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**ENVIRONMENTAL MONITORING REPORT NO. 42
FOR
HARTLAND ON
PORTION 11 OF FARM VAALE VALLEY 219, MOSSEL BAY**



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Hilland Environmental

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ENVIRONMENTAL MONITORING REPORT NO. 42 – FEBRUARY 2025

HARTLAND DEVELOPMENT- PORTION 11 OF FARM VAALE VALLEY 219, MOSSEL BAY**Conditions of report use:**

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Environmental Monitoring Report No. 42

This section of the report monitors compliance against the Environmental Management Plan (Ref: EIR/MSB/MS/36/SD/3/8 – **dated 28 June 2023**). This monitoring report constitutes the **42nd** Environmental Monitoring Report, and it covers all work undertaken as part of Hartland Estate development.

Addendum to the Environmental Authorisation (16/3/3/5/D6/29/0008/22 – 22 June 2023) was issued. The CEMPr (March 2008) and OEMPr (June 2008) have been amended to comply with the conditions of the amendment EA, was submitted to the Department and approved – 7 August 2023.

This report is divided into three sections;

- **Section A** – Civil services installations
- **Section B** – Operational phase monitoring

Action:	Phase:	Comment:
Service installations	Retirement village: Phase 1	Civil services installation of Retirement Village
	Fynbos Heuwels	Civil services installation of Fynbos Heuwels – ongoing
	Phase H2	Civil services earthworks of Phase H2 – near completion
	Hartland Right Hand Turn Lane (R102)	Installation of new right-hand lane – ongoing
	Phase A – Klein Karoo	Civil services earthworks of Phase A – ongoing
Housing construction	All phases	The rest of the phases that have already been completed are under continuous housing construction.
Open space management	Operational phase	Ongoing follow-up alien clearing in terms of the ACP. Maintaining stormwater outlets (litter and silt). Litter picking in the development area and open spaces is ongoing.

ECO Monitoring during **February 2025**:

Date:	Comment:
06 February 2024	ECO Inspection
13 February 2025	ECO Inspection
20 February 2025	ECO Inspection
25 February 2025	ECO Inspection

SECTION A – CIVIL CONSTRUCTION MONITORING

The EMPr monitoring checklist is for the civil installation phase(s) – Phase H2, Phase A (Klein Karoo) & Right Turn Lane. The table lists the level of compliance with notes/comment where relevant.

EMPr requirements	Level of compliance	Comments / Findings	Photos (if applicable)
GENERAL (PRE – CONSTRUCTION)			
Environmental Induction			
An appropriate ECO must be appointed to ensure that all related activities as stipulated in the EMPr are adhered to. - Environmental induction must be given to all parties that require environmental training as set out in the EMPr.	Compliant	HilLand Environmental is the appointed ECO for Hartland development. Urwhebo e-Transand is the main civil services installation contractor. Environmental induction is done with the site foreman. No environmental concerns were noted during this monitoring phase. Induction will be scheduled as necessary.	
Demarcation of NO-GO area			
The site camp must be set up prior to the start of construction and clearly demarcated to illustrate NO-GO areas.	Compliant	The same site camp is being used, located in the development zone and complies with the requirements and recommendations.	 Google Earth

All sensitive areas, which must not be disturbed, must be demarcated using a 1.2m high fence constructed of shade cloth netting (or similar product), staked at regular intervals. Where a fence is considered impractical No-Go signs should be erected at frequent intervals along the edge of the no-go areas in consultation with the ECO.	Compliant	The working zone is pegged by the surveyor before construction starts The conservation area/natural vegetation adjacent to the Retirement village is demarcated with a suitable fence. Right-turn Lane sensitive areas (road reserve) have been pointed out to the contractor.	
Fauna and Flora			
Plant identification must be done whereby they must be rescued and relocated to an appropriate location for later use in rehabilitation.	Compliant & ongoing	Development zone is the historic agricultural fields, mainly grass. Geophytes are to be rescued -they must be used in rehabilitation. Ongoing – record to be kept of the plants that are rescued and submitted to the ECO for record keeping.	

No clearing outside of development and infrastructure footprint area to take place.	Compliant	Clearing takes place within the demarcated development footprint / pegged working area - the contractor is compliant with this requirement for phase H2 and Right-Turn Lane.	 Right-turn Lane
Any fauna encountered on site must be allowed to passively vacate the area. Active relocation of fauna like snakes must be a last resort and must only be performed by a person skilled/ experienced enough to do so without endangering him/herself or the animal/bird.	Ongoing	Nothing reported to the ECO or noted by the ECO during site inspections.	
No wild animal may under any circumstance be handled, removed, or be interfered with by construction workers. No wild animal may under any circumstance be hunted, snared, captured, injured, or killed. This includes animals perceived to be vermin.	Ongoing	Nothing reported to the ECO or noted by the ECO during site inspections.	
Blanket clearing of vegetation must be limited to the approved development footprint, and the area to be cleared must be demarcated before any clearing and grubbing commences.	Compliant & ongoing	All clearing is done within the demarcated footprint that is pegged out by the surveyor. No environmental issues noted.	

Topsoil stripping			
Topsoil must be neatly removed and stored away without contamination. It is also to be used for rehabilitation once construction is complete.	Compliant & ongoing	Topsoil is placed next to open trenches (windrow) for use during rehabilitation. Bulk topsoil stockpile sites for Retirement village and Fynbos Heuwels were approved by the ECO – internal open space of the retirement village. Subsoil will be stockpiled according to the earthworks master plan and covered with topsoil.	 HillLand Environmental Hartland 06.02.2025 12:25 34°5'43.51"S 22°7'24.63"E N2 Swale – topsoil cover
CONSTRUCTION PHASE			
Site management			
Chemical toilets must be kept at the site camp, on a level surface and secured from blowing over.	Compliant & ongoing	There is adequate ablution facilities located throughout the site and at the site camp – no environmental issues noted during this reporting period.	 HillLand Environmental Hartland 13.02.2025 13:25 34°5'58.47"S 22°7'2.48"E R102 Right-turn Lane
Cement batching must take place on an impermeable surface large enough to retain any slurry or cement water run-off.	Ongoing	Cement batching is done on development areas (platforms), in wheelbarrows (as required) or on impermeable surfaces (wooden boards).	

		Cement mixing area must be rehabilitated (all phases) to the satisfaction of the ECO – remove contaminated soil and replace topsoil (grass seed mix if required).	
All construction vehicles need to adhere to traffic laws. The speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users. As far as possible care should be taken to ensure that the local traffic flow pattern is not significantly disrupted.	Compliant & ongoing	No environmental issues to report. Construction vehicle movement is in general confined to the existing roads and/or construction haul roads.	 Hilland Environmental Hartland 20.02.2026 13:49 34.10917, 22.11735 Unnamed Road NW

Soil erosion mitigation			
Erosion control measures including silt fences, low soil berms and/or shutter boards must be put in place around the stockpiles to limit sediment runoff from stockpiles.	Ongoing	Currently no erosion protection is required for the current construction period. It is recommended to install silt fences to capture silt runoff once the stormwater outlets have been construction.	 Hilland Environmental Hartland 13.03.2025 14:13 34.10501 22.1212 Blenbois Boulevard
Areas which have been covered with topsoil from the stockpiles, and which may be subject to erosion should be stabilized.	Ongoing	Rehabilitation follows the construction phase. Road verges are covered with topsoil and the steeper sections will require erosion protection (silt fences or sandbags). This will be necessary for Phase H2.	
Waste and pollution management			
Dedicated waste bins or skips must be provided on site and kept in a demarcated area on an impermeable surface.	Compliant & ongoing	Suitable waste bins are available at the site camp. It should be noted that the housing contractor is also busy in the same phase and therefore it is the housing contractor's obligation to ensure they have sufficient bins or skips on site.	

Construction workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site.	Ongoing	No environmental issues to report. Regular litter picking is being done by the HOA. Civil and building contractor to ensure their working areas are litter free (all phases).	 Hilland Environmental Hartland 13.02.2025 13:39 34°5'39.19"S 22°7'41.19"E Gansobie Street Ongoing litter picking to be done
If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. The ECO has the authority to request that any vehicle or piece of equipment that is contaminating the environment be removed from the site until it has been satisfactorily repaired.	Ongoing	No environmental issues noted or reported to the ECO during this reporting period.	

SECTION B – HOUSING CONSTRUCTION MONITORING

The EMPr monitoring checklist is for the house construction phase. The table lists the level of compliance with notes/comment where relevant.

EMPr requirements	Level of compliance	Comments / Findings	Photos (if applicable)
GENERAL (PRE – CONSTRUCTION)			
Environmental Induction			
An appropriate ECO must be appointed to ensure that all related activities as stipulated in the EMPr are adhered to. - Environmental induction must be given to all parties that require environmental training as set out in the EMPr.	Ongoing	Hilland Environmental is the appointed ECO for Hartland development. ECO to be notified when there are new construction staff and environmental induction is required. Main contractor to do regular toolbox talks with staff and include environmental topics – record to be kept in the health and safety / environmental file.	
Demarcation of NO-GO area			
All sensitive areas, which must not be disturbed, must be demarcated using a 1.2m high fence constructed of shade cloth netting (or similar product), staked at regular intervals. Where a fence is considered impractical No-Go signs should be erected at frequent intervals along the edge of the no-go areas in consultation with the ECO.	Ongoing	Housing construction sites that border sensitive areas are demarcated. Fynbos Heuwels and the Retirement Village are demarcated with wire fences.	 Hilland Environmental Hartland 06.02.2025 12:42 34°55'26"S 22°7'39.39"E Hartland Lifestyle Estate, 1 Bitou Slot, Hartenbos, Mossel Bay, 6520

			
Fauna and Flora			
Plant identification must be done whereby they must be rescued and relocated to an appropriate location for later use in rehabilitation.	Ongoing	Plant search and rescue are being done by the main contractor (Dalmar) and HOA team. These plants are either directly planted into internal open spaces or to the on-site nursery – record to be kept of the plants that are rescued and submitted to the ECO for record keeping.	
No clearing outside of development and infrastructure footprint area to take place.	Ongoing	Only development areas and working zones are cleared. The contractor consults with the ECO to assist with No-Go demarcation identification (sensitive areas) when necessary.	
Topsoil stripping			
Topsoil must be neatly removed and stored away without contamination. It is also to be used for rehabilitation once construction is complete.	Action required	Topsoil is stockpiled for rehabilitation and landscaping use. Topsoil is stored separately from any other material (no contamination). The retirement village topsoil stockpile must be kept free from invasive alien plants – <i>Datura</i>.	

		Building rubble has been dumped near the Retirement Village topsoil stockpile – as was reported to the contractor. This must be removed ASAP. Building rubble signs to be placed at the dedicated building rubble stockpile to avoid confusion between the topsoil and building rubble stockpiles	
CONSTRUCTION PHASE			
Site management			
Chemical toilets must be kept at the site camp, on a level surface and secured from blowing over.	Compliant	There are several portable toilets throughout the development zone. No complaints or environmental issues noted or reported to the ECO.	
Cement batching must take place on an impermeable surface large enough to retain any slurry or cement water run-off.	Ongoing	There are currently many houses under construction in various development phases. The contractor is requested to ensure that cement mixing is always conducted on an impermeable surface or permanent disturbance area. There are several construction sites that make use of an impermeable wooden sheet or in the driveway, however runoff contaminated water must be confined to the mixing area, i.e., appropriate bunding to be installed (small brick berm / wooden mixing box etc.) The cement mixing for the house construction in the Retirement Village is done on a future development zone. The batching area is not bunded – it is important to ensure that no cement water contaminates the surrounding area.	
All construction vehicles need to adhere to traffic laws. The speed of construction vehicles and other heavy vehicles must be strictly	Compliant & ongoing	No environmental issues to report.	

controlled to avoid dangerous conditions for other road users. As far as possible care should be taken to ensure that the local traffic flow pattern is not significantly disrupted.		Construction vehicle movement is in general confined to the existing roads and/or construction haul roads.	
Soil erosion mitigation			
Erosion control measures including silt fences, low soil berms and/or shutter boards must be put in place around the stockpiles to limit sediment runoff from stockpiles.	Ongoing	Level erven is complaint and does not generally have silt or erosion issues. The steep erven will require silt protection, either sandbags or low bidim silt fence. Stormwater inlets must be protected – no silt or construction site wash must enter the stormwater system. This will silt up the stormwater outlets, many of which are in the conservation area.	Sandbags below a steep erf (05.12.2024).
Waste and pollution management			
Dedicated waste bins or skips must be provided on site and kept in a demarcated area on an impermeable surface.	Ongoing	Compliant - The contractor placed additional waste bins at each construction site which are emptied weekly. Skips are placed strategically throughout the site and are demarcated with shade netting (to prevent wind from blowing litter). Ongoing and compliant - Wind-blown litter remains an ongoing construction related problem. Therefore, the contractor has a dedicated litter picking team conducting weekly litter picking. The HOA has also appointed a dedicated litter picker.	 Hilland Environmental Hartland 13.02.2025 12:39 34.69421, 22.12812 Gansugie Street

Construction workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site.	Ongoing	See comment above	
If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. The ECO has the authority to request that any vehicle or piece of equipment that is contaminating the environment be removed from the site until it has been satisfactorily repaired.	Ongoing	No environmental issues noted or reported to the ECO.	

REHABILITATION SPECIFICATIONS / REQUIREMENTS

Rehabilitation requirements are specified in the EMPr (**Section 10.4**). Some of which include all exposed and disturbed surfaces must be rehabilitated, compacted soil must be loosened, topsoil respread and seeded with indigenous grass seed mixture or rescued indigenous vegetation. Erosion protection will be required on the steeper slopes – small soil berms, silt fences, hay bales, logs etc. (as discussed and approved by the ECO).

SECTION C - GENERAL AND OPERATIONAL PHASE MONITORING

This section of the report monitors compliance with the amended Operational Phase Environmental Management Plan (EIR/MSB/MS/36/SD/3/8 – 28 June 2023). The table lists the level of compliance with notes/comment where relevant.

OEMPr requirements	Level of compliance	Comments / Findings	Photos (if applicable)
STORMWATER & EROSION CONTROL			
Waste traps must be cleared of any obstructions monthly or when heavy rainfall has occurred.	Ongoing	Litter and silt wash have been removed from stormwater outlets and must be monitored by the HOA and management – ongoing activity that the HOA is managing.	
Any concentrated flows of stormwater should, where possible, be dissipated to avert any erosion.	Compliant	Stormwater is generally dissipated and diverted into the naturally vegetated open space as per the engineering design and ECO guidance. Swales in terms of the earthworks master plan.	

MANAGEMENT OF NATURAL OPEN SPACES			
Natural open spaces must be managed properly to maintain ecological biodiversity and to provide limited and controlled recreational access to the residents living in this development.	Compliant and ongoing	- Initial alien clearing is done. Ongoing follow up clearing/eradication to be implemented. - A section of the <i>Thamnochortus insignis</i> in the natural open space is being maintained - bossiekap. - The existing tracks are being maintained as maintenance tracks and firebreaks (bossiekap). - Hiking/cycling tracks in the development area, conservation area and internal open spaces must be monitored for erosion and damage (by the HOA) and repaired immediately to avoid excessive environmental damage. - Viewing deck is maintained. - Perimeter firebreaks are in places and maintained – avoid bare surfaces to limit soil erosion risk. Wood chips/<i>carpobrotus</i> etc. can be used to cover bare soil. - Kweek lawns are installed at the newly completed houses. - Conservation area “rules” boards are in place. <i>Conyza</i> sp. in the valleys can be managed by brush cutting with a solid blade only – no herbicide. Extreme care must be taken when cutting the <i>conyza</i> to not cut or damage any indigenous vegetation within the valley. Ideally the <i>conyza</i> must be removed by hand pulling while it is still small and before it flowers – produce seed.	 e Conyza in valleys
Erosion and rehabilitated erosion areas damaged by high rainfall and wind incidents must be monitored and repaired (as needed).	Ongoing	Existing tracks in the conservation area must be regularly inspected for signs of erosion and must be repaired as soon as possible. No new structures or infrastructure may be created in the conservation area without first consulting with the ECO to ensure that no new listed activities are triggered and/or Environmental authorisation.	

		Sandbags are being used to stop (dune) erosion onto the fence and allow for security and maintenance access in the firebreak. No vehicle access is allowed in terms of the EA. The sandbags need to be covered with Geojute/Hessian to promote vegetation regrowth to cover the sandbags. Indigenous grass seed mix is recommended for the firebreak to further limit soil erosion – <i>carpobrotus</i> may also be used as a ground cover	
Erosion rehabilitation areas need to be inspected on a 6 monthly basis, but also after heavy rainfall events.	Ongoing	Ongoing monitoring for erosion damage after heavy rain and storm events – special focus on the stormwater outlets, hiking/cycling trails and maintenance tracks.	
Access roads/nature trails must be maintained by mowing at least every 3 months.	Ongoing	Hiking/cycling tracks in the development area, conservation area and internal open spaces must be monitored for erosion and damage (by the HOA) and repaired immediately to avoid excessive environmental damage. Boundary fence track section – no “bossiekap” or herbicide may be used.	
FIRE MANAGEMENT			
A fire management programme must be developed to protect the sensitive open space from wildfires.	Compliant	Firebreaks are in place and must be maintained.	
The Homeowners association must become members of the FPA and actively take part in activities.	Compliant	The HOA remains members.	

Firebreaks surrounding and within the development must be managed properly.	Compliant	No herbicides or “skoffeling” must be used to maintain firebreaks. Make use of handheld operating equipment to maintain firebreak and minimize environmental risk.	 Hilland Environmental Hartland 20.02.2025 13:49 34.10417, 22.11735 Unnamed Road NW Fence/firebreak to be managed by brush cutting only
RESIDENTIAL GARDENS			
Residents must propagate “water wise indigenous gardens” on their properties.	Compliant	Residents make use of rainwater tanks and indigenous vegetation.	
Flowering plants must be planted in pots or troughs.	Compliant	Flowering plants refers to non-indigenous/exotic plants. Only indigenous plants are used for gardening.	

			 HillLand Environmental Hartland 13.02.2025 14:21 34°6'21.85"S 22°7'19.93"E Blombos Boulevard Retirement village landscaping  HillLand Environmental Hartland 13.02.2025 14:22 34°6'22.06"S 22°7'19.75"E Blombos Boulevard Retirement village stormwater management
No gardening allowed in the natural open spaces or private open spaces within residential development.	Compliant	No gardening in natural open spaces (conservation area and natural bush).	

WATER MANAGEMENT			
Each dwelling must have rainwater storage tank which is connected to the gutter system of the house.	Compliant	Part of the architectural guidelines and observed during site inspections	
The HOA and developer must encourage water saving practices.	Compliant	HOA and developer to encourage water saving techniques as much as possible.	
WASTE AND ENERGY SAVING GUIDELINES			
Energy saving mechanisms should be implemented.	Compliant	The latest available energy savings mechanisms are being used throughout the development.	
No French drains or septic tanks are allowed.	Compliant	All sewage is connected to the municipal sewage network. The hiking/cycling trail and security deck toilet is connected to a mini package plant. Recycled water is released into the firebreak area.	
ARCHAEOLOGICAL AND HERITAGE RESOURCES			
Should any heritage resources be unearthed or discovered during management actions works in that area is to be suspended immediately.	Compliant	Dr Peter Nilssen is the appointed Archaeological monitor. No significant artifacts have been found during this monitoring report.	
ALIEN VEGETATION & INVASIVE PLANT SPECIES			
A follow-up alien clearing plan must be developed to control the regeneration that will occur after the initial clearing.	Ongoing	Approved ACP is being implemented. The SCFPA has been appointed to continue with the invasive alien clearing and follow-up eradication.	
Eradication of alien plants must be completed in such a manner that indigenous vegetation is not damaged.	Compliant and ongoing	No notice was made of indigenous vegetation being damaged during alien clearing.	

HERITAGE AND ARCHAEOLOGICAL MONITORING

Dr Nilssen continues to monitor all bulk excavations and earthworks for civil service installation and individual house construction (platforms). Please refer to **Annexure A** for the Archaeological monitoring report (February 2025).

Should any heritage remains be exposed during excavations or any actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape (in accordance with the applicable legislation). Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape. Heritage remains include archaeological remains (including fossil bones and fossil shells); coins; indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone artefacts and bone remains; structures and other built features; rock art and rock engravings; shipwrecks; and graves.

CONCLUSION AND RECOMMENDATIONS

Civil and housing construction is ongoing. Weekly ECO site inspections must continue. Archaeological monitoring of all excavations (into virgin soil) must continue. It is recommended that the civil and housing contractors do regular toolbox talks to remind their staff of the environmental requirements – no-go areas, littering, ablution facilities etc.

Retirement village:

- The green zone adjacent to the Retirement living: Phase 1 development area has been demarcated with a wire fence and no entry sign boards.
- The cement batching area needs to be bunded with sandbags or a small berm.
- Indigenous trees have been planted along the entrance road into the Retirement village.
- **Building rubble in/on the topsoil stockpile must be removed asap.**

Sewer Pump Station 1 & Pressure Line:

- Sewer pump station has been installed.

Phase H2:

- Civil services installation is ongoing.

Phase A/ Klein Karoo:

- Vegetation clearing has commenced during this reporting period and is complete.
- Earthworks have commenced.

Right Hand Turn Lane:

- Construction of the right-hand turn lane on the R102 has commenced during this reporting period.

Housing:

- Continue demarcating the sites bordering the conservation/sensitive areas.
- Ensure cement mixing on impermeable surfaces and remove cement contaminated soil and rehabilitate accordingly.
- Do regular litter picking with focus on the green zones.

Operational phase:

- Ongoing follow-up alien regrowth clearing.
- Ongoing maintenance of the stormwater outlets (silt and litter).
- Sandbags are being used along the southern fence to stop the (dune) erosion onto the fence and allow for security and maintenance monitoring within the firebreak – the sandbags will have to be covered with a Geojute to promote vegetation growth over the sandbags.
- Viewing deck and existing internal (green space) are maintained.

Archaeological monitoring report for Hartland Lifestyle Estate

February 2025

Peter Nilssen (4 March 2024)

Of 8 house platforms, notification prior to works was not received for 5 erven.

Archaeological site inspections were conducted on weekdays in accordance with notifications of new works and as needed.

Earthworks included vegetation / topsoil stripping and platform excavations for individual Erven in Phases 1, 4 and H as well as vegetation stripping / grading and storm water trench excavations in Phase A – Klein Karoo. Earthworks were done primarily with mechanical excavators. Exposed surfaces and profiles as well as excavated stockpiles were inspected for heritage resources.

Phase 1 Erven

Erf 7640 (not notified) was the only house platform completed in Phase 1. A single combination hammerstone / grindstone in quartzite was (Figure 1). Due to its isolated nature and the entire absence of associated organic or cultural remains, the find is rated Not Conservation Worthy (NCW) and requires no further study, mitigation or management.



Figure 1. Hartland – Phase 1 – completed platform and hammerstone/grindstone.

Phase 4 Erven

House platforms in Phase 4 included the completion of Erven 7627, 7665 (not notified), 7635 and 7647 while excavation at Erf 7668 continues, (Figures 2 & 3). A single Stone Age piece of flaked

quartzite was seen in the exposed profile at Erf 7665 (Figure 3). Due to its isolated nature, the absence of an anthropogenic horizon and no associated organic or cultural remains, the find is rated as NCW and requires no further study, mitigation or management.



Figure 2. Hartland - Phase 4 – completed house platforms except for 7668.



Figure 3. Hartland - Phase 4 – completed house platforms and in situ Stone Age piece at Erf 7665.

Phase H Erven

Excavations for house platforms in Phase H included the completion of Erven 8110 and 8115 (not notified & construction started). Vegetation and topsoil clearance is complete at Erf 8129 (not notified), but excavations are outstanding (Figure 4). No heritage resources were identified.



Figure 4. Hartland - Phase H, Erf 8129 cleared (top) and Phase A – Klein Karoo Civils, clearance of vegetation and topsoil (bottom).

Phase A – Klein Karoo Civils

Works involved stripping of vegetation and grading as well as trench excavations for storm water pipes (Figures 4, 5 & 6).

Identified heritage resources included a few fossilised land snails (Figure 7) of low palaeontological significance that are rated as NCW, modern/colonial period glass, ceramics and metal, a Stone Age combination hammerstone / grindstone of indeterminate age and a Middle Stone Age blade in quartzite with faceted striking platform (Figure 8). The modern materials are rated NCW and require no further action in terms of the NHRA.

Identified Stone Age artefacts occur in isolation and are not associated with any other cultural or organic remains. They are rated NCW and require no further investigation, mitigation or management.



Figure 5. Hartland – Phase A – Klein Karoo Civils – storm water trench excavations in progress.



Figure 6. Hartland – Phase A – Klein Karoo Civils – storm water trench excavations in progress.



Figure 7. Hartland – Phase A – Klein Karoo Civils – examples of fossil land snails in exposed profiles.



Figure 8. Hartland – Phase A – Klein Karoo Civils – examples of modern / colonial period glass and ceramic (top) and Stone Age stone artefacts (middle and bottom).

Apart from a few instances of non-notification, the developer is compliant with the heritage component of the environmental authorisation for Hartland Lifestyle Estate. While no significant heritage sites were exposed, the identification of Stone Age implements is broadening our understanding of the pre-colonial archaeological record and depositional environment in this near coastal setting. There are no heritage-related issues or concerns requiring further investigation, management or mitigation in terms of the NHRA (Act 25 of 1999).