



CONSTRUCTION WORK METHOD STATEMENT: CROSS COUNTRY PIPELINE WITHIN 32M OF A WETLAND

WILMAR VEGETABLE OIL PIPELINE, RICHARDS BAY

Client: WILMAR OILS AND FATS AFRICA (Pty) LTD.

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Report Title:	CONSTRUCTION WORK METHOD STATEMENT: CROSS COUNTRY PIPELINE WITHIN 32M OF A WETLAND
Client:	WILMAR OILS AND FATS AFRICA (Pty) Limited
Project Name:	PROPOSED WILMAR VEGETABLE OIL PIPELINE IN THE RICHARDS BAY AREA
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Approved by: _____
Signed

_____ Date

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1. DESCRIPTION OF ACTIVITY

This document should be read in conjunction with the Wetland Delineation and Impact Assessment Report and Environmental Management Plan for the Proposed Wilmar Vegetable Oil Pipeline in the Richards Bay area, prepared by Savannah Environmental (Pty) Ltd.

The project consists of the construction of a new cross country above ground pipeline, piled foundations to structural steel pipe bridge and below ground road crossings.

There is one wetland in the vicinity (within 32m) of the Works, and no infrastructure traverses this wetland. The wetland position relative to the Works is shown in Figure 1 below.:

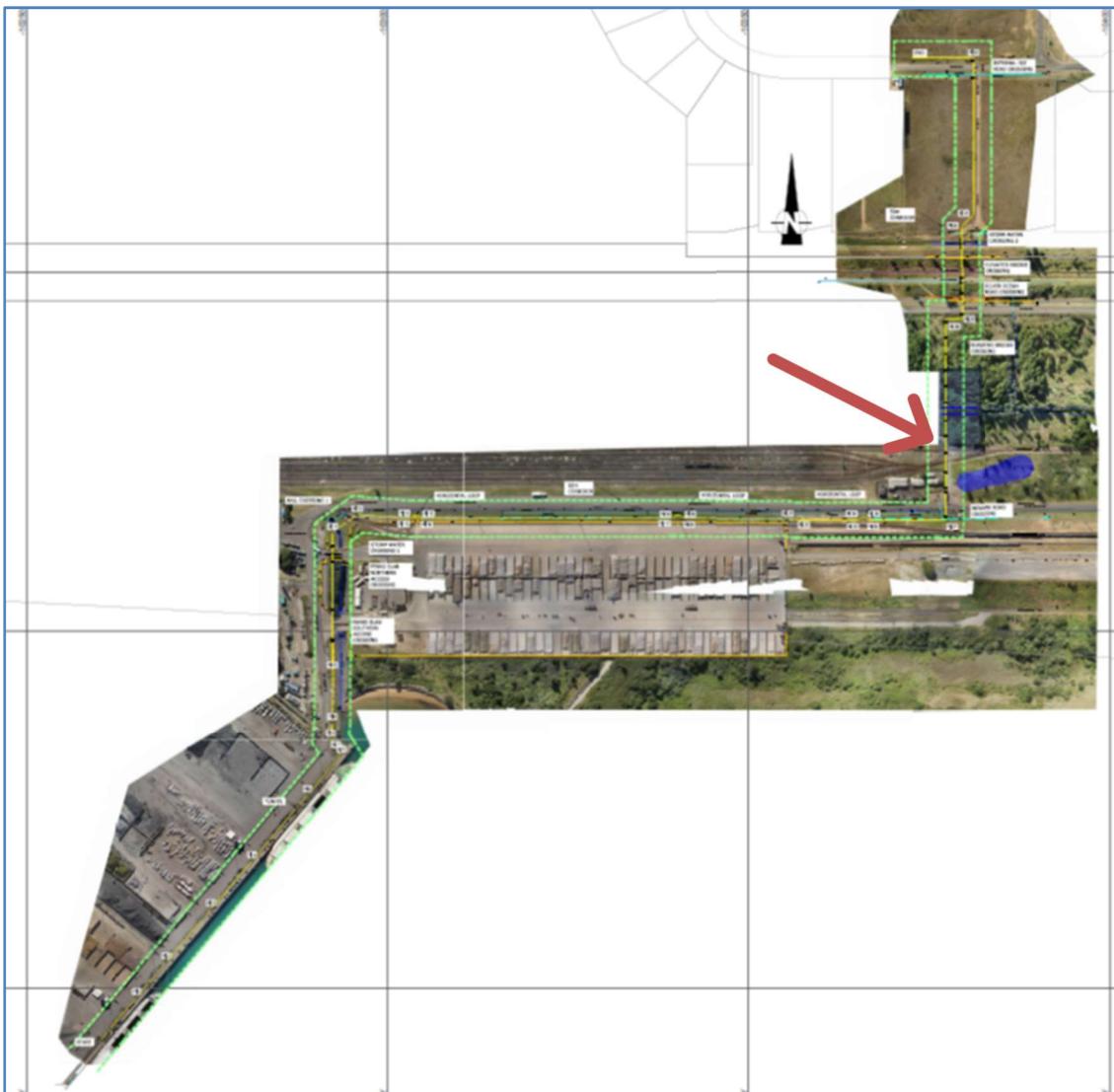


Figure 1 Position of Depression Wetland Relative to Pipeline

1.1 Site Establishment and Preparation Activities

This will include the establishment of the Contractor's site camp, including site offices, services and amenities. The project team will ensure that work is competently supervised with respect to managing environmental impacts, as well as health, safety and quality aspects. A detailed environmental risk assessment will be produced, and construction monitored accordingly.

The site camp will be securely fenced to prevent unauthorised access and will have:

- Approval from the ECO for the location and layout of the site camp;
- A designated, bunded plant refuelling area situated a minimum of 530 m away from any watercourse; and
- Emergency spill kits will be available and maintained at all times.

In addition to this all plant will be inspected on a daily basis for fluid leaks and will not be allowed to be used if a leak is identified until it is repaired.

All other requirements contained in the EA, EMPr, and all other relevant permits and licenses (where required), related to site establishment, shall be adhered to at all times for the duration of the project.

1.2 Preparation Activities

All environmental, guidelines and statutory requirements will be adhered to for all implementation construction method statements.

The Environmental Control Officer (E.C.O) will clearly define the works areas and wetland buffers adjacent to the works areas. No disturbance to area outside the dedicated works area will be allowed. Where possible, existing roads must be used to access the works areas.

- Barriers will be erected to define works areas and "no-go" areas;
- The working space will be adjusted to take into account the wetland buffer;
- Work areas will be cleared (removal of vegetation, sods and limited topsoil strip)
- Workers and machinery will be prohibited from entering the wetland, which will be defined as a "no-go" area.

2. METHODOLOGY

2.1 Construction Activities

Within the wetland buffer, remove the top 30cm of vegetation and underlying soil as a unit and store separately from the underlying material. This material must be maintained outside of the works area. Soil surfaces should not be left open for lengthy periods to prevent erosion. Vegetation and soil should be retained in position for as long as possible, and should only be removed immediately ahead of construction.

Excavations should preferably be carried out in dry season to minimize the risk of compaction and disturbance to the wetland. All excess excavated material must be removed to a designated area or registered landfill site if it cannot be re-used.

Where machinery is to be used, the necessary precautionary measures need to be put in place to minimize their impact, and the wetland area is to be avoided. No machinery or workers are permitted to enter the wetland area.

No construction materials may be stored or disposed of within the delineated wetlands or within the wetland buffer zone. No concrete batching or refuelling may take place within the delineated wetlands or within the wetland buffer zones. Minimal footprints for the work necessary to accomplish immediate tasks are to be maintained.

Stormwater management, erosion and sediment control measures should be implemented. Sediment barriers should be constructed immediately downstream of the works areas to prevent sediment flow into the watercourse.

Prefabricated elements will be used where practical to minimize the construction duration.

2.2 Rehabilitation Activities

Construction should be immediately followed by rehabilitation. In areas where construction activities have been completed and no further disturbance is anticipated, rehabilitation and re-vegetation should commence as soon as possible.

The following should be noted:

- When backfilling, replace the soil in the reverse order in which it was removed;
- Watercourse banks adjacent to disturbed areas should be graded to match upstream and downstream slopes;
- Where requested by the Engineer, cover disturbed areas with biodegradable geotextile;
- Ensure that the geotextile is well anchored using wooden pegs;
- Use indigenous grass plugs from adjacent areas planted into holes punched into the geotextile;
- Add appropriate fertilizer in the bottom of the hole prior to planting;
- Water the plugs thoroughly immediately after planting and continue to water every three days;
- Re-vegetation of disturbed areas must be undertaken with indigenous species and in accordance with the instructions issued by the Environmental Control Officer (ECO);
- Any weed or alien species that germinates during the contract period should be cleared by hand;
- Any erosion channels developed during the construction period should be appropriately backfilled and the areas restored;
- Excess material should be removed to a designated spoil area or registered landfill site;
- The construction area and temporary access must be rehabilitated.

Works will be carried out in compliance with the design drawings and reports listed in the EMPr.

The content of this Work Method Statement (WMS) will be brought to the attention of all the persons associated with the undertaking of these activities and such measures as necessary will be taken to bind such persons to the requirements herein.

A copy of the WMS and documents set out in the EMPr will be on site at all times.

3. ENVIRONMENTAL MANAGEMENT STRATEGY

This Section must be read in conjunction with the EMPr prepared by Savannah Environmental (Pty) Ltd. The EMPr sets out the specific actions and protocols for environmental management on site.

Certain activities and aspects associated with the actual construction may still cause impacts as a result of how these activities are undertaken, where, when and the duration thereof. These include:

- Clearing of the construction footprint (including extending activities beyond the maximum impact foot print);
- Establishment and management of the construction camp/s;
- Management of construction materials (movement, storage, preparation/handling);
- Management of machinery (movement, storage, maintenance);
- Management of sanitation and waste (movement, storage);
- Management of stormwater;
- Management of sediment (structures and containment);
- Rehabilitation.

Possible impacts associated with these activities have been assessed in the Basic Assessment Study along with environmental significance ratings pre- and post-mitigation (i.e. indicating effectiveness of the mitigation measures set out). Mitigation measures are therefore provided according to activities and aspects described in the Environmental Aspects Register contained within the EMPr.

4. RESPONSIBILITIES

Various stakeholders' responsibilities are as follows:

- The Employer, as the holder of the EA, will be responsible for compliance to the requirements contained within the Final BAR, EA, EMPr, WULA and all relevant legislative requirements;
- The Design Engineer (Royal HaskoningDHV) will be responsible for designing to minimise environmental impact;
- The Contractor is responsible for overseeing and ensuring all prescribed activities as detailed by applicable project plans, method statements and statutory documents are executed accordingly on site; and reports to the Employer;
- The Contractor's Safety Manager is responsible for advising on all safety aspects of construction activities. The Safety Manager reports to the relevant Project Manager (Employer appointed);
- The Contractor's Environmental Manager is responsible for advising on all environmental aspects of construction, and reports to the relevant Project Manager (Employer appointed);
- The Environmental Representative/s of the Contractor are responsible for ensuring all construction teams adhere to the appropriate environmental project plans, method statements and statutory documents. They report to the Contractor's Environmental Manager;
- The Environmental Control Officer/s (ECO) is an independent appointment. The ECO will be responsible for identifying and demarcating wetlands on the ground and auditing Contractor construction team performance against stipulations as outlined in the EA and EMPr. The ECO reports to the Employer and/or Design Engineer and the relevant Competent Authority according to the conditions of the EA, EMPr and WUL.

5. DECLARATIONS

5.1 Design Engineer

The work described in the Work Method Statement, if carried out according to the methodology described, is satisfactorily mitigated to prevent avoidable environmental harm.



Peter Fischer PrEng

16 December 2019

5.2 Site Manager

I understand the contents of the Work Method Statement and the scope of works required from me.

Signed

Print Name

Date

5.3 Environmental Control Officer

The works described in this Work Method Statement are approved.

Signed

Print Name

Date