

ANNEXURE C3.2: SCOPE OF WORK

GRADING AND MAINTENANCE OF GRAVEL ACCESS ROAD

1. PURPOSE

Rand Water - Environmental Management Services maintains the gravel access road through Rand Water Farm and currently requires quotations from Service Providers with previous experience of road grading and construction to safely undertake the maintenance and grading of the gravel access road.

2. BACKGROUND

The entire gravel road linking the two tar roads is to be graded. Portions of the gravel road need to be closed off during construction and this is to be undertaken in accordance with legislation providing both the necessary warning signage, barricading and staff to control and direct motorists safely through the construction area for the duration of the work.

One hundred cubic meters of G5 material is to be supplied and delivered to site and used as filling in areas as indicated on the site sketch plan. No solids more than 100mm X 100mm within the G5 material will be accepted. A sample of the G5 material to be supplied and must first be approved before being delivered to site. Soil / gravel currently on the verges of the gravel road is to be graded onto the road and used as fill to level the road and create the desired road camber in order to remove storm water off the road and reduce any pooling of water. Where surrounding soil levels are higher than the road and water is likely to cross the road these soil verges can be used to channel water down the side of the road to the next water off shoot. Care must be taken so as not to grade deeper than what is required to create the desired road camber, causing disturbance to the existing compacted road base.

The existing water off shoots are to be graded to aid water in flowing off the gravel road and not returning to cross the road again at a different point. The water off shoots is to be opened a minimum of 30m in length and must gradually get deeper to allow for some silting and should be approximately 500mm deep / lower than the road surface at its furthest point from the road. The mouths of the water off shoots are to be neatly raked to ensure that water running down the verges of the road exit the road at the next available water off shoot and do not continue to run down the verge of the road or cross the road again.

Once the road has been graded, the road is to be watered with a water cart or water truck and then compacted with a minimum of a 3-tonne compactor to bind the materials graded onto the road.

The existing concrete deflection berms should not be damaged with the grading and compaction of the road and the level changes approaching and leaving the berms is to be gentle so as not to pose a danger to motorists using this access road.

All concrete, tar and paved areas along the gravel access road are to be swept clear of any surface soils once grading and compaction is completed, and all concrete bollards are to be returned and securely compacted into position adjacent to the deflection berms if removed for grading purposes.

The tar bell-mouth joining the gravel access road to Kromvlei road is to be reinforced with a concrete base plinth required to run the entire width of the road measuring a minimum of 200mm wide and 300mm deep. This concrete plinth is to provide support to the tar and limit the current eroding of the tar where it joins the gravel access road. The existing tar bell-mouth must first be cut in a straight line removing the current eroded tar edges and a concrete plinth is to be constructed with reinforcing to secure the tar from eroding further.

Following the installation of a concrete plinth grey industrial interlocking concrete paving 80mm thick is to be installed for a further distance of 10m. This tar bell-mouth measures approximately 10m in width. This paving is to be secured edged with figure 8C concrete mountable edging firmly concreted into position to avoid movement and erosion.

The paved bell-mouth on the Western end of the gravel access road is to be lengthened with a further 10m of grey industrial interlocking concrete paving 80mm thick. The bell-mouth measures approximately 6m in width. This paving is to be secured edged with figure 8C concrete mountable edging firmly concreted into position to avoid movement and erosion.

The appointed Service Provider will be required to provide Rand Water - Environmental Management Services with their SHE file complete with all appointments and copies of staff Identity, drivers licences and operator certificates. Once the SHE file has been approved all

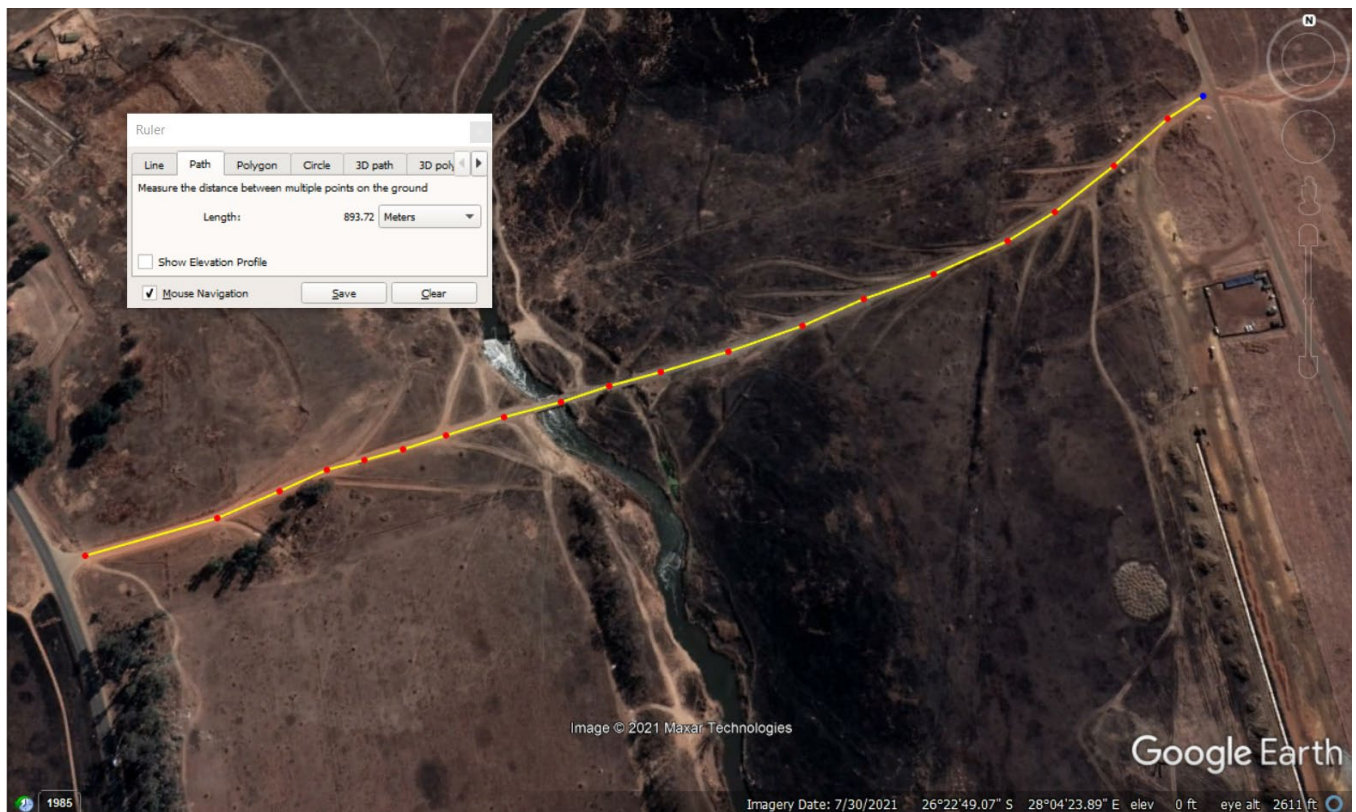
staff undertaking work on site will be required to attend a safety induction prior to commencing on site.

3. OBJECTIVES OF THE WORK.

- a) To safely grade and maintain the gravel access road through Rand Water farm.
- b) To reduce the need for Rand Water staff travelling between Vereeniging or Zuikerbosh to either Central Depot or Zwartkopjes and vice versa from taking alternative longer routes to avoid the gravel access road.
- c) To reduce the risks of vehicles being damaged or getting stuck on the gravel access road.

GRADING AND MAINTENANCE OF GRAVEL ACCESS ROAD.

Google earth measurement of the length of the gravel access road through Rand Water Farm.



Tar bell-mouth on Eastern side of Gravel access road where it meets with Kromvlei road.



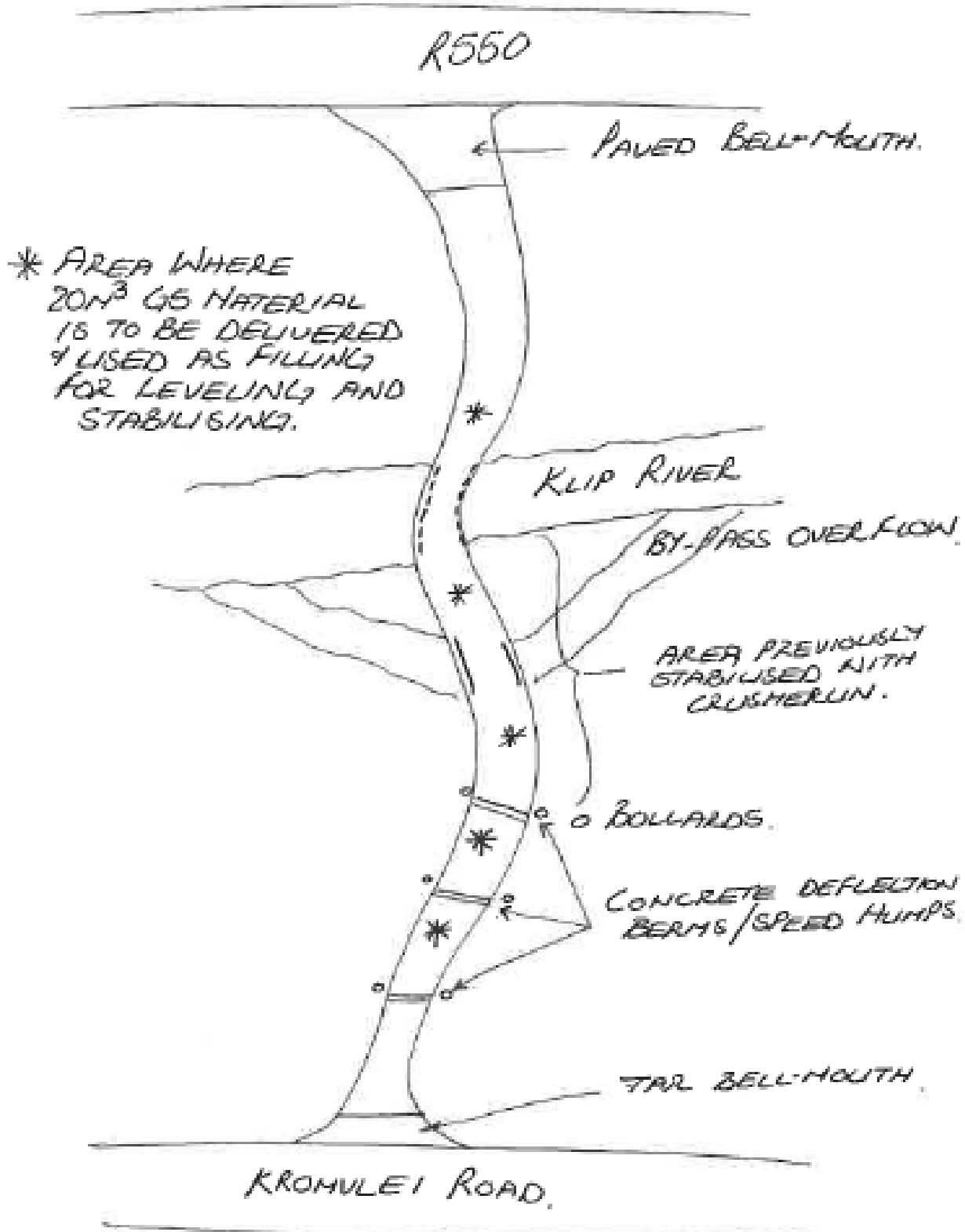
Cut and remove tar that is eroding and install a concrete plinth across the road to support the tar edge from eroding further.



Paved bell-mouth on Western side of Gravel access road where it meets with the R550.



GRADING OF GRAVEL ACCESS ROAD @ RW FARM.
SITE SKETCH.



Kerbing to be supplied and installed around the paved areas.



No.	Operational Area	Delivery Location
1.	Environmental Management Services - Nursery	EMS Corporate offices - 143 IR Kromvlei Road, Johannesburg. 26°22'40.49"S 28°04'33.39"E