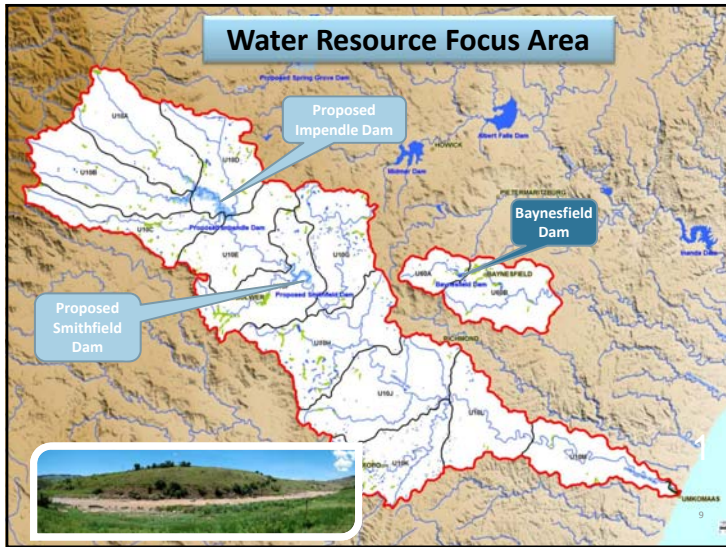
Environmental Screening

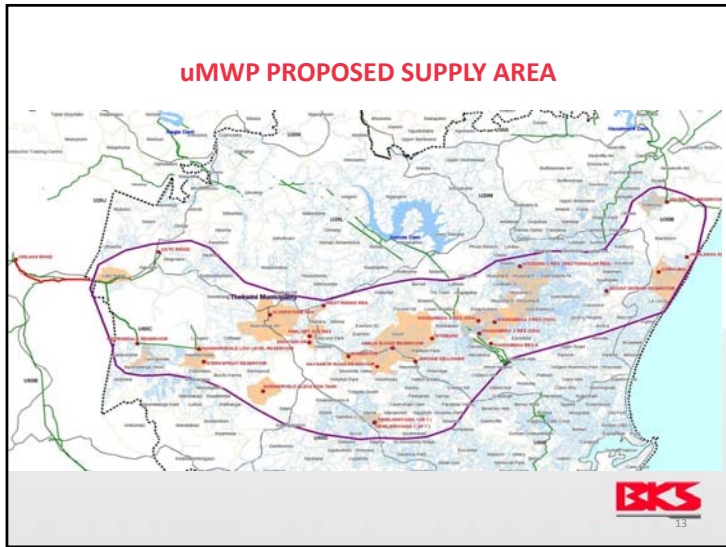
- **Critical considerations for EIA:**
 - ✓ Damming one of the few “undammed” rivers
 - ✓ Biodiversity: presence of terrestrial fauna and flora
 - Loss of Southern KwaZulu-Natal Moist Grassland veld type
 - Vulnerable species: Bald Ibis, Fire lilies, Millipedes
 - ✓ Biodiversity: impact on riverine and aquatic ecosystems
 - Potential sensitive fish species
 - Potential loss of water features
 - ✓ Changes to water quality due to dam
 - ✓ Socio-economic issues





Water resources (Hydrology, water requirements)

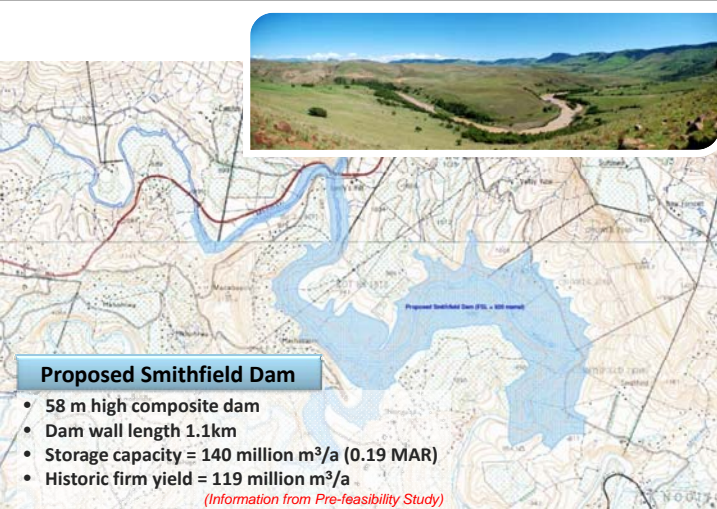






Engineering investigation

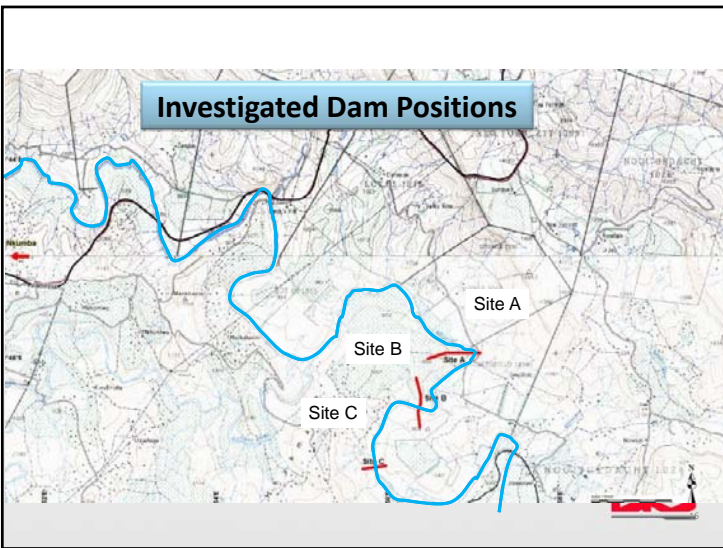



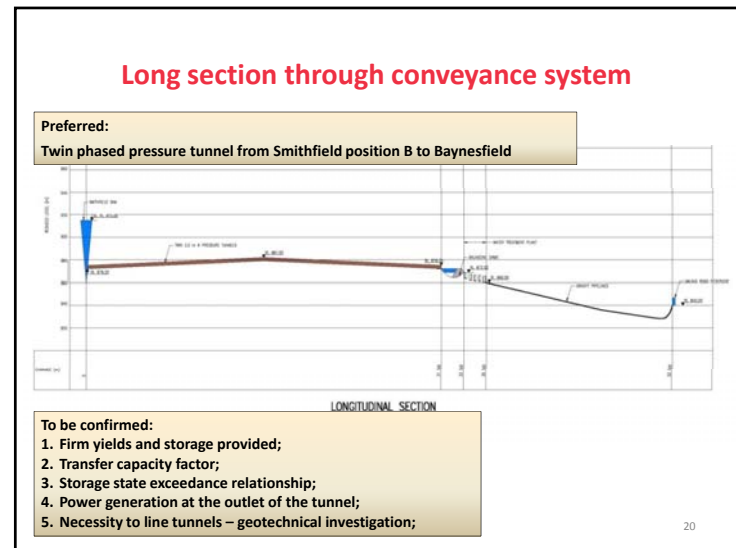
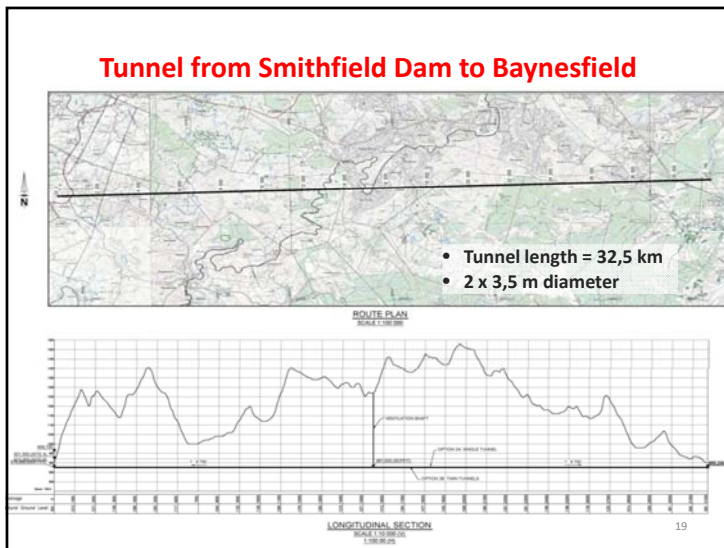
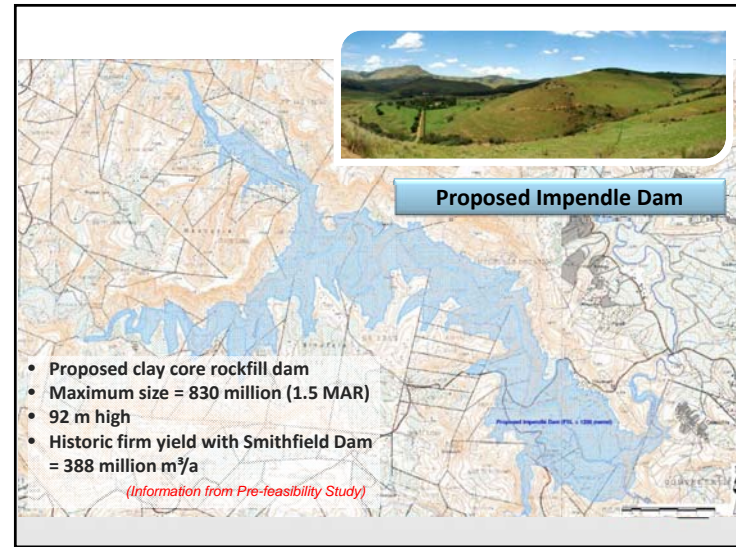
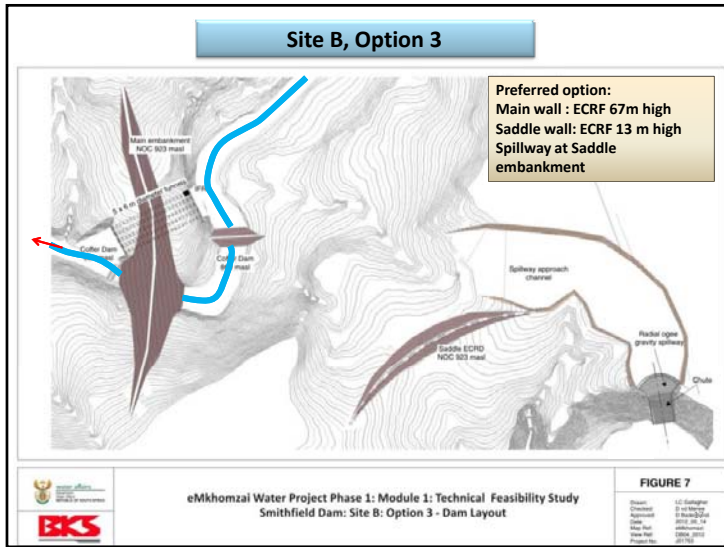


Proposed Smithfield Dam

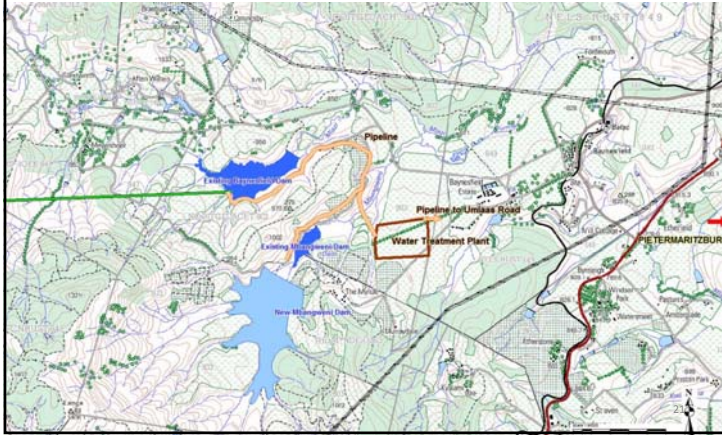
- 58 m high composite dam
- Dam wall length 1.1km
- Storage capacity = 140 million m³/a (0.19 MAR)
- Historic firm yield = 119 million m³/a

(Information from Pre-feasibility Study)

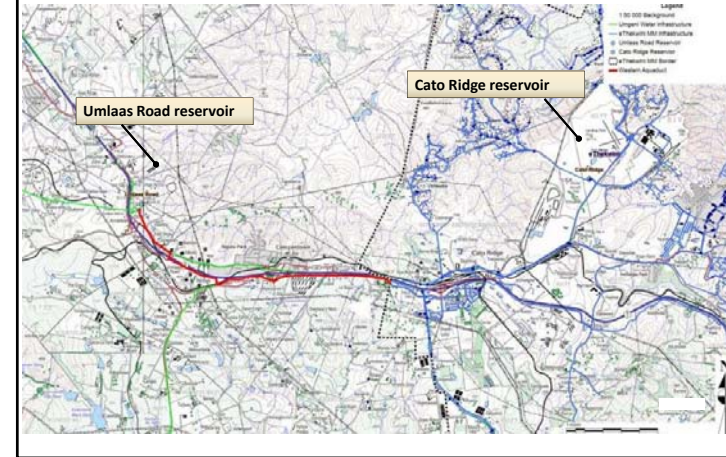




Proposed Balancing Dam – Latest option : New Mbangweni Dam



Western Aquaduct



Project programme

	Date
Feasibility studies	
Technical – Raw water	Dec '11 to Nov '14
Environmental Impact Assessment (EIA)	Jan '13 to Dec '15
Technical – Potable water	Aug '12 to Oct '13
Implementation	
Decision Support Phase	2015 to 2017
Design/Documentation Phase	2017 to 2019
Construction/Implementation Phase	
Smithfield Dam and tunnel	4 years
Estimated water delivery	2023
Impendle Dam (incl. decision support phase, design & construction)	9 years

Key current tasks

- **Geotechnical investigation**
 - ✓ Tender document completed, ready to advertise
- **Yield model**
 - ✓ Setup completed, ready to run different scenarios
 - ✓ Obtain new Reserve figures, including reserve for estuary
 - ✓ Establish dam size
- **Coordination and collaboration with Module 3: Potable Water PSP**
 - ✓ Finalise water requirements
 - ✓ Determine balancing dam size and position
- **Appointment of EIA PSP**



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Thank you

www.dwa.gov.za/Projects/uMkhomazi

