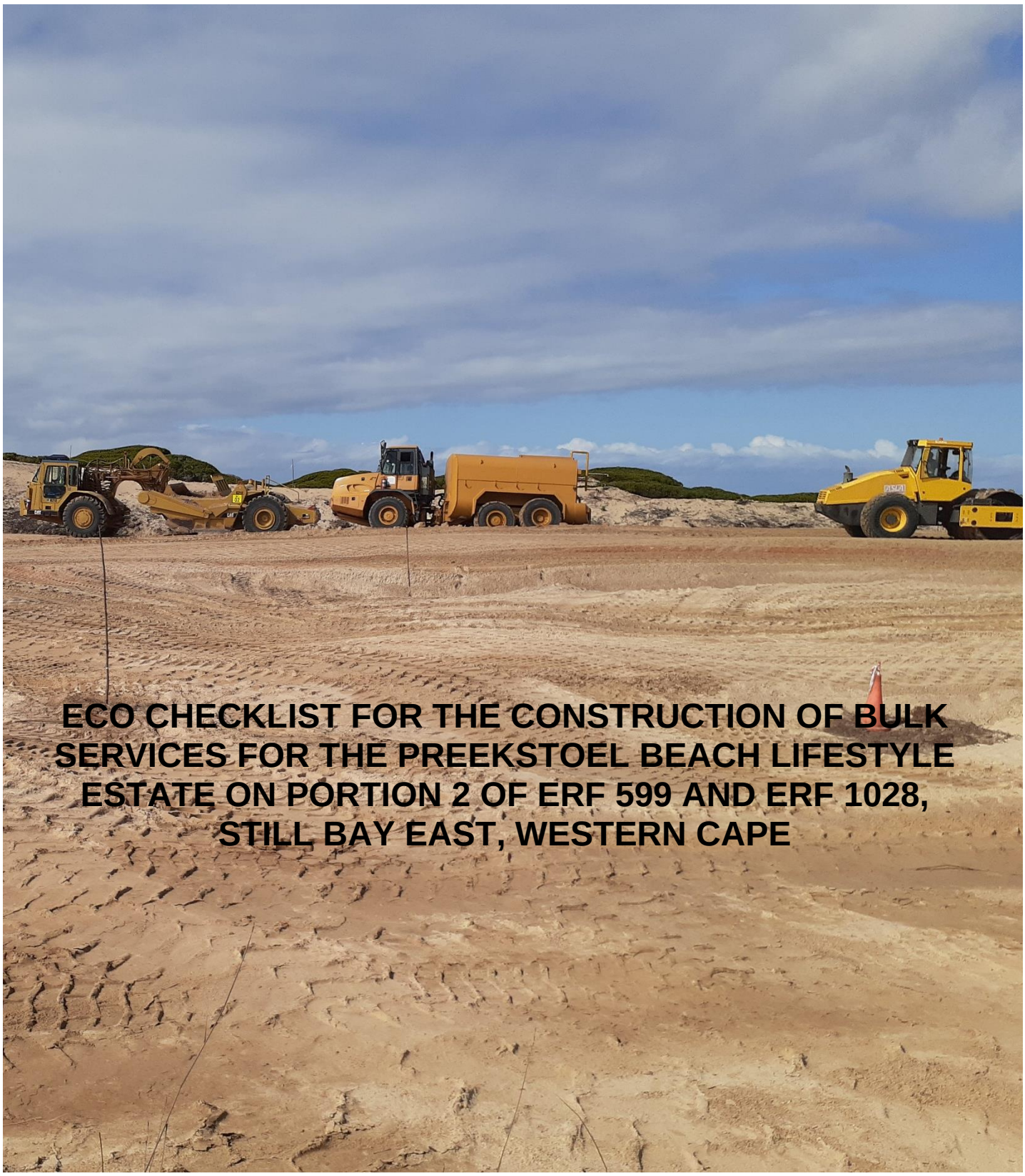

ECO CHECKLIST FOR THE CONSTRUCTION OF BULK SERVICES FOR THE PREEKSTOEL BEACH LIFESTYLE ESTATE ON PORTION 2 OF ERF 599 AND ERF 1028, STILL BAY EAST, WESTERN CAPE

AUBREY WITHERS ENVIRONMENTAL CONSULTANT

File 1012 : Development ECO Checklist No.: 7

Date: 13 December 2022

PROJECT DETAILS

ECO Checklist the Construction of Bulk Services for the Preekstoel Beach Lifestyle Estate on Portion 2 of Erf 599 and Erf 1028, Still Bay East, Western Cape

REPORT	ECO Checklist for Civils Construction
AWEC FILE NO.	1012
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ECO CHECKLIST # 7

PREEKSTOEL BEACH LIFESTYLE ESTATE, STILL BAY EAST, WESTERN CAPE

PREPARED FOR: Vivren Properties (Pty) Ltd.

Date of Site Visit:	12 December 2022	Date of Issue	13 December 2022
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INTRODUCTION

This document provides a Table (ECO Checklist) of the mitigation measures as described in the Environmental Management Programme (EMPr) for the Construction Phase of the **Preekstoel Beach Lifestyle Estate, Still Bay East,** as prepared by Aubrey Withers Environmental Consultants. The ECO Checklist describes the mitigation actions that should be implemented during the construction of Municipal Services and the Rehabilitation of the Dunes, as well as the persons/ parties responsible for implementing the actions. The ECO checklist should be read together with the EMPr.

The EMPr headings provided in the left-hand side column of the ECO Table are as per the EMPr for ease of reference. The two columns on the right-hand side of the table should be completed by the ECO during his site inspections. Compliance is measured as Non-Compliant (NC), Partially Compliant (PC), Compliant (C), or Compliant plus added value/ effort (C+). The observations made and corrective actions required are documented in the "comment" column. *Where no comments are included in the "comment" column, the specific measure is either not applicable at this stage of the project or will be addressed during ensuing ECO visits.*

Key to Compliance Indicators:

NC	PC	C	C+
Non-Compliant	**Partially Compliant**	**Compliant**	**Compliant plus added value/effort**

The Construction Manager (**CM**)/ Site Agent (**SA**) and the Environmental Control Officer (**ECO**) will use this document when monitoring construction activities on site. This document can also be used for compliance monitoring during the operational phase of the development. The roles and responsibilities of the CM/ SA and ECO are described in Section A and Section E of the EMPr.

ECO Objectives and Compliance Inspection Scope:

The objectives of this ECO site inspection are to monitor ongoing site clearance and related construction activities being undertaken on site against the requirements of the approved EMPr (Construction Phase).

Compliance Inspection Methodology:

The EMPr states that an ECO must be appointed by the developer to oversee the construction phase of the project. The ECO will then need to undertake periodic site visits to assess whether any environmental degradation is resulting from the construction phase of the project and to check (monitor and report on) compliance with the EMPr. The daily on-site activities will be controlled by the Construction Manager (or Site Agent) and RE.

The ECO is to complete an ECO Checklist after each site visit and circulate this checklist amongst the contractor/s, developer and Authorities (DEADP and Hessequa Municipality) to serve as a record of proceedings. The ECO Checklist must be circulated no more than 5 days after each site visit. The ECO Checklist will also be used for the recording of general site instructions as they relate to the environmental scope of works on site. The site instruction file will, however, also be used for issuing "stop work" orders for the purposes of immediately stopping any particular activities of the contract due to the environmental risk or any significant impacts that may result.

Tracking of Compliance Status:

Date of ECO Checklist Conducted	NC	PC	C	C+
4 March 2022		**4**	**36**	
13 April 2022		**1**	**39**	**1**
4-12 August 2022		**1**	**51**	
8 Sept 2022	**1**	**3**	**47**	

Date of ECO Checklist Conducted	NC	PC	C	C+
10 October 2022	**2**	**5**	**44**	
17 November 2022		**2**	**51**	
12 December 2022	**5**	**4**	**43**	

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(Headings as per the EMP and EA for ease of reference)

LIST OF ACRONYMS AND ABBREVIATIONS

ARC	Architect
AWEC	Aubrey Withers Environmental
BC	Body Corporate
CM	Construction Manager
DEADP	Department of Environmental Affairs and Development Planning
ECO	Environmental Control Officer
EMPr	Environmental Management Programme
EAP	Environmental Assessment Practitioner
HOA	Home Owners Association
RESP	Responsibility
SHE	Safety, Health & Environmental Officer
SA	Site Agent
RE	Resident Engineer

APPENDICES

APPENDIX 1: Photo Sheet

SECTION F: CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

F.1 GENERAL CONSTRUCTION MANAGEMENT PROGRAMMES

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
Establish appropriate partnerships and good relationships with local authorities, local community, and contractors	1. Ensure appropriate communication with all local authorities, CapeNature, and contractors.	To be undertaken by professional team and ECO, project manager (consulting engineer and/or site agent) as ongoing process.	**C**	The ECO Checklists will be distributed by the ECO to authorities, CapeNature and contractor on a monthly basis.
	2. Contractors to be fully informed by the ECO as to their environmental contractual obligations. Induction of staff must take place.	ECO is to undertake the induction of staff and to monitor environmental contractual obligations of contractors on ongoing basis for the duration of the project.	**C**	A site hand over meeting was held with ASLA construction on 20 July 2022 during which the contractor was made aware of their environmental obligations. Environmental Awareness Posters have been provided to the Contractors. The induction of ASLA staff was undertaken on 4 August 2022. The induction of MSE Civils took place on 8 September 2022. This team will be responsible for the construction of gabions. The two paving teams were given a short induction on 17 November.
	3. Appropriate signage that indicates the contact details of the Implementing Agent, Contractor, RE (or RE's representative) and ECO must be provided on site. Given that access across the site must remain open during the day, appropriate signage must be erected on the entrance gate warning visitors to the Nature Reserve about the movement of heavy construction vehicles.	The contractor's Notice Board still needs to be erected at the entrance to the construction site. The signboard warning the public of construction traffic has been placed on the construction site. The Notice Board is to have the ECO's telephone No. on it.	**PC**	The contactor's Notice Board still needs to be placed at the entrance to the construction site..
Undertake **construction of Municipal Services** without adversely affecting the environment, including the gravel entrance road across the site to the Nature Reserve.	1. Communicate with contractor's staff to ensure that all the environmental specifications are understood and carried out.	To be undertaken by ECO and site agent before construction commences.	**C**	A meeting was held with the contractor's staff on 4 August to induct them to make them aware of their environmental obligations re site office, materials store area (storage yard), to keep the access road in good condition and the conduct of the staff throughout the construction phase. The induction of staff of MSE Civils took place on site on 8 September.

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
Undertake **construction of Municipal Services** without adversely affecting the environment, including the gravel entrance road across the site to the Nature Reserve.	2. The contractor must point out the site office and the holding yard.	To be sanctioned by the ECO and site agent before installation of services takes place.	**C**	The small container was moved from the entrance to the site to make way for the temporary entrance road. The 3 larger storage containers have been placed near the detention pond area. A smaller storage yard has been put up near Phase I site
	3. Control all construction in terms of the Construction Guidelines This will include the removal of alien vegetation and the removal and storage of natural topsoil, brushwood and chip wood if applicable.	ECO to inform and educate the construction staff and RE of the Construction Guidelines and the Recommendations for Clearing of Invasive Alien Vegetation, prior to commencement of construction. ECO to monitor compliance.	**C**	The brushwood chips (mulch or wood chips) was placed over the stable platforms to prevent windblown sand. The remaining wood chips have been stored in heaps across the site.
Storage of construction materials on site and concrete mixing areas	1. Construction material (concrete and mortar raw materials) must be stored in designated areas in a neat and orderly manner.	Area for construction material has been designated by the Site Agent and to be in secured area out of the way of services construction areas. ECO to monitor compliance.	**C**	The storage area has been vetted by the ECO and is out of the way. The construction of services is currently underway.
	2. Contractor to store building rubble in a suitable designated area, with rubble removed from site on a weekly basis (if not to be used as fill).	The area for any building rubble storage to be designated by the ECO. Contractor to remove builder's rubble on weekly basis. ECO to monitor compliance.	**C**	No building rubble is being generated during the current phase of works.
	3. The building contractor must indicate the dumping area for all spoil from the site. Trucks removing spoil must remain on designated access roads.	ECO to assess spoil dumping area, and to monitor condition of road.		*The construction of services is not being undertaken in the second phase of construction*.
	4. All other solid waste to be kept in appropriate containers with lids and removed from the site on a weekly basis to a licensed	Contractor to remove solid waste on a weekly basis. ECO to monitor compliance.	**PC**	A dustbin with a lid is kept near the cement mixer in the storage area to the northeast of the site. The dustbins had been emptied. There was some litter (plastic and cooldrink

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
Storage of construction materials on site and concrete mixing areas (cont.)	waste disposal facility. The burning of solid waste and paper on site will not be allowed. Recyclable waste (e.g. paper, glass, tin, plastic) should be recycled if possible.			bottles and tins) lying around on site (**Photo 1**). Plastic bags had been given to the two paving teams working on site to fill with plastic wrapping removed from the paving bricks (**Photo 2**). The site foreman was informed to remove all litter from site before they closed down for the Xmas recess.
	5. Only one refueling area should be provided at the stores/site office for refueling construction vehicles where appropriate.	Contractor to report all fuel and oil spills to the ECO immediately and to remove contaminated soil to a licensed waste disposal facility.	**C**	A mobile diesel bowser is provided on site. All machines are parked in a central area after work for the day.
	6. Concrete mixing must be restricted to a designated area on site and cement residues to be removed from site as soon as possible. At least one wastewater catch pits must be constructed for the capture of concrete residues from cleaning of the cement mixer. Residues are to be removed from site from time to time.	ECO to monitor compliance. Contractor to remove cement residues from each logical phase of construction.	**C**	Concrete and mortar are being used during the current phase of works on site for the foundations of the sewer manholes and brickwork within manholes. No concrete waste is being generated on site. No cement powder spills were noted on site.
	7. All parked mechanical vehicles must have a drip tray present to prevent spillage of oils and fuels.	ECO checked all construction vehicles and none of them were leaking oils or diesel.	**C**	The paving teams were informed about using drip trays beneath their petrol generators. Drip trays were being used beneath generators being used for cutting the paving (**Photo 3**).
Prevent possible **negative impacts of construction personnel** on the environment	1. Contractors will be responsible for the conduct of their personnel on site, as it pertains to trespassing, littering, and unacceptable social behaviour.	Contractor responsible for social management. ECO to monitor for duration of contract.	**PC**	All staff were observed within the construction area. Some littering was noticed on site (cooldrink bottles and tins, bread plastic bags and plastic wrapping of paving blocks) (**Photo 1**).
	2. ECO must inform construction personnel of environmental rules to apply during construction period.	ECO to meet with contractor prior to commencement of construction in new areas to inform workers of the sensitivities of the site and how they should conduct themselves.	**PC**	The ECO met with the Contractor on 4 August 2022. The environmental awareness information was provided to the Contractor, and staff were inducted. The two paving teams were informed (17 November) about littering and that the plastic wrapping around the paving bricks were to be picked up and put into plastic bags for disposal (**Photo 2**).
	3. Maintain strict supervision over all construction activities.	ECO to monitor construction activities and if any adverse impacts occur, he	**C**	ECO will conduct monthly inspections and inform the Site Agent and Contractor of any

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
Prevent possible **negative impacts of construction personnel** on the environment (cont.)		must inform the Site Agent, RE and client of such conduct on an on-going basis.		transgressions.
	4. All construction workers must stay within the development area demarcation and no personnel will be allowed beyond the demarcated area.	ECO to monitor for duration of contract.	**C**	All staff were observed within the construction area.
	5. Driving on site must not exceed 20km/hr to at all times.	ECO to monitor on site for duration of contract	**C**	No evidence to the contrary has been noted.
	6. Construction staff will not be allowed to stay on site and must be bussed to site each day.		**C**	No construction staff stay on site.
	7. Chemical toilets must be used on site and must be emptied and sanitized regularly. There must be I toilet per 15 staff.		**C**	A second toilet has been put on site for the paving team. Toilets are serviced each week.
	8. Toilet paper, soap and water must be provided to staff.		**C**	Such commodities are available on site

F.2 BIOPHYSICAL MANAGEMENT PROGRAMMES

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
F.2.1 Fauna and Flora				
Minimise the removal of indigenous vegetation during the de-grubbing phase	1. If natural vegetated areas larger than 20m² are found on site, they should be left intact. If any milkwood trees are found they must not be harmed	Where possible try and save areas of natural vegetation on site during de-grubbing. Any milkwood trees must be kept and must be surveyed in to be kept at all costs.	**C**	One Milkwood tree was located on the property. An application was submitted to the Department of Forestry to have it removed. A permit has been granted by Forestry to remove the milkwood tree. The tree has subsequently been removed.
Alien plant management	1. Alien vegetation must be removed by appropriate mechanical means and chipped for a mulch to be later used to cover the bare sand to prevent wind erosion.	Alien plant management is a long term commitment and any seedlings must be appropriately controlled. The ECO is to instigate.	**To be undertaken**	A number of rooikrans seedlings have already been noted on the site. Alien vegetation seedlings must be sprayed with appropriate herbicides once the plants are about 300mm tall.

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
Minimise disturbance to fauna	1. Contractors must not harm or disturb any wildlife, especially snakes, tortoises, buck, hares and birds.	ECO/Contractor to monitor. The contractor must report all incidents of harm to any fauna to the ECO who will report such incidents to the authorities.	**C**	No incidences of wildlife were noted on site**.**
	2. All fauna must be removed from the construction site without harming them and taken Geelkrans Nature Reserve.	ECO/Contractor to monitor on a going basis. CapeNature may be contacted for a list of snake handlers in the area.	**C**	Contractor to take note. Whilst evidence of small buck has been noticed (spoor), no wildlife was found on the site.
F.2.2 Water				
Institute **measures to minimise ground water pollution** during construction phases of project.	1. No pollution of surface or ground water may occur due to any activity on the property. The relevant requirements of the National Water Act, 1998 (Act No. 36 of 1998) must be complied with at all times	The ECO/Site Agent to monitor use of oils, diesel and other hydrocarbons on site.	**NC**	One diesel spill was noted beneath the tractor on site. The oil had soaked into the sand (**Photo 4**). An oil spill kit must be on site and personnel must have the appropriate training to use such a kit. The oil spill kit was not used. The Site foreman was informed to pick up the contaminated soil and dispose of it at the Municipal waste disposal facility.
Institute measures for **stormwater management to prevent erosion**, damage to property and pollution of the environment.	1. Stormwater measures are not required during the installation of services phase of construction. Should a heavy downpour of rain occur the Site Agent must ensure that stormwater is contained on the property.	RE/Site Agent to monitor adequate storage of stormwater after moderate rainstorms and during the wet winter period (Construction Phase).	**C**	Deep ponding of stormwater on site must be prevented and measures to keep the stormwater on the site must be undertaken by the Site Agent. No heavy rainstorms have occurred on site during the winter period. Stormwater pipes have been connected to the small stormwater detention pond to the west of the site and the larger detention pond in the centre of the site.
F.2.3 Soil				
Prevent soil erosion	1. The whole site has been de-grubbed of alien vegetation. Once the various building platforms have been completed it will be necessary to spread the wood chips over the stabilized platforms on site to prevent wind erosion.	ECO to monitor site clearing and site preparation and check for any erosion that may take place.	**C**	The whole site has been cleared of all alien vegetation and de-grubbed. The phase 1 building platforms have been prepared and the wood chips spread over them. Municipal services have all but been completed. No major wind erosion has currently been noticed on site.
	2. The Contractor must take appropriate and active measures to prevent soil erosion resulting from construction works, operations and activities to the satisfaction of the ECO.	The contractor is to institute anti-erosion measures such as the spreading of wood chips over the disturbed areas. The ECO is to monitor.	**C**	No significant wind erosion was noticed on site. The contractors will spread the wood chipped mulch over the rest of the site to prevent wind erosion over the builders holidays.

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
Prevent soil erosion	3. If significant wind erosion of the property takes place despite the use of wood chips, it may be necessary to used specially made netting erected at rights angle to the prevailing winds.	Anti-erosion measures to be discussed with and approved by the RE in consultation with the ECO if and when necessary	**C**	No significant erosion has been noticed on site despite heavy rains the previous day. Some windblown sand was noted on the dune area (**Photo 5**). Internal netting on the dune area has been installed rehabilitation area to prevent wind blown sand.
Rehabilitate all areas where **soil erosion** has taken place	1. The badly eroded frontal dune system has been reshaped by moving sand from the accumulation of sand in the backdune area into the blow-outs	Since the brushwood fences did not trap any significant amounts of sand in the period November 2021 to August 2022, the dune rehabilitation specialist (Deon van Eeden) and the ECO decided to replace the windblown sand accumulated in the back dune area into the blowouts. Once the bulk earthworks was completed indigenous strand plants, which were removed before earthworks, were planted over the replaced sand.	**C**	The back-dune area of the frontal dune system had grown in size (by at least 2m vertically over a period of about 20-50 years) by rooikrans trapping windblown sand off the beach and from prolonged blow-outs. The sand from the backdune area was moved back towards the beach to get a stable, low angle dune front. The stable dune area was planted with strand plants, which are growing well (**Photo 6**). Shade netting rows have been erected to prevent wind erosion. The transplanted plants are being irrigated with a dedicated irrigation system.
	2. Institute soil protection and soil rehabilitation measures on site where erosion has taken place with the use of wood chips. Shade netting could be used in areas where windblown open sandy areas are located.	To be planned and facilitated by ECO where necessary.	**C**	The mass earthworks for the construction of stable building platforms have been completed for Phase 1. All the required gabion walls have been completed. No significant erosion of the development site is taking place.
	3. Eroded areas will need to be backfilled and compacted	Contractor to ensure that the backfilled material is compacted sufficiently so as to not erode in the future. Wood chips and/or shade netting can also be used to prevent wind erosion of sand.	**C**	No significant erosion was noticed on site.

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
Rehabilitate all areas where **soil erosion** has taken place	4. Plant locally indigenous Strandveld plants over the private open space to stabilize exposed sandy areas. Indigenous grass seeds and Strandveld seeds harvested from the general Still Bay area could also be broadcast over the open sandy areas of future development phases, or wood chips can be used to stabiles sandy areas. The above planting and broadcasting of seed should only take place after the first good rains of the winter season.	ECO to monitor and advise accordingly. Once the installation of services for Phase 2 have been completed. Once the services have been constructed, rehabilitation of the private open space can be planted with Blombos Strandveld. (i.e. landscaping phase) to prevent windblown erosion.	**Still to be undertaken**	The ECO and landscape architect will need to facilitate the stabilisation of open sandy areas when the Phase 1 Municipal services have been installed. The contractor will broadcast the wood chipped mulch over the open sandy areas over the site where sand has been removed for the stable platforms to prevent wind erosion during the coming summer season.
	5. Since there is a large volume of rooikrans seeds in the wood chips, rooikrans seedling will germinate over the whole site. These areas should be sprayed using an appropriate herbicide or hand pulled when they reach 05-1m in height.	ECO to monitor and advise accordingly.	**C**	Some rooikrans seedings have already been noticed growing on the site. It is recommended that such seedlings be sprayed or hand pulled once the services for Phase 1 have been installed or until such seedlings are 300mm tall.
Prevent **pollution**/ contamination **of soil**	1. Prevent cement powder spills and clear such accidental spills as soon as possible as cement powder has a high alkalinity pH rating that can contaminate and affect both soil and water pH dramatically. All hydrocarbon spills are to be addressed immediately to prevent seeping into the ground.	ECO to monitor for duration of contract. Contractor to inform ECO of such spills. Special measures are to be implemented for any hydrocarbon fuel spills. An Oil Spill kit must be kept on site in case of a hydrocarbon spill.	**C**	No cement powder spills were noted on site. Diesel refilling of construction vehicles is being undertaken from a mobile bowser. No diesel spills have been recorded.
	2. All servicing of vehicles must have a drip tray to prevent accidental spillage of oils and fuels. Similarly, any stationary concrete mixers, dumpers, compressors or generators must have drip trays under them at all times, whether they are working or not.	ECO to monitor for duration of contract.	**NC**	Whilst driptrays are on site, there was a diesel spill beneath the tractor. The foreman was informed to removed the saturated sand from site and dispose of it at the Municipal waste facility.

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
Prevent **pollution**/ contamination **of soil**	3. All vehicles, equipment, fuel and petroleum services and tanks must be maintained in a good condition that prevents leakages and potential contamination of soil.	ECO to monitor for duration of contract.	**NC**	All vehicles except for the tractor were in good working condition. The saturated sand will be picked up and disposed of at the Municipal waste disposal facility.
	4. All fuels, oils and hydrocarbon products (e.g. tars) kept in tins and drums must be stored in a suitably bunded area to prevent pollution in case of spills or leakages. 5.	ECO to monitor compliance for duration of contract.	**C**	Whilst oils and grease products are presently kept on site, no incidents of spills were noted, except for the diesel spill. Tar will not be used on site for the construction of the roads. The paving of the roads will be completed by the end of the week (**Photo 7 and 8**).
Prevention of dust	1. De-grubbing took place first with the removal of all alien vegetation using mechanical means. All brushwood was chipped and stored in mounts over the site. Any areas that create dust must be wetted down with water or the area covered with wood chips.	ECO to advise during the second phase of earthworks for the installation of services.	**C**	All brushwood was removed up to the property boundaries and chipped. One complaint was received from a property owner off Kabeljou street. The area causing dust was wetted down with water. No further incidents of dust have been recorded.
	2. Mass earthworks for Phase 1 on site have been completed and installation of services for Phase 1 is currently being undertaken.	ECO to advise during Phase 2 earthworks. .	**C**	No incidents of dust nuisance have been recorded of dust emanating from site.
	3. All disturbed surfaces must be monitored for dust during windy periods. Given that the excavated sand is moist, very little dust is being generated on site. Water from pipes are being used over the excavations of services to get the right compaction ratios.	Currently water is being used to wet the worked surfaces. ECO to advise on the use of wood chips should dust become a nuisance.	**C**	No incidents of dust nuisance have been recorded of dust emanating from site.

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
	4. Road surfaces may cause dust pollution during their construction phase.	ECO to monitor and advise on the use of water to wet surfaces to prevent dust or to advise on alternative dust suppression measures	**C**	The access and internal roads for Phase 1 have been constructed with base course and were kept moist. A temporary access road has been constructed for CapeNature staff. The access road and internal roads are currently being paved).
F.2.4 Energy Management				
Use electricity sparingly during construction	1. The contractors must be informed of the efficient use of energy (generators) during construction.	ECO and site agent to monitor for the duration of the contract period.	**C**	The cutting of the paving bricks .is taking place with angle grinders powered by petrol generators. The generators are placed within drip trays to prevent any oil dripping onto the paving.
F.2.5 Hydrocarbon and Hazardous Materials Management				
Hydrocarbon and Hazardous Materials Management to be carefully undertaken	1. The contractor shall have a hazardous material spill kit on site.	ECO and site agent to monitor for the duration of the contract period.	**C**	Construction vehicles are filled from a mobile diesel bowser. No diesel spills have been noted.
	2. Prevent cement, bitumen, fuel and other hazardous material spills or clear such accidental spills as soon as possible. All hydrocarbon spills are to be addressed immediately to prevent seeping into the ground.	ECO and site agent to monitor for the duration of the contract period.	**NC**	Only diesel, oils and grease are being used on site. A diesel spill was recoded on site.
	3. Refuelling may take place on site, provided adequate drip trays, spill absorbent material and fire fighting equipment are at hand	ECO and site agent to monitor for the duration of the contract period.	**NC**	Construction vehicles are filled by a mobile diesel bowser. One diesel spills was recorded on site.

F.3 SOCIO-ENVIRONMENTAL MANAGEMENT PROGRAMMES

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
F.3.1 Archaeological and Heritage Resources				
Conserve all archaeological settings and artefacts	1. The ECO must assess the excavated soils for any signs of archaeological artefacts.	Site Agent to monitor and to comply with work stoppage. ECO to ensure training.	**C**	No archaeological material has been found on site. Should any be found, works on site must be stopped and HWC notified.
	2. Construction personnel must be shown what artefacts to look out for and must point out any archaeological material exposed in the excavations to the ECO. All works must be stopped until such time that the necessary research has been undertaken.	ECO to monitor excavated materials and inform HWC of any finds	**C**	No heritage resources have been found on site as yet.
Conserve all archaeological settings and artefacts	3. Any burial sites must be reported to the ECO who must investigate the site(s) and inform HWC and SAHRA.	HWC and south African Heritage Resources (SAHRA) must assess sites.	**C**	*Features like burials can occur in unexpected locations, and should any excavations uncover human remains; the ECO and HWC are to be notified immediately.* No burial sites have been reported.
F.3.2 Socio-Economic Benefits and Dangers of the Development				
Job opportunities should be afforded to the local community where possible	1. Both the temporary job opportunities during the construction phase and more permanent jobs (e.g. domestic staff and security) during the operational phase should be allocated to persons from the local communities wherever possible	Phase 2 installations of services are currently being undertaken by ASLA staff. Where possible, ASLA must appoint local staff when needed.	**C**	Five local workers from Melkhoutfontein were employed by ASLA for the installation of services. Two paving teams from Still Bay are also being employed.
	2. Developer should employ a social engagement strategy. Temporary job opportunities (construction phase) should be allocated to persons from the local community wherever possible.	Developers to ensure compliance with and monitor the local employment strategy. The RE and ECO to monitor compliance.	**C**	The contractor is currently using 5 general employees from the local community. More local staff will no doubt be used once construction of houses takes place.
To **prevent injury to public using the gravel access road**, construction staff, and delivery of materials	1. Signboards should be in place to assist the public with safe access over the site.	Site Agent and ECO to check on compliance during the various phases of the development of the site.	**C**	The applicable notice boards are placed along the main access road through the property to Geelkrans Nature Reserve (e.g. detour road to be used; and danger signage of heavy construction vehicles in use).

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY)	REQUIRED ACTIONS	TARGET AND RESPONSIBILITY	COMPLIANCE	ECO COMMENTS
To **prevent injury to construction staff** (and the public).	Stakes with danger tape should be place around open manholes. Those manholes without proper lids should also be staked with danger tape	Site Agent and ECO to check on compliance during the various phases of the development of the site.	**C**	All manholes had their covers on and the paving was being completed around them (**Photo 8**).
F.3.3 Security				
Minimise security risk during the construction phase	1. The contractor(s) will be responsible for the security of their construction sites and the conduct of their personnel for the duration of the services and building contracts.	The contractor and developer will need to monitor security issues.	**C**	No breaches of security risks have been noted on site. It was learnt that diesel was stolen from the tanks within the Municipal caravan and camping area. Asla was informed about this incident.
Ensure outdoor advertising associated with the project is not visually obtrusive	1. All outdoor advertising associated with this project, whether on or off the site, must comply with the south African Manual for Outdoor Advertising Control (SAMOAC).	ECO to monitor compliance by developers and contractors.		The Advertising Board and the Contractors Board must comply with SAMOAC.

APPENDIX 1 – PHOTO SHEET

Photo 1: Plastic bottles, tins and packaging were scattered over the site, primarily by the paving crews.

Photo 2: Plastic wrapping from the paving bricks were scattered around the site. The foreman on site was told to pick up all was and dispose of it at the Municipal waste disposal facility.

Photo 3: Drip trays were in use beneath generators being used by the paving crews .

Photo 4: A large diesel spill beneath the tractor was noted on the site. The foreman was informed to pick up the contaminated sand and dispose of it at the Municipal waste disposal facility.

Photo 5: Dune sand has been blown off the beach and been trapped by the netting on the frontal dune system.

Photo 6: The strand plants are growing well between the netting on the frontal dune system.

Photo 7: The paving of the roads for the first phase will be completed by the close for the Xmas break.

Photo 8: The manholes were all in place and the final paving was being undertaken around such manholes.