

	SHEC MANAGEMENT SYSTEM	Doc no:	SHEC 3.2
		Rev no:	001
	3. SAFE OPERATING PROCEDURES & METHOD STATEMENTS	Rev date:	15/09/2019
		File name:	999 - MS-012-Water and wetlands

Contract no: C1049.03

Contract name: UPGRADING OF DIVISIONAL ROAD 1098 (KM5, 47 TO KM8, 79) AND REHABILITATION OF DIVISIONAL ROAD 1098 (KM8, 79 TO KM14, 24)

METHOD STATEMENT 012 – WORKING NEAR AND WITHIN WATERCOURSES AND WETLANDS

BASELINE CIVIL CONTRACTORS (PTY) LTD SUBMISSION FOR ACCEPTANCE				
	Name	Designation	Date	Signature
Prepared	JOHAN LUBBE	Safety Officer		
Approved	MARK CLOETE	Site Agent		
Submitted				

ENGINEERS APPROVAL				
	Name	Designation	Date	Signature
Engineers Acceptance				
Health and Safety Acceptance				
Environmental Acceptance				

WHAT work is to be undertaken?

Working near and within watercourses and wetlands

WHERE are the works to be undertaken?

Joostenbergvlakte, Waarburgh Road

WHEN are the works to start, what is the anticipated finish date?

Start: November 2023 – End: June 2025

HOW are the works to be undertaken?**Resources**Labour

- General Labour
- Site Supervisor
- Excavator Operator

Plant and equipment

- Excavator (When required)

Material

- Sandbags

Method layout

1. Barricading of no-go areas
2. Redirecting of surface flow
3. Dealing with groundwater
4. Supplying safe access to the civil works
5. Accommodation of traffic while construction activities are taking place
6. Demolishing of existing structures
7. Pouring of concrete
8. Rehabilitation of watercourse

Detail description**1. The works****1.1. Barricading of no-go areas**

- 1.1.1. Before the commencement of any construction activities, the no-go and construction areas in and near the river or wetlands will be demarcated by means of temporary fencing or netting
- 1.1.2. This will prevent any employees and unauthorized persons from accessing the sensitive areas and to give a pre- warning of the construction works that are occurring
- 1.1.3. Signage will be placed at all entrances
- 1.1.4. During non-activity days the area will be closed to ensure that no person can enter

1.2. Redirecting of surface flow

- 1.2.1. To work safely within a water course, the surface flow needs to be temporarily redirected to protect the works and the environment
- 1.2.2. A canal will normally be built with sandbags to temporarily redirect the flow of the water

- 1.2.3. The sandbag diversion must be built in such a way that it still protects the existing riverbed and banks against scouring and it must be packed high enough to ensure that it is above the normal flow of the river
- 1.2.4. The sandbags will be tied together with a cable and also be tied to existing structures if possible
- 1.2.5. Once the works is completed, this area will be cleared from any material that can cause harm to the environment and the river flow will be directed back to its original direction
- 1.2.6. All employees will be trained on the risks of falling into any flowing water and safety gear will be made available for rescue purposes if any employee fall into the water
- 1.2.7. A safe distance will be indicated for the works to ensure that employees will not be unnecessarily be exposed to the possibility of falling into the water

1.3. Dealing with groundwater

- 1.3.1. It has been identified that construction for this project may, in some areas occur in locations in the watercourse. Whenever construction occurs within a watercourse, waste material of any kind must be removed immediately. The following precautionary measures will be instituted ensure that no contaminations or spillages occur in the working area or location.
- 1.3.2. The excavator that is being used for the excavation will not have any oil or diesel leaks. When the machine is parked it will have a drip tray underneath it. Due to the depth of Pier 2 we cannot use shoring as originally planned due to the rock foundation and therefore open excavation is the only option. With open excavation the size of the hole is relative to the depth of excavation and the ground conditions. Fortunately there is no flow in the river at the moment which is making it possible to do open excavation. Unfortunately the surrounding sand is saturated and keeps on flowing in, which is resulting in wider excavation than is normal.
- 1.3.3. The sides of the excavation are stabilized using sandbags and bedim to create a safe working environment. When the founding level is reached a sump is created using bedim and stone to prevent the pump from sucking up silt and blocking it. Due to the inflow of ground water the pump must run 24hrs per day until the base of the pier is cast. At the outlet of the pump's delivery hose, a silt trap is created using sandbags and bedim. When the water flows out of the silt trap it is channeled parallel to the river embankment and runs through straw bales to trap more silt before it discharges back into the river. Due to the size of the pump it is not practical to put a drip tray underneath it, hence a proper bunded area lined with DPC will be constructed underneath and around it. The contaminated water will be collected by means of a container and stored in a 200l drum for disposal at a registered dumping site. The drum will be clearly marked – contaminated water. On completion the bund area will be removed and disposed of, at an approved dumping site.
- 1.3.4. If any spillage or waste should occur, the contractor will take due precautions to clean the spill. The following procedures will be undertaken in the case when a spill or waste generation occurs:
- 1.3.5. - All the spills that occur on the construction site or any other part of the contract area, no matter how insignificant, will be reported to the ECO.
- 1.3.6. - Should there be a spill greater than the equivalent 200Lt control held on site, the local emergency services and Disaster Management will be contacted.
- 1.3.7. - All efforts will be made on site to control the spill and prevent it from entering any watercourse or water body. If needed, berms and holding dams will be constructed to prevent run-away spills and contamination of streams and watercourses. Inspection registers for all excavations will be kept up to date at all times and a supervisor will be actively involved during the complete construction period. Any Excavation cracks will be monitored and braced if needed

1.4. Supplying safe access to the civil works

- 1.4.1. Not for Waarburgh

1.5. Accommodation of traffic while construction activities are taking place

- 1.5.1. Not for Waarburgh

1.6. Demolishing of existing structures

- 1.6.1. Not on this project

1.7. Pouring of concrete

- 1.7.1. Not on this project

1.8. Rehabilitation of watercourses

- 1.8.1. Rehabilitation will take place if required

2. Health and safety

- 2.1. All employees will be inducted prior to site access
- 2.2. PPE will be provided to ensure that harmful contact with any products and materials does not occur
- 2.3. Provision of adequate fire-fighting equipment and training
- 2.4. Provision of adequate medical aid boxes and trained first aiders
- 2.5. Risk assessments will be used to train site personnel on all the risks within their working environment
- 2.6. Machine operators will be medically tested and deemed fit
- 2.7. Employees will attend annual medical evaluation by an occupational health practitioner to evaluate their health
- 2.8. All machine operators will be licensed and competent
- 2.9. Daily, weekly and monthly monitoring, reviewing and reporting will be done on site
- 2.10. Emergency control numbers and procedures will be readily available on site at all times
- 2.11. All the required warning and safety signage will be in place
- 2.12. All incidents and accidents will be reported immediately to the H&S Officer

3. Environmental

- 3.1. All employees will be inducted prior to site access
- 3.2. All areas used for storing of hazardous products and materials will be pre-approved by the ECO and RE
- 3.3. All areas will be demarcated and where this hazardous materials is present there will be a bund area constructed and ground coverage will be placed to reduce the risk of natural ground exposure
- 3.4. Storage facilities will be within a safe distance from water sources and plantation
- 3.5. Signage will be placed at no-go areas
- 3.6. All works will be monitored and minimum environmental disturbance will be enforced
- 3.7. All incidents and accidents will be reported immediately to the ECO and RE