

# APPENDIX F

## Environmental Management Programme (EMPr)

## **PROJECT – SPECIFIC ENVIRONMENTAL MANAGEMENT PROGRAMME**

### **46 Rivertide Shareblock**

#### **1. Construction phase**

- Install an adequate barrier on the western boundary of the site to keep all construction-related activities off the private open space between the river and stand No 46.
- No construction or delivery vehicles are allowed on any of the private open spaces. No construction-related activities or disturbances are allowed on the private open spaces or in the Kromme River.
- Workers that use the river for relaxation during breaks, should not pollute the river and should abide by the rules of using the river.
- The site manager should send out a strong message that the private open spaces and the river are sensitive and protected areas, where no littering/dumping/snaring/catching of wildlife/taking of plants is allowed. This also applies to the whole of the shareblock property.
- No digging or storing of material or equipment is to occur on any part of the private open spaces.
  
- Protect the bulbous plants on the stand. To keep them from being trampled or destroyed, rather take them out and store them in a cool, dark and dry place, to be transplanted in the garden once construction is completed.
  
- The existing bands of natural vegetation on the site boundaries should be protected. These trees and shrubs are remnants of the original riverine vegetation. It is understood that they need to be cut back from time to time to keep them from encroaching on the dwelling.
  
- Working hours should be restricted to week days 8 am to 5 pm. No working should be allowed during weekends or public holidays, as the house is within a low density residential resort.
  
- Try to make use of light and medium vehicles rather than heavy vehicles – also with deliveries. The dirt roads in the shareblock are sensitive and the use of heavy vehicles should be minimised. Do any necessary repair work to the dirt roads as soon as possible during and after the period of construction.
  
- Demarcate specific areas for the parking of construction vehicles and the storing of equipment, so that contamination of the soil is contained.
  
- The mixing of cement or concrete should not be done on any soil surface. Place cement mixers on large trays so that spillage is contained and does not come into contact with the soil.

- Place fuels, and equipment like generators and cement mixers, on trays that rest on clean building sand. Remove the contaminated sand to a registered waste disposal site after construction.
- Any soil or sand or other material contaminated by the spillage of any pollutants should be removed to a registered waste disposal site after construction.
- All solid construction waste that are not being re-used in the activity, as well as polluted soils and materials, should be disposed of at the legal solid waste disposal site on the outskirts of Humansdorp. A container on site is handy to store this waste temporarily.
- No storage of fuel or hazardous chemicals should be allowed on site.
- No servicing of vehicles or machinery should be allowed on site.
- Ensure that sanitation facilities are **on** the stand (No 46), are adequate for the amount of workers, and are serviced and cleaned frequently enough.
- No littering in and around the site should be allowed and all workers should be educated on keeping the environment clean. Refuse bins or containers with lids should be kept on site and serviced as necessary.
- Apply adequate dust control measures to minimise pollution by dust from various sources like cement, sand, soil, wood. Clean up regularly, keep stockpiles damp and avoid engaging in dust-creating activities when strong wind conditions prevail.
- Any topsoil and subsoil that is disturbed, should be stockpiled separately in a sheltered place (shady & protected from strong winds). Keep it damp and if needed, cover with a material like shade cloth that will keep dust down and will prevent it from drying out quickly.
- Any specific recommendations submitted by SAHRA (South African Heritage Resource Agency) for the proposed project, need to be adhered to.
- If any evidence of archaeological sites or remains (especially shell middens), unmarked human burials, fossils or other categories of heritage resources are found during construction, the SAHRA APM Unit (Mariagrazia Galimberti/Nonofho Ndobochani 021 462 4502) must be alerted immediately. All activities should then be halted until an accredited professional archaeologist can inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance a Phase 2 rescue operation might be necessary.

## 2. Operational phase

- Any topsoil and subsoil that was saved, can now be reincorporated into the garden. If any viable dormant bulbous plants are found in the stockpiles, they can be planted out on the site. Alternatively, the geophytes (bulbous plants) can be planted in the central private open space.
- After construction, exposed areas must be rehabilitated as soon as possible to prevent soil (sand) erosion.
- Spread the stored subsoil over exposed areas and then follow up with the stored topsoil. The topsoil contains beneficial micro-organisms and may contain seeds of local indigenous species, and even bulbs.
- If any lawn is planted, use a mixture of couch grass ('kweek' *Cynodon dactylon*), coastal buffalo grass (*Stenotaphrum secundatum*), and LM grass (Durban grass/Natal crow foot *Dactyloctenium australe*) - which is well suited to the local conditions. LM grass is also an ideal ground cover for the difficult shady spots.
- plant suitable trees like white milkwood (*Sideroxylon inerme*) towards the bottom of the stand (river side) to mitigate the loss of some trees during construction.
- All invasive alien vegetation that occur on the site, or adjacent in the private open spaces, should be eradicated as soon as possible. Any rooikrans, black wattle or Port Jackson seedlings that come up can be pulled out easily.
- Take care that run-off from the balcony and the new large deck does not create erosion channels and keep the open ground well-vegetated with ground covers.
- Install gutters on the whole house over time and connect them to enough storage tanks, since the total roof area will be large.

## 3. Applicable experience of EAP (for compilation of EMPr)

- Qualifications: BSc Botany, Zoology, Biochemistry (UPE 1988); BSc Hons Wildlife management, Ecology (UP 1989)
- Visit and work at Welder Wildlife Research Foundation Texas, as exchange student for 3 months (1990)
- Dept Environment Affairs Pretoria: Environmental Conservation – Natural environment (1990 – 1994)
- Working for Water Kouga: Rehabilitation (1998 – 2002)
- Nursery trade in Kouga: privately-owned (2002 – 2008)
- Cleanstream Environmental Services Witbank: Environmental Consultancy (2008) - EIA Utopia Estate, Port Elizabeth
- Jubilee Estate indigenous wholesale nursery Jeffreys Bay: Manager (2009 – 2010)
- Write botanical reports for environmental consultants on a freelance basis