CASE STUDY

SANPAC AFRICA LTD

SARIT CENTRE EXPANSION PROJECT
SUBSOIL AND STORM WATER DRAINAGE
FOR PHASE 3

PROJECT:	**SARIT CENTRE PHASE 3 EXPANSION PROJECT – SUBSOIL AND STORMWATER DRAINAGE.**
CLIENT:	**SOMA PROPERTIES LTD.**
CONSULTANT:	**SUTHERLAND ENGINEERS & ENGPLAN.**
CONTRACTOR:	**LAXMANBHAI CONSTRUCTION LTD.**
DATE:	**2017.**
PRODUCTS:	**PERFORATED HDPE PIPES OF 100MM AND 150MM DIAMETER; 180 GSM NON-WOVEN, NEEDLE-PUNCHED GEOTEXTILE**
QUANTITY:	**100MM DIAMETER PERFORATED HDPE PIPES – 741 M**
	150MM DIAMETER PERFORATED HDPE PIPES – 855 M
	180 GSM GEOTEXTILE – 26,487 M^2

Sarit Centre, which is one of the major shopping malls in Nairobi, was expanding to incorporate a new block behind the existing mall structure.
The work comprises of the construction of a multi storey parking silo and new retail mall consisting of retail space, common area, back of house areas, expo centre (shell construction), loading area / bay, including external works and parking coordination works.
Total built up area is approximately 8,700 m^2, over 5 levels.
Sanpac Africa Ltd., was contracted to supply the 100mm and 150mm diameter perforated HDPE pipes and 180 gsm Geotextile for the subsoil and storm water drainage.

INSTALLATION METHOD.

Trenches were cut along the basement and the Geotextile was laid inside, with sufficient material kept on either side to cover the trench once the perforated HDPE pipes were laid, with an allowance of 300mm
overlap.


Coarse aggregate was filled at the base and the perforated HDPE pipes were laid.


The perforated HDPE pipes were then covered with another layer of coarse aggregate and the whole was then wrapped by the geotextile material with a 300mm overlap on top.


Traditionally, heavy duty UPVC pipes with slottings were used for subsoil drainage.

The process involved purchasing UPVC pipes, taking them to the contractor's workshop to make the perforations and then taking the perforated pipes back to site.
This process not only weakens the structure of the perforated pipes but also increases the carbon footprint.
The unique design of the perforated pipes gives it a 70% open area, which is not possible to achieve through perforation on UPVC pipes, allowing for a significant increase in the infiltration rate of water into the pipe.

The perforated HDPE pipes are light, flexible and resistant to chemical attack.

The 180 gsm Geotextile was used as a filtration/ soil separation media.