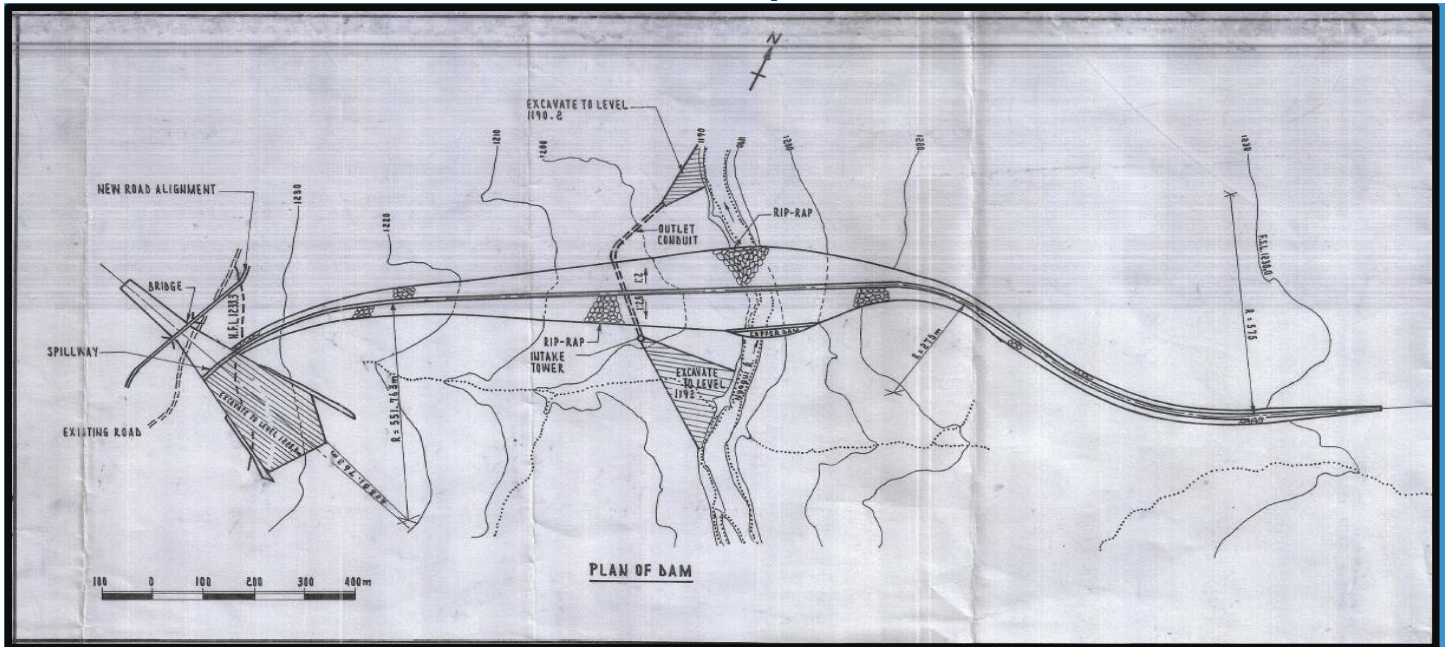




# The Zimbabwe Institution of Engineers tour construction of the Kunzvi Dam

By Doreen Bhebe



*Courtesy of ZINWA*

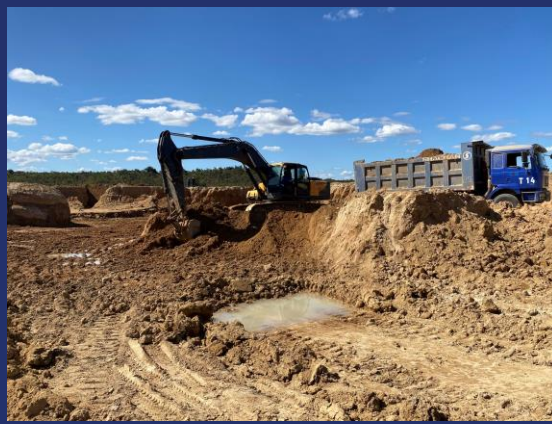
**10 June 2022** – The Zimbabwe Institution of Engineers (ZIE) through the Large Dams Division successfully hosted the Kunzvi Dam Technical Tour in association with the Zimbabwe National Water Authority (ZINWA). The technical visit was facilitated to give members of ZIE an opportunity to appreciate the design and ongoing construction of the Kunzvi Dam in Goromonzi District, Mashonaland East.

The USD120 million Kunzvi Dam project is a national infrastructure project that aims to provide much needed water resources for Harare and the immediate surrounds. The dam when completed will have a full supply capacity of 70 million cubic meters at 4% yield. Kunzvi Dam has long been on the cards for many years now, and the start of such a project is welcomed.

Kunzvi Dam is located about 14km to the south-east of Juru Growth Point on the Nyagui River. The maximum height of the dam is 50,2m and will have a maximum storage capacity of 158 million cubic meters. The dam is being constructed by China's Nancheng Engineering company and is expected to be completed by 2025. The project also includes a treatment plant and pipeline construction.



Members of the touring party listening to the Resident Engineer's explanation of the grouting process of the dam core currently underway to stabilize the existing geology beneath the dam wall.



**Left.** Pressure gauge to measure pressures of the grouting process. **Top.** Excavators and tippers working on the wall.

Some of the major challenges on the project include the weak geological composition of underlying rock on some sections beneath the proposed dam wall position. This has resulted in engineering techniques to “strengthen” the rock by pressure-pumping quick setting cement-grout at various intervals across the dam wall. The grouting process will allow greater stabilization for the dam foundation.

The other challenge is that of relocation of families within the dam catchment. There are a number of families that will require to be relocated and this process is being facilitated by the Ministry of Local Government and Public Works. The number of families to be affected is yet to be established but those to be moved include persons residing in construction zones and those though away from construction zone, could be affected by throwbacks of the dam that occurs at the spillway crest level. Discussions during the tour suggested that a more holistic process is required to effectively and efficiently manage the relocation of affected families. This process should include all stakeholders and should be as transparent as possible so that the project is not stalled and that affected families are well informed on time and resettled amicably. This holistic approach is client-centric (The local people) and can be a significant differentiator in ensuring a clear relocation plan and avoiding disputes and conflicts between Government and affected families.

The Zimbabwe Institution of Engineers is a learned society driven by a Private Act of Parliament whose mandate is to promote the advancement of engineering through appropriate engineering methods and standards. The provision of such technical tours provides an opportunity for continuing learning and professional development to upskill registered engineers and technicians

The Zimbabwe Institution of Engineers Board, Secretariat and members at large extend its gratitude to the Zimbabwe National Water Authority for making this event materialize. It is hoped such technical visits will benefit the engineers and technicians in the country as well as ZINWA so that such large monumental projects are well planned, implemented and maintained whilst using modern and international best practice-standards.

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*All practicing engineering professionals are required by law to register with the Zimbabwe Institution of Engineers and the Engineering Council of Zimbabwe*