

## LOCALITY MAP



## HIGH LEVEL PROJECT TIMELINE

	2010		2011										2012										2013									
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Construction Commencement				X																												
Ph. 1a: High Priority, Required for Construction																																
Ph. 1b: Acquisition of Borrow Areas																																
Ph. 2: Acquisition of Remaining Properties																																
Construction of Spring Grove Dam																																
Impoundment of Spring Grove Dam																																
Commissioning of Spring Grove Dam																																

X Construction started on 21 February 2011

# Spring Grove Dam

### Phase 2 of the Mooi Mgeni Transfer Scheme (MMTS-2)

The Mgeni Water System in KwaZulu-Natal supplies water to approximately five million people, as well as the industrial sectors in the Durban and Pietermaritzburg regions, the economic hubs of the province. The growth in water demand and intermittent drought periods since 2003 have made it necessary for the Department of Water Affairs (DWA) to implement Phase 2 of the Mooi Mgeni Transfer Scheme (MMTS-2). Approximately three years ago, the Trans-Caledon Tunnel Authority (TCTA) received a Directive from the Minister of Water Affairs to fund and implement MMTS-2.

The construction of Spring Grove Dam on the Mooi River upstream of the existing Mearns Weir and about 2km southwest of Rosetta in the KwaZulu-Natal Midlands started in February 2011. The project components include:

- > A roller compacted concrete (RCC) dam with an earth embankment,
- > Three gauging weirs, and
- > Re-alignment of private access roads that will be inundated by the dam.

Impoundment of the dam is scheduled for November 2012 with commissioning within the first quarter of 2013.



The Inchbrakie Falls on the Mooi River will be periodically inundated by Spring Grove Dam.

Spring Grove Dam will provide much-needed water to the municipalities via the transfer of water to Midmar Dam. The water transfer scheme (pump station and pipeline) under MMTS-2 has been postponed because an appeal against the pipeline route was upheld. A new environmental impact assessment with public participation will be undertaken to determine the preferred pipeline route. The MMTS-1 will be used to transfer water to the Mgeni catchment until the new pipeline is operational by about 2013.

Dam Type	Composite RCC and Embankment	Total Length of Dam Wall	607 m
Dam Height	37 m	Spillway Height	32 m
GPS Coordinates (Dam Wall)	29°58'12" E / 29°19'12" S	Spillway Length	70 m
Category	Category III	Spillway Crest	Ogee Crest
Gross Storage Volume	139,5 million m <sup>3</sup>	Firm Yield	60 million m <sup>3</sup> /a
Full Supply Level	RL 1 433,5 m	Catchment Area	344 km <sup>2</sup>
Water Surface Area at Full Supply Level	1 022 ha	Outlet Works	Twin System with Multi-level Intakes
Embankment Type & Height	Earthfill; 11,5 m	Outlet Capacity	29,5 m <sup>3</sup> /s

## DAM CHARACTERISTICS

## PROJECT TEAM

- |  |  |
|--|--|
| 1 PRINCIPAL  | Department of Water Affairs (DWA)  |
| 2 IMPLEMENTING AGENT FOR THE MMTS-2                  | TCTA   |
| 3 PROJECT PARTNER                                    | Umgeni Water   |
| 4 CONSULTING ENGINEER                                | BKS (Pty) Ltd  |
| 5 CONTRACTOR   | The Group Five-Pandev Spring Grove Joint Venture   |
| 6 SUB-CONSULTANTS AND SPECIALISTS (working with BKS) | <ul style="list-style-type: none"> <li>&gt; Knight Piesold - Geotechnical Engineering</li> <li>&gt; ILISO - Environmental Management</li> <li>&gt; Nomad Consulting - Social Aspects</li> <li>&gt; Fosce - RCC Specialist</li> <li>&gt; University of Pretoria - Heritage Mitigation Aspects</li> <li>&gt; NEMAI Consulting - Environmental Control Officer</li> </ul> |
| 7 BENEFICIARIES                                      | Municipalities & Users   |

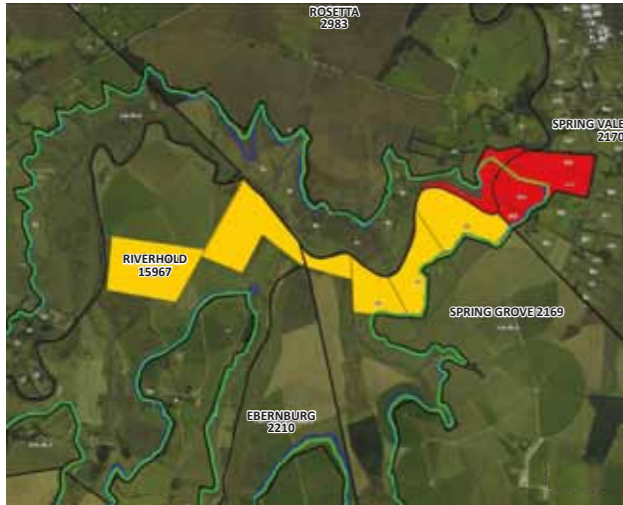


## CONTACT DETAILS

STAKEHOLDERS	CONTACT	E-MAIL
<ul style="list-style-type: none"> <li>&gt; TCTA                             <ul style="list-style-type: none"> <li>- Project Manager</li> <li>- Environmental Manager</li> <li>- Project Engineer</li> </ul> </li> <li>&gt; Environmental Monitoring Committee                             <ul style="list-style-type: none"> <li>- Chairperson</li> <li>- Environmental Control Officer</li> </ul> </li> <li>&gt; Department of Water Affairs</li> <li>&gt; Umgeni Water</li> <li>&gt; BKS (Pty) Ltd                             <ul style="list-style-type: none"> <li>- Project Manager</li> <li>- Resident Engineer</li> </ul> </li> </ul>	<p>Tente Tente Kogi Govender James Nyakale</p> <p>David Cook Nicky Naidoo Jaap Kroon Steve Gillham</p> <p>Kevin James Petrus Viljoen</p>	<p>ttente@tcta.co.za kgovender@tcta.co.za jnyakale@tcta.co.za</p> <p>cookenviro@futurenet.co.za nickyn@nema.co.za kroonj@dwa.gov.za steve.gillham@umgeni.co.za</p> <p>kevinj@bks.co.za petrusv@bks.co.za</p>



# LAND ACQUISITION PROCESS



TCTA is using a phased approach to acquire the properties that will be affected by the clearing and inundation of the dam's basin and structures, with priority being given to properties with dwellings below the purchase line.

- > **Phase 1A (Red):** Properties affected by the dam wall's construction and where temporary site offices, contractor's workshop area, stockpile area and other temporary structures will be established. This land will later be used for permanent dam operator offices and structures for the new water transfer system.
- > **Phase 1B (Yellow):** Large commercial farms in the basin on which borrow areas have been identified for the earthfill section of the dam wall.
- > **Phase 2 (within Green border):** All other properties in the dam basin that will be affected by the impoundment of the dam.

TCTA's Valuers initiated the site inspections and valuations of Phase 1 properties in December 2009. By March 2011, significant progress had been made and the PAJA (Promotion of Administrative Justice Act) and Expropriation Notices had been issued to relevant owners. The valuation process of Phase 2 properties was completed in 2010 and TCTA started issuing PAJA notices to properties within the expropriation line in April 2011. The acquisition of all properties is scheduled to be complete by December 2011.



San/Bushman Rock Art found Upstream of Dam Basin

## CULTURAL & HERITAGE IMPACT MITIGATION

Various factors have to be investigated and mitigated to prevent the loss of any artefacts that are part of the regions culture and heritage, and to ensure that local communities are not negatively impacted upon by the construction of the dam.

The KwaZulu-Natal Midlands has cultural and heritage importance and the project is documenting the "sense of place" as it will be impacted upon by the construction of the dam. The dam basin plays a part in the region's history in that it was formally occupied by settlers of English descent in the late 1800s and was primarily used as farming land. The dam basin also includes part of the main wagon trail that led from the ports to the interior of the country. The area has therefore experienced the movement of troops to the interior and historical events such as the Langalibale rebellion, the Anglo-Zulu war, the Anglo-Boer war, and the Bambatha rebellion.

The presence of San / Bushman inhabitants is also evident in the dam basin as there are three rock paintings just below Inchbrakie Falls on the Mooi River, known as the Vaalekop Rock Art Site. This site will be inundated, but the rock containing the artwork will be removed and curated in the Natal Museum. The site will also be excavated to save any archaeological artefacts.

To date, 45 graves have been identified in the basin and will have to be relocated in consultation with families, heritage and archaeological specialists, as well as traditional spiritual leaders. The developer has taken the necessary measures to identify appropriate reburial sites and is consulting with the affected families and authorities on the processes to be adopted.

## PUBLIC PARTICIPATION & ENVIRONMENTAL MANAGEMENT

### BENEFITS TO COMMUNITIES & THE REGION

The project team has had to consider the present and future social impacts of the construction of Spring Grove Dam. The construction programme holds short- and long-term benefits for the nearby towns of Rosetta and Nottingham Road, and for the region as a whole. Guesthouses, restaurants, entertainment facilities and suppliers in the towns will benefit from the influx of site staff and the project will generate employment opportunities for the local communities.

### PUBLIC PARTICIPATION

Public participation is a structured, transparent inclusive and objective process. During the Environmental Impact Assessment (EIA) stage, Interested and Affected Parties (I&APs) were identified through networking with local business owners, farmers associations, non-governmental organisations (NGOs), community-based organisations and local representatives. Adverts were placed in the local press and community notices were displayed and distributed to residents and businesses. I&APs were also drawn from reviews of other EIA studies that were undertaken in the area.

Public meetings have been, and will continue to be held at regular intervals to communicate project progress. Information-sharing newsletters will also be distributed to I&APs at regular intervals.

### ENVIRONMENTAL MONITORING COMMITTEE

The Department of Environmental Affairs (DEA) issued a positive Record of Decision (RoD) on 15 June 2009 to the Department of Water Affairs for the commencement of the MMTS-2 project. One of the specific conditions of this RoD was that an Environmental Monitoring Committee (EMC) be established.

The purpose of the EMC is to provide a structure where representative sectors of society (e.g. government, NGOs, private sector, community and civil society organisations) collaborate with the authorities to monitor the compliance of MMTS-2 in the implementation of project-specific environmental and social objectives.

The EMC's responsibilities include:

- > Periodically reviewing and monitoring progress towards adhering to the conditions of the RoD and Environmental Management Plans (EMPs).
- > Reviewing and commenting on subsequent versions of the EMP.
- > Promoting developer's understanding of the nature of the project's impacts (both positive and negative) on the local social and natural environment.
- > Ensuring information exchange between the developer and I&APs.

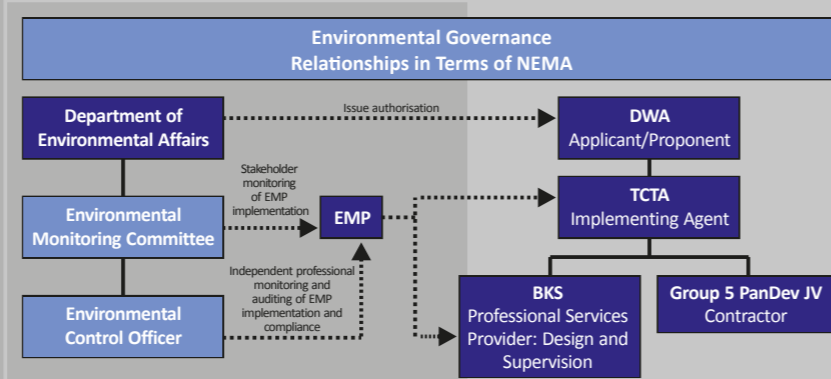
The EMC will monitor and audit project compliance to the specific conditions of the RoD related to construction and rehabilitation activities, environmental legislation and specific mitigations measures as stipulated in the EMPs. The EMC will be disbanded when all rehabilitation measures are successfully completed, and the site is handed over by the Contractor for operation.

The appointment of the ECO is one of the conditions of the RoD. **Nemai Consulting** was appointed to act as an independent professional to undertake periodic monitoring and third-party auditing of compliance against the conditions of the RoD, environmental legislation and requirements of the EMPs. The function of the ECO is also to support the EMC.



Public Participation Meeting

EMC Structure



Geotechnical Investigations during Tender Design Stage