

ADVANCE INFRASTRUCTURE

Advance Infrastructure

Phase II of the Lesotho Highlands Water Project includes the construction of a dam at Polihali, the Polihali to Katse water transfer tunnel, and a significant investment into ancillary advance infrastructure. This includes power lines and telecommunications links; roads; major bridges, offices, workshops, and residential accommodation for people working on site. Much of this infrastructure has been completed ahead of the Polihali Dam and Polihali Tunnel construction, and many of these components will benefit the communities in the vicinity of the project in the long term.

Bulk Power

The electrical infrastructure required for the Phase II development includes the construction of new substations, upgrading of existing Lesotho Electricity Company (LEC) substations, the construction of new power lines, and the diversion of some of the existing distribution network.

A new power substation has been constructed at Polihali Dam, and another has been built adjacent to the existing Matsoku diversion substation. Substations at the Katse tower intake and Ha Lejone have been upgraded. The protection and control systems of the Maputsoe, Pitseng and Matsoku diversion substations have been upgraded. Furthermore, all substations have been equipped for remote control from the LEC national control centre, located at Mabote substation near Maseru.



A 132kV transmission line between Matsoku substation and the new substation at Polihali has been built and the existing 20km transmission line from Ha Lejone to Matsoku has been upgraded from 66kV to 132kV. A 33kV power line of 2.2km was constructed from Tlokoeng to Polihali to supply early power for the advance infrastructure contracts prior to the completion of the main power from Matsoku.

After the construction of Polihali Dam and Polihali transfer tunnel, the infrastructure built in Phase II and integrated into the LEC network will improve the supply to local communities.

Telecommunications

The project has established a communications network backbone which is integrated with the existing LEC network through fibre optic and microwave radio links. A Network Management system (NMS) has been established and cyber security equipment, and IP based Video Conference System and other voice communication equipment has been installed to improve communication at the project area.

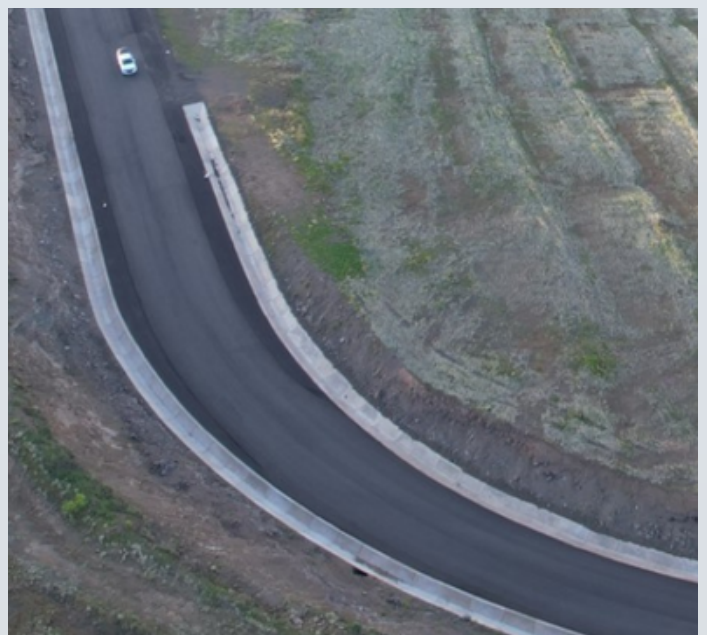
The telecommunications infrastructure brought by the project expands access to connectivity for communities in the project catchment including voice, internet and mobile money services.

Major roads and feeder roads

Construction of roads is one of the major components of the advance infrastructure under Phase II. It includes the construction of a new major road leading to the dam site and the upgrading of two existing major roads.

The existing Polihali Northeast Access Road (PNEAR), a 16-kilometre-long gravel road which starts in the town of Mapholaneng and runs towards the Polihali Dam site, has been upgraded to a Class A surfaced road. The road provides access to the dam site for construction vehicles and improves ease of movement for communities in the surrounding areas. The works include earthworks, layerworks, a roundabout that links the PNEAR and the A1, double seal surfacing, sidewalks, drainage systems and other appurtenant works.

The Polihali Western Access Road (PWAR) is a new, 54.3-kilometre paved road linking the A8 in the vicinity of Ha Seshote in the west to Polihali in the east. It joins the PNEAR at Polihali. The works include earthworks, layerworks, three new bridges across Matsoku, Semenanyane and Makhoaba rivers, asphalt surfacing, drainage systems and appurtenant works.



The Northern Access Road (NAR) has been repaired, including existing bridges and resealed using asphalt and minor safety upgrades. The section that has been rehabilitated stretches for 98 kilometres from the Pitseng village up to Katse village. It provides access to the Katse Dam basin and will tie into the PWAR at Ha Seshote to provide a further link to the Polihali basin.

The major roads programme is complemented by a feeder roads and bridges programme which is intended to restore mobility and connectivity for communities that will be separated by the Polihali reservoir. It will provide 94.2 km of access roads, four pedestrian bridges and six vehicle bridges. The construction of the feeder roads and bridges is expected to commence in the second half of 2025.

Bridges

The Polihali reservoir will inundate a large area. As a result, a number of existing roads and tracks will become unusable. The restoration of roads requires construction of a number of new road sections leading to new bridge structures which are required to cross the reservoir. Three major bridges are being built along the Maseru to Mokhotlong A1 road at the Mabunyane,,Khubelu and Senqu rivers.

The three major bridges will provide access to Mokhotlong town across the reservoir even at full supply and retain connectivity to the national road network along the A1, the main road between the Mokhotlong district in the mountainous north-east of the country and Maseru.



The major bridges programme is complemented by the construction of four pedestrian bridges and six vehicle bridges under the feeder roads and bridges programme to maintain connectivity and ensure mobility for communities in the reservoir area.

Housing

The permanent housing becomes a legacy estate for the project – the Polihali Village, and as such was designed to the principles of energy efficiency and sustainability and to fit into the rural landscape of the site. The houses are used by on-site personnel from the LHDA, dam and tunnel consultants, and others including relevant Government of Lesotho (GoL) officials during the main works construction. In the post-construction phase, the houses will be used by the LHDA Operations team and related GoL departments.

Construction of the Polihali Village is complete.

Operations Centre

The operations centre is a multifaceted building comprising an office building, exhibition hall, conference facilities and Visitors Information Centre. This building is located strategically on a vantage point at the water's edge so that occupants are always presented with dam views. It is influenced by the terrain and blends into the shape and profile of the land. The building will be used by LHDA and dam consultants during the construction phase, and LHDA Polihali Operations will take it over post-construction.

Construction of the operations centre has been completed.



Commercial Centre

This is a retail centre currently under construction which will focus on the provision of convenience shopping space for the day-to-day needs of consumers at Polihali village and the immediate neighbouring villages. It will be anchored by a small supermarket, will include speciality shops, and has space to accommodate a police post.

Like the other buildings in the development, the commercial centre incorporates a number of sustainable initiatives into the design, such as orientation and materials. As a response to the cold climate and to meet optimal energy efficiency requirements, the building has been designed to minimise excessive heat loss in winter and heat gains in summer.

Polihali Lodge

The building was designed atop a strategic point in the Polihali village, allowing it to overlook the future dam. After construction, the Polihali Dam will become a primary tourism attraction in the Lesotho Highlands Project area, hence the prominence accorded to the location of the 4-star lodge. The building design and layout was influenced by the local terrain and site orientation. The aim is to create a welcoming atmosphere to highlight the natural beauty and wonders of Lesotho's highlands. .



Katse Lodge

Building developments in the Phase II project also entail the construction of single quarter housing for LHDA operations staff at the Katse village and the upgrading of Katse Lodge. This is because the water transfer component of Phase II will increase the potential for tourism and more operations staff will be based at Katse due to the increased workload and the Katse-side portion of the transfer tunnel works and other Phase II works.

Katse Lodge is being upgraded to increase the floor area in some parts and to include staff change rooms, laundry area and workshop for improved convenience. The physical upgrades also include finishes, fittings, furniture and aesthetics with the aim of attaining a 4-Star Rating.

Larger windows and covered terraces maximise exposure to the dam views. A multi-purpose fitness centre and conference facilities are also being built

