



<b>PROJECT</b>	: UPM236
<b>DATE</b>	: 2020 - 2022
<b>CLIENT</b>	: Edinvest School Properties (Pty)Ltd
<b>CONTRACTOR</b>	: Patcon
<b>PROJECT VALUE</b>	: R40,000,000

## Etham College



Umsunguli Project Management cc was appointed by Edinvest to design and supervise the external civil infrastructure relating to domestic water, waterborne sewage, access road, parking area, bulk earthworks, stormwater and stormwater attenuation pond. Our appointment also covered the structural component, which was undertaken by Kantey & Templer. The new school, Etham College comprise approximately 4500m<sup>2</sup> of buildings with a large innovation hall and sportfield and can accommodate 1000 learners from Grade RR to 7. The project is located in Hilton, within uMngeni Municipality with direct access off the R103 and N3 where a new 7m wide surface road and Type B2 intersection have been constructed. Other consultants included dhk Architects, Willcox Power, A more detailed description of the respective services is:

### **Internals Roads and Parking**

The internal roads and parking (4450m<sup>2</sup>) comprise asphalt surfacing and a gravel parking area, with dedicated disabled parking bays and pedestrian crossings. The internal road, separated by a security access gate gains access off the Old National Road, a new 7,4m asphalt access road linked to the R103 and N3 via a new Type B2 intersection and sliplane to accommodate the expected traffic generated by the school and other mixed use developments nearby.

### **Storm water**

The internal storm water system comprises a piped system with catchpit and grid inlets. The roof run-off is collected in gutters and linked into the stormwater system with open concrete channels.

### **Stormwater Attenuation Pond**

The purpose of the stormwater attenuation pond is to attenuate the peak flow and to release stormwater into the adjacent wetlands at pre-development flow to protect the natural drainage areas and wetlands. The attenuation pond has a storage capacity of 192m<sup>3</sup> and is lined to prevent ingress into the layerworks of the roads and parking areas. A large outlets structure controls the outlet linked to storm water pipes to covey stormwater to the wetlands. The pond has been neatly fenced off to protect learners and public and has been provided with wetland grasses to add as a feature and focal point near the school's main entrance.

### **Water Reticulation**

The domestic water supply and 505m of watermains is connected to the municipal water reticulation and is controlled with a bulk water meter, which is monitored by the water services authority. The water is linked to all ablution facilities, restrooms and kitchens within the school buildings.

### **Internal Sewer Reticulation**

The internal sewer reticulation comprises 490m of 160mm uPVC Class 34 sewer pipes with 1m precast concrete manholes at placed at a maximum spacing of 80m or at a change in direction throughout the development. The gravity sewer system is temporarily linked to a 21,500litre Calcemite conservancy tank until the new Hilton WWTW is operational. The conservancy tanks are monitored daily by an external service provider and emptied by carting effluent to Darvill WWTW in Pietermaritzburg.

### **Bulk Earthworks**

Prior to the construction of the school and installation of the civil infrastructure services, approximately 8000m<sup>3</sup> of bulk earthworks was undertaken to create three terraces for the construction of the school buildings, administration block, innovation hall and sportsfield.