Identified impacts and risks for each alternative:

Preferred Alternative	<u>Impacts that may result from the Development phase (Planning, Design and Construction):</u> 1) Increased hardened surfaces within the approved development footprint. 2) During the construction phase a small amount of smoke, noise (from machines) and dust could be generated. 3) The presence and operation of construction machinery on site will create a physical impact on the site. 4) Employment opportunities during construction activities - The development will lead to temporary employment opportunities during construction. 5) General waste from construction site camp. 6) Possible sedimentation resulting from the stockpiling of construction materials and use of fill material, and resultant water quality impairment downstream. 7) Possible water quality impairment because of the presence and operation of construction vehicles and machinery near and within onsite watercourses which could result in fuel spills and other contaminant inputs. 8) Disturbance to the bed and banks of the onsite seep wetlands during construction of the garage. 9) The wetland surrounding the development footprint together with the previously disturbed terrestrial area between the dam and old house footprint will be rehabilitated after completion of construction. 10) Potential Visual Impacts <u>Impacts that may result from the Operational phase:</u> 1) The site will continue to be utilised for private residential and conservation purposes, with the ancillary function of storing vehicles, conservation equipment, and fire protection resources. 2) Disruption of the natural fire regime. 3) Disturbance to natural land during repairs or replacement of service infrastructure. 4) Alien species will be managed and cleared from the site on a regular basis. 5) Consumption of resources (electricity) 6) Increased hardened surfaces within the approved development footprint. 7) <u>Impacts that may result from the decommissioning and closure phase:</u> No impacts have been identified as the proposed development will not be decommissioned in the foreseeable future. NOTE: No impacts on heritage resources are foreseen.
No-Go Alternative:	<u>The 'No-Go' option, where the development of the new garage is not pursued, was evaluated and the following potential impacts identified:</u> 1) No further increase in hardened surfaces within the EA-approved development footprint 2) Reduced usability of the property due to the absence of a garage 3) No new economic opportunities generated onsite. NOTE: No impacts on heritage resources are foreseen.

Alternative 1

Impacts associated with Design and Development Phase

Alternative 1: Preferred alternative	**Geology / geohydrological / ecological / socio-economic / heritage and cultural-historical / noise / visual / *etc*.**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**1 - Increased hardened surfaces within the approved development footprint.**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; long term (extends into operational phase)**
Consequence of impact or risk:	**Reduced surface area for infiltration resulting in minor local increase of stormwater runoff into adjacent natural systems**
Probability of occurrence:	**Possible**
Degree to which the impact may cause irreplaceable loss of resources:	**Unlikely**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Erosion and downstream biota and water quality affected**
Cumulative impact prior to mitigation:	**Magnify existing runoff impacts from approved dwelling by reducing areas available for dissipation**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Possible**
Degree to which the impact can be managed:	**Likely**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	- **The development must be confined to the already-approved development footprint or a lesser extent.** - **No new parking or road access areas may be created beyond what is currently proposed.** - **Existing indigenous vegetation abutting the final built structures should be retained.**
Residual impacts:	**A very slight increase in the passage of concentrated flows into the eastern and western arms of the seep wetlands adjacent to the development is anticipated, at most.**
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**2 - During the construction phase a small amount of smoke, noise (from machines) and dust could be generated.**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local, short term**

Consequence of impact or risk:	**Nuisance to surrounding land users and workers during construction phase**
Probability of occurrence:	**Possible**
Degree to which the impact may cause irreplaceable loss of resources:	**Low**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Water needed for dust dissipation on exposed areas; Visibility potentially affected during high wind conditions**
Cumulative impact prior to mitigation:	**Health and Safety localised impact**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Possible**
Degree to which the impact can be managed:	**Possible**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	- **Restrict working hours to normal construction working hours daytime 07:00 to 19:00, and half day on Saturdays. No work may be undertaken on public holidays or Sundays.** - **Restrict areas cleared to where construction is taking place. Cleared areas must be provided with a suitable cover (e.g. mulch or straw) and must not be left open for extended periods.** - **Stockpiles of erodible materials must be appropriately covered (e.g., geotextile weighted with bricks) and located such that they will have the lowest possible impact given prevailing wind direction.** - **Shield dust blowing onto roads and adjacent land users.** - **If needed, dust can be dissipated with water.** - **Maintain vehicles and machinery in good working condition.**
Residual impacts:	**Water needed for dust dissipation on exposed areas**
Cumulative impact post mitigation:	**No impact anticipated**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**3 – The presence and operation of construction machinery on site will create a physical impact as on the site**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local, short term**
Consequence of impact or risk:	**Deterioration of access road and development footprint.**
Probability of occurrence:	**Probable**
Degree to which the impact may cause irreplaceable loss of resources:	**Low**
Degree to which the impact can be reversed:	**Possible**

Indirect impacts:	**Increased erosion and sedimentation of nearby watercourses resulting in water quality impacts.**
Cumulative impact prior to mitigation:	**General degradation of natural areas adjacent to working environments.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Not possible**
Degree to which the impact can be managed:	**Possible**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	- **All construction vehicles and machinery must be confined to access roads and approved development footprints.** - **A suitable speed limit (20-40km/h) must be enforced on all access roads.** - **Maintain vehicles and machinery in good working condition.** - **Development footprint to be fenced and all work confined to within this footprint.** - **Fencing must allow access from the roadsides only.** - **Fencing around the disturbance footprint may be temporary but must nevertheless comprise steel mesh fencing that will indicate a significant barrier to construction workers and contractors – no cement / concrete may be used in installation of fencing;** - **Areas outside of the fenced areas, excluding the existing road, must be regarded as "no go areas" during construction – this would require considerable construction phase planning, which must be shown in detailed design-phase documentation** - **No blasting of rock may take place – the development footprints need to be based on a "tread lightly" approach.** - **Existing indigenous vegetation abutting the final built structures should be retained as far as possible and the creation of a "garden" / lawn areas in the wetland seeps should not take place.**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**4 – Employment opportunities during construction**
Nature of impact:	**Positive**
Extent and duration of impact:	**Local; short term**
Consequence of impact or risk:	**Additional local employment and income; transfer of skills**
Probability of occurrence:	**Highly Probable**

Degree to which the impact may cause irreplaceable loss of resources:	**No loss of resource**
Degree to which the impact can be reversed:	**Not required**
Indirect impacts:	**Social upliftment in local community by use of local labour**
Cumulative impact prior to mitigation:	**Job creation**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW POSITIVE**
Degree to which the impact can be avoided:	**Not required**
Degree to which the impact can be managed:	**Not required**
Degree to which the impact can be mitigated:	**Not required**
Proposed mitigation:	**Not required**
Residual impacts:	**Social upliftment in local community by use of local labour**
Cumulative impact post mitigation:	**Job creation**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW POSITIVE**

Potential impact and risk:	**5 – General Waste from construction site camp**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; short term**
Consequence of impact or risk:	**Waste to landfill**
Probability of occurrence:	**Definite**
Degree to which the impact may cause irreplaceable loss of resources:	**Possible**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Dispersal of waste into the surrounding environment and decrease in landfill capacity over time**
Cumulative impact prior to mitigation:	**Dispersal of waste into the surrounding environment and decrease in landfill capacity over time**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Not possible**
Degree to which the impact can be managed:	**Possible**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	- **An on-site waste management programme must be implemented that effectively controls the management and disposal waste on the site during construction** - **Minimise waste generated on site.** - **Provide multiple secured onsite bins with weighed down lids that effectively contain waste. (NB to prevent scavenging by wildlife and wind dispersal)** - **Separate food waste from recyclable waste onsite through use of clearly labelled bins.**

	- **Where necessary, make use of secured skips for large construction waste. Skips should be covered to prevent wind blown waste. Also during transport from site to landfill.** - **All bins (and skips) must be regularly emptied, and waste must be appropriately disposed of at registered offsite waste disposal site.** - **No bins (or skips) may be used to overflow.** - **Waste sites may only be accommodated along the existing road footprint or within the proposed development footprint (including the authorized development footprint). These areas must be agreed on prior to construction commencement and must be managed by the ECO (or similar) in terms of best practice codes.** - **Vegetation removed should be chipped and used on site for mulching or covering bare areas to be stabilised.** - **Area left clean and clear of all building waste after completion of construction phase**
Residual impacts:	**Avoid dispersal of waste onto the site and less solid waste for disposal at landfill site.**
Cumulative impact post mitigation:	**The site is maintained in a 'waste-free' state and increase of recyclables and availability of mulching material for use on site.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**6 – Possible sedimentation resulting from the stockpiling of construction materials and use of fill material, and resultant water quality impairment downstream.**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; short term**
Consequence of impact or risk:	**Water quality downstream affected**
Probability of occurrence:	**Possible**
Degree to which the impact may cause irreplaceable loss of resources:	**Possible (downstream biota affected)**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Water quality in drainage streams and dams deteriorates due to more sediment in suspension**
Cumulative impact prior to mitigation:	**Downstream biota affected; increased fouling of equipment**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Possible**
Degree to which the impact can be managed:	**Possible**
Degree to which the impact can be mitigated:	**Possible**

Proposed mitigation:	- **Install 20cm high sediment fences of shade cloth or a similar material at the boundary of the construction area adjacent to the onsite wetlands.** - **A suitable location for stockpiling erodible construction material must be identified by the ECO and stockpiles of erodible material must be covered by an erosion blanket (geotextile weighted with bricks).** - **Stockpiles should be no higher than 1.5m and suitably shaped to prevent erosion.** - **Stockpiles and all other aspects of construction that require storage space may only be accommodated along the existing road footprint or within the proposed development footprint (including the authorized development footprint). These areas must be agreed on prior to construction commencement and must be managed by the ECO (or similar) in terms of best practice codes.** - **No construction that takes place from 1m above natural ground level or lower and that requires any active excavation, use of cement, concrete, sand, gravel or any other material likely to wash into wetlands abutting construction areas may take place between 1 May and 30 September of any year, to minimize impacts to sensitive areas.**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**7 – Possible water quality impairment because of the presence and operation of construction vehicles and machinery near and within onsite watercourses which could result in fuel spills and other contaminant inputs**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; short term**
Consequence of impact or risk:	**Water pollution**
Probability of occurrence:	**Not Likely**
Degree to which the impact may cause irreplaceable loss of resources:	**Not likely**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Water quality downstream affected**
Cumulative impact prior to mitigation:	**Water quality downstream affected**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Degree to which the impact can be avoided:	**Possible**
Degree to which the impact can be managed:	**Possible**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	- **Maintain vehicles and machinery in good working condition.** - **All construction vehicles and machinery must be confined to access roads and approved development footprints.** - **Inspect all construction vehicles and machinery for possible fuel/ oil leaks.** - **Refill with fuel/ oil restricted to bunded area within the site camp. Maintenance of vehicles confined to site camp.** - **Place drip trays under vehicles at night.** - **Any leaks/ spills should be cleaned immediately, and contaminated soils disposed of to appropriate landfill site.** - **Spill kit to be kept on site** - **No construction that takes place from 1m above natural ground level or lower and that requires any active excavation, use of cement, concrete, sand, gravel or any other material likely to wash into wetlands abutting construction areas may take place between 1 May and 30 September of any year, to minimize impacts to sensitive areas.**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**Disposal to landfill (spill material removed)**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**8– Disturbance to the bed and banks of the onsite seep wetlands during construction of the garage.**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; short term**
Consequence of impact or risk:	**Disturbance of wetland function.**
Probability of occurrence:	**Likely**
Degree to which the impact may cause irreplaceable loss of resources:	**Possible**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Downstream temporary water quality affected**
Cumulative impact prior to mitigation:	**Wetland shape affected**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Possible**
Degree to which the impact can be managed:	**Medium**
Degree to which the impact can be mitigated:	**Medium**

Proposed mitigation:	- **A temporary fence must be installed around the approved disturbance footprint. No construction activities may take place outside the fenced area.** - **The fence must be removed after the development has been completed and any affected natural areas must be appropriately rehabilitated.** - **Where construction vehicles need to access sensitive areas/ wetlands, there should be one preferred access point to minimise disturbance** - **Following completion of construction, a freshwater ecologist must assess the construction sites and outline measures, where necessary, for rehabilitation of disturbed wetland areas, including, where necessary, requirements for manual or machine re shaping, manual ripping of compacted areas and replanting of disturbed zones. Implementation of these measures must be overseen by the ECO (or similar) in collaboration with the project freshwater ecologist.** - **No blasting of rock may take place – the development footprints need to be based on a "tread lightly" approach**
Residual impacts:	**Water quality downstream of site negatively affected**
Cumulative impact post mitigation:	**None anticipated post mitigation**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**9 - The wetland surrounding the development footprint together with the previously disturbed terrestrial area between the dam and old house footprint will be rehabilitated after completion of construction.**
Nature of impact:	**Positive**
Extent and duration of impact:	**Local; long term**
Consequence of impact or risk:	**Alien invasive vegetation will be removed from the wetland areas. Were required, replanting will take place.**
Probability of occurrence:	**Probable**
Degree to which the impact may cause irreplaceable loss of resources:	**No loss of resource**
Degree to which the impact can be reversed:	**Not required**
Indirect impacts:	**Improvement of natural areas over time.**
Cumulative impact prior to mitigation:	**Increase in local conservation and ecosystem functionality over time.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW POSITIVE**
Degree to which the impact can be avoided:	**Not required**
Degree to which the impact can be managed:	**Not required**

Degree to which the impact can be mitigated:	**Not required**
Proposed mitigation:	**Vegetation removed should be chipped and used on site for mulching or covering bare areas to be stabilized. Where the vegetation removed is not suitable for chipping/ mulching it should be suitably disposed of to the nearest landfill site.**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW POSITIVE**

Potential impact and risk:	**10- Potential visual impacts**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; long term**
Consequence of impact or risk:	**Potential negative visual impacts experienced by receptors**
Probability of occurrence:	**Probable**
Degree to which the impact may cause irreplaceable loss of resources:	**Unlikely**
Degree to which the impact can be reversed:	**Unlikely**
Indirect impacts:	**Potential impacts to 'sense of place'**
Cumulative impact prior to mitigation:	**Potential negative visual impacted experienced by receptors**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Possible**
Degree to which the impact can be managed:	**Likely**
Degree to which the impact can be mitigated:	**Likely**
Proposed mitigation:	- **Limit vegetation clearance to the approved development footprints only.** - **Cutting for level footprint into the topography opposed to sitting on top, no forward or upward encroachment.** - **Rehabilitate the old roadworks stockpile area.** - **Make use of natural materials, like stone and wood for finishes.** - **All roof materials should be charcoal coloured roof sheeting which meets 30-year warranty requirements. All roof hardware (vents, stacks, flashing etc) must colour match the roofing materials or be encased into structures.** - **Roof pitches should be as flat as possible as per the concept on the SDP.** - **Only painted plaster or bagged walls with a matt finish to be applied and no face-brick.** - **No bright or light colour paint to be used on the plastered walls, use only natural darker tones. Tones of grey to**

	charcoal has been proven as the best mitigating colour for visual impact. - **The colours of windows, fascia's, doors, shutters etc should be consistent and compliment the wall colours, preferably natural wood, grey or charcoal frames.** - **Lighting is required for the security and safety. However, all lighting shall be directed solely towards the buildings or downwards if attached to the building.** - **Ground lighting should be mounted on low bollards.** - **No high mast lighting will be allowed, and no lighting shall be directed off the site into the surrounding nature.** - **Energy saving lights are required and no "naked" spotlights will be allowed.** - **Warm white outside light bulbs are to be used.** - **Landscaping should only take place with indigenous and endemic plants.** - **Due to the high windspeeds exotic trees do not grow successfully, however some indigenous shrubs and trees do reach considerable heights.** - **Due to fire risk it is advised that "fire-scaping" is applied by planting vegetation that is not prone to burn.** - **A local landscape consultant should be approach for advice on both wind and fire prone vegetation**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Impacts associated with Operation and Maintenance Phase:

Alternative 1: Preferred alternative	**Geology / geohydrological / ecological / socio-economic / heritage and cultural-historical / noise / visual / *etc*.**
OPERATIONAL PHASE	
Potential impact and risk:	**1- The site will continue to be utilised for private residential and conservation purposes, with the ancillary function of storing vehicles, conservation equipment, and fire protection resource**
Nature of impact:	**Positive**
Extent and duration of impact:	**Local - long term**
Consequence of impact or risk:	**The addition of the garage will improve the functionality of the residential property by providing secure storage for vehicles, including equipment required for on-site conservation and fire protection. This will support the long-term management of the site, including fire risk reduction and ecological rehabilitation activities.**
Probability of occurrence:	**Likely**
Degree to which the impact may cause irreplaceable loss of resources:	**No loss of resource**
Degree to which the impact can be reversed:	**Not required**
Indirect impacts:	**Improved capacity for ecological management and fire risk prevention.**
Cumulative impact prior to mitigation:	**Increased hardened surfaces and improved capacity for ecological management and fire risk prevention.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW POSITIVE**
Degree to which the impact can be avoided:	**Not required**
Degree to which the impact can be managed:	**Not required**
Degree to which the impact can be mitigated:	**Not required**
Proposed mitigation:	**Not required**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW POSITIVE**

Potential impact and risk:	**2- Disruption of the natural fire regime**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local - long term**
Consequence of impact or risk:	**Fire suppression of adjacent areas**
Probability of occurrence:	**Probable**
Degree to which the impact may cause irreplaceable loss of resources:	**Possible**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Impairment of natural ecosystem functioning**

Cumulative impact prior to mitigation:	**Impairment of natural ecosystem functioning**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Not possible**
Degree to which the impact can be managed:	**Possible**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	**Firebreaks should be established within 15m of the development as recommended by the terrestrial biodiversity specialist (Appendix G2). This will serve to protect the development while allowing the natural fire regime to function in the adjacent areas. In addition, fire breaks must be cut along the farm boundary as prescribed by the National Veld and Forest Fire Act (No. 101 of 1998).**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**3- Disturbance to natural land during repairs or replacement of service infrastructure.**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local, short term**
Consequence of impact or risk:	**Removal of vegetation, soil disturbance and erosion**
Probability of occurrence:	**Improbable**
Degree to which the impact may cause irreplaceable loss of resources:	**Low**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Dust generation**
Cumulative impact prior to mitigation:	**General degradation of natural land**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Possible**
Degree to which the impact can be managed:	**Possible**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	- **All services must be installed above ground within the already disturbed road reserve.** - **New services (e.g. cables, pipelines) to the site, if desired, must be routed within the existing road prism and not as additional services corridors or footprints.**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**4 – Alien species will be managed and cleared from the site on a regular basis.**
Nature of impact:	**Positive**
Extent and duration of impact:	**Local; long term**
Consequence of impact or risk:	**Alien invasive vegetation will be removed from the development area as well as the remainder of the site. Ongoing monitoring and clearing will take place as needed.**
Probability of occurrence:	**Likely**
Degree to which the impact may cause irreplaceable loss of resources:	**No loss of resource**
Degree to which the impact can be reversed:	**Not required**
Indirect impacts:	**Improvement of natural areas over time**
Cumulative impact prior to mitigation:	**Increase in local conservation and ecosystem functionality over time**
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	**LOW POSITIVE**
Degree to which the impact can be avoided:	**Not required**
Degree to which the impact can be managed:	**Not required**
Degree to which the impact can be mitigated:	**Not required**
Proposed mitigation:	**Vegetation removed should be chipped and used on site for mulching or covering bare areas to be stabilized. Where the vegetation removed is not suitable for chipping/ mulching it should be suitably disposed of to the nearest landfill site**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW POSITIVE**

Potential impact and risk:	**5 - Consumption of resources (electricity)**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; long term**
Consequence of impact or risk:	**Resource use**
Probability of occurrence:	**Definite**
Degree to which the impact may cause irreplaceable loss of resources:	**Unlikely**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Air pollution, thermal pollution, decrease in resource availability over time.**

Cumulative impact prior to mitigation:	**Air pollution, thermal pollution, decrease in resource availability over time.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Not possible**
Degree to which the impact can be managed:	**Possible**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	- **Make use of energy and water efficient appliances** - **Supplement electricity supply with onsite solar panels** - **Use water wise indigenous vegetation for landscaping purposes where required.**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**6 - Increased hardened surfaces within the approved development footprint**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; long term**
Consequence of impact or risk:	**Reduced surface area for infiltration resulting in minor local increase of stormwater runoff into adjacent natural systems**
Probability of occurrence:	**Possible**
Degree to which the impact may cause irreplaceable loss of resources:	**Unlikely**
Degree to which the impact can be reversed:	**Possible**
Indirect impacts:	**Erosion and downstream biota and water quality affected**
Cumulative impact prior to mitigation:	**Magnify existing runoff impacts from approved dwelling by reducing areas available for dissipation**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Possible**
Degree to which the impact can be managed:	**Likely**
Degree to which the impact can be mitigated:	**Possible**
Proposed mitigation:	- **Develop a suitable stormwater management plan (refer to Appendix O to the BAR).** - **Raised boardwalks/decks/permeable surfaces should be used in preference to paving to allow the passage of seepage water beneath built structures** - **The development must be confined to the already-approved development footprint or a lesser extent.** - **No new parking or road access areas may be created beyond what is currently proposed**

	- **Stormwater dissipation measures must be included in architectural and road / parking design to ensure that runoff is dissipated to pre-construction levels within the total building footprints shown in Figures 1 and 2 – useful measures could include the use of gravel stormwater dissipation areas or "rain gardens" and the provision of extended detention areas within the disturbance footprints; rainwater tanks also provide some attenuation function, up until the point that they are full. The inclusion of grassblocks in the current proposed design is supported, provided that they overlie areas into which infiltration can occur (i.e. not overlying bedrock) – refer to Appendix O to the BAR.** o **The required interventions must be quantified, shown on plan and approved by at least the project aquatic ecologist and preferably by relevant officials from Cape Nature and the local municipality – refer to Appendix O**
Residual impacts: Cumulative impact post mitigation:	**A very slight increase in the passage of concentrated flows into the eastern and western arms of the seep wetlands adjacent to the development is anticipated, at most**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

No-Go Alternative

Potential impact and risk:	**1 – No further increase in hardened surfaces within the EA-approved development footprint**
Nature of impact:	**Positive**
Extent and duration of impact:	**Local; long term**
Consequence of impact or risk:	**No additional alteration of surface runoff or stormwater infiltration**
Probability of occurrence:	**Probable**
Degree to which the impact may cause irreplaceable loss of resources:	**No loss of resource**
Degree to which the impact can be reversed:	**Not required**
Indirect impacts:	**Slight reduced risk of erosion and downstream sedimentation.**
Cumulative impact prior to mitigation:	**Impact levels remain the same as for already approved development**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**VERY LOW POSITIVE**
Degree to which the impact can be avoided:	**Not required**
Degree to which the impact can be managed:	**Not required**
Degree to which the impact can be mitigated:	**Not required**
Proposed mitigation:	**Not required**
Residual impacts:	**n/a**
Cumulative impact post mitigation:	**n/a**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**VERY LOW POSITIVE**

Potential impact and risk:	**2 – Reduced usability of the property due to the absence of a garage**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local; long term**
Consequence of impact or risk:	**Limited secure storage for vehicles, conservation equipment, and fire protection resources**
Probability of occurrence:	**Likely**
Degree to which the impact may cause irreplaceable loss of resources:	**Possible**
Degree to which the impact can be reversed:	**Likely**
Indirect impacts:	**Negative implications for effective fire preparedness and management.**
Cumulative impact prior to mitigation:	**Weakened long-term site management and fire readiness**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Unlikely**
Degree to which the impact can be managed:	**Unlikely**
Degree to which the impact can be mitigated:	**Unlikely**

Proposed mitigation:	**No onsite mitigation available**
Residual impacts:	**Reduced useability of the property**
Cumulative impact post mitigation:	**Weakened long-term site management and fire readiness**
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

Potential impact and risk:	**3 - No new economic opportunities generated onsite.**
Nature of impact:	**Negative**
Extent and duration of impact:	**Local, short term**
Consequence of impact or risk:	**A marginal reduction in economic investment on the property, together with the loss of short-term employment opportunities that would have been generated during the construction of the garage**
Probability of occurrence:	**Possible**
Degree to which the impact may cause irreplaceable loss of resources:	**Unlikely**
Degree to which the impact can be reversed:	**Unlikely**
Indirect impacts:	**Reduced local economic stimulation**
Cumulative impact prior to mitigation:	**Social degradation of local labour force**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**
Degree to which the impact can be avoided:	**Unlikely**
Degree to which the impact can be managed:	**Unlikely**
Degree to which the impact can be mitigated:	**Unlikely**
Proposed mitigation:	**No onsite mitigation available**
Residual impacts:	**Reduced local economic stimulation**
Cumulative impact post mitigation:	**Social degradation of local labour force**
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	**LOW NEGATIVE**

SUMMARY OF IMPACT ASSESSMENT:

	IDENTIFIED IMPACTS	SIGNIFICANCE PRIOR TO MITIGATION	SIGNIFICANCE POST MITIGATION
PREFERRED ALTERNATIVE 1	**Construction phase**		
	1 – Increased hardened surfaced within the approved development footprint	**LOW (-)**	**LOW (-)**
	2 – Nuisance factors (dust, smoke, and noise)	**LOW (-)**	**LOW (-)**
	3 – Physical impacts onsite	**LOW (-)**	**LOW (-)**
	4 – Employment opportunities	**LOW (+)**	**LOW (+)**
	5 – Generation of general waste (construction)	**LOW (-)**	**LOW (-)**
	6 – Stockpiling construction materials & associated water quality impacts	**LOW (-)**	**LOW (-)**
	7 – Operation of construction vehicles near and within wetlands	**LOW (-)**	**LOW (-)**
	8 – Disturbance of beds and banks of onsite wetlands	**LOW (-)**	**LOW (-)**
	9 - Wetland surrounding the house development footprint together with the previously disturbed terrestrial area between the dam and old house footprint will be rehabilitated after completion of construction	**LOW (+)**	**LOW (+)**
	10 - Potential visual impacts	**LOW (-)**	**LOW (-)**
	Operational and Maintenance phase		
	1- Ongoing use of the site for residential and conservation purposes with additional storage	**LOW (+)**	**LOW (+)**
	2 – Disruption of the natural fire regime	**LOW (-)**	**LOW (-)**
	3 – Disturbance of natural land	**LOW (-)**	**LOW (-)**
	5 – Removal of alien vegetation	**LOW (+)**	**LOW (+)**
	6 - Consumption of resources (water and electricity)	**LOW (-)**	**LOW (-)**
	7 - Increased hardened surfaces within the approved development footprint	**LOW (-)**	**LOW (-)**
NO GO ALTERNATIVE	**A. IDENTIFIED IMPACTS**	**SIGNIFICANCE PRIOR TO MITIGATION**	**SIGNIFICANCE POST MITIGATION**
	1 - No further increase in hardened surfaces within the EA-approved development footprint	**VERY LOW (+)**	**VERY LOW (+)**
	2 - Reduced usability of the property due to the absence of a garage	**LOW (-)**	**LOW (-)**
	3 - No new economic opportunities generated onsite	**LOW (-)**	**LOW (-)**

Outcome of the impact assessment on alternative selection:

The impact assessment indicates that the impacts associated with the Preferred Alternative (construction of the garage within the EA-approved development footprint) are mostly low negative and readily mitigatable. The primary identified risk relates to the cumulative impact of hardened surfaces within the approved development footprint, with associated implications for stormwater runoff. This impact is considered of low negative significance but can be effectively managed through stormwater controls and landscaping. Positive impacts include generation of temporary employment opportunities, onsite rehabilitation works, alien clearing and improved usability of the property for conservation and fire management.

In contrast, the previously proposed garage on a separate development footprint was not supported by DEA&DP, CapeNature, or the aquatic specialist. The main reasons for refusal included its siting within a Terrestrial and Aquatic Critical Biodiversity Area, its close proximity to sensitive wetlands, and the requirement for an additional conservancy tank and associated access road. These elements would have introduced additional impacts on sensitive habitats and ecosystem functioning.

According to the freshwater ecological addendum letter dated 27 September 2025, the new proposed garage location is clearly preferred from an aquatic ecosystem perspective when compared to previous proposals. The specialist confirmed that the consolidation of development within one disturbed node minimises encroachment into sensitive habitats, with only very minor residual risks linked to increased stormwater runoff. Provided that the recommended mitigation measures are implemented, the impacts on aquatic resources are considered low negative.

The No-Go Alternative avoids any further construction-related disturbance and additional runoff impacts but has its own drawbacks. It reduces the long-term usability of the property by limiting secure storage for vehicles, conservation equipment, and fire protection resources, with negative implications for effective fire preparedness and ongoing conservation activities onsite. The No-Go Alternative also represents a marginal reduction in economic investment on the property and forfeits short-term employment opportunities during construction.

The specialist addenda confirmed that the current garage proposal, by consolidating development within the existing approved footprint, represents a preferable outcome compared to the previously proposed separate footprint. The freshwater ecological addendum notes that impacts are reduced to a very minor increase in stormwater runoff, provided mitigation is applied, while the visual addendum dated 8 September 2025 confirms that the garage, being integrated into the approved footprint and located behind and lower than the approved dwelling, does not change the VIA findings of October 2023.

On balance, the Preferred Alternative consolidates disturbance within an already approved and disturbed footprint, avoids the ecological risks of a separate development footprint, and provides functional and operational benefits to the property. The No-Go Alternative does not result in notable

environmental gains and presents disadvantages in terms of usability, fire preparedness, and employment creation.

The previous garage footprint was rejected by DEA&DP due to its proximity to sensitive features and resulting unacceptable impacts. The No-Go Alternative is also rejected, as it offers no meaningful environmental advantage and reduces operational resilience for the applicant. The Preferred Alternative is therefore supported as the most appropriate environmentally and operationally viable option.