APPENDIX J – IMPACT TABLES

Geographical and Physical

1. Soil erosion and dust

Alternative 1 (PREFERRED) + Alternative 2	Geographical and Physical Impacts
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Soil erosion and dust**
Nature of impact:	**Disturbance to soil which is caused during the clearing of vegetation for cultivation may lead to erosion of the site and surrounds.**
Extent and duration of impact:	**Extent 2 (Site) & Duration 2 (2 – 5 years)**
Magnitude:	**2 - Minor**
Consequence of impact or risk:	**Clearing activities can result in erosion and dust.**
Probability of occurrence:	**2 (Improbable: some possibility, but low likelihood)**
Degree to which the impact may cause irreplaceable loss of resources:	**2-Resource may be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Completely reversible (R)**
Indirect impacts:	**Disturbance to surface area can result in erosion and dust generation**
Cumulative impact prior to mitigation:	**Exposing soil may lead to erosion and dust generation if not mitigated.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**12 - Low**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**1-Completely mitigatable (CM)**
Proposed mitigation:	• **All ESA areas (non-perennial rivers) and buffer areas as well as adjacent areas of high conservation vegetation cover should be disturbed as little as possible during the clearance of vegetation for cultivation.** • **Access to roads and other areas must be controlled to avoid disturbance of areas outside the development footprint. Personnel should be restricted to the immediate construction areas only.** • **Monitor construction areas frequently for signs of erosion and if signs of erosion are detected implement repair and preventative measures immediately.** • **Strict compliance with the EMPr.**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
OPERATIONAL PHASE	
Potential impact and risk:	**Soil erosion and dust**
Nature of impact:	**Operational activities should not cause a disturbance to the soil and the vegetation cover on the site.** **Soil erosion can occur due to wind (wind erosion cause dust pollution).**

Extent and duration of impact:	**Extent 2 (site) & Duration 5 (permanent)**
Magnitude:	**2 (minor)**
Consequence of impact or risk:	**Erosion and dust.**
Probability of occurrence:	**2 (Improbable: some possibility, but low likelihood)**
Degree to which the impact may cause irreplaceable loss of resources:	**1-Resource will not be lost (R)**
Degree to which the impact can be reversed:	**Completely reversible (R)**
Indirect impacts:	**Disturbance to surface area can result in erosion and dust generation.**
Cumulative impact prior to mitigation:	**Exposing soil may lead to erosion and dust generation if not mitigated.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**18 - Low**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**1-Completely mitigatable (CM)**
Proposed mitigation:	• **Only use one existing access road to the sites for operational purposes and avoid disturbance of "new" areas outside the existing access roads and infrastructure footprint.** • **Rehabilitate or stabilise eroded areas immediately to prevent increase in erosion.** • **Strict compliance with the EMPr.**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**Similar to that in development phase.**

2. Increase in Stormwater Runoff

Alternative 1 (PREFERRED) + Alternative 2	**Geographical and Physical Impacts**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Increased in stormwater runoff**
Nature of impact:	**The clearing of vegetation will result in the reduction of water infiltration during rain events. This may lead to increased volumes of stormwater run-off. The additional stormwater runoff may lead to erosion in other areas of the farm. Stormwater needs to be carefully planned to ensure that drainage of excess water is effectively managed.**
Extent and duration of impact:	**Extent 2 (site) & Duration 2 (short to medium)**
Magnitude:	**4**
Consequence of impact or risk:	**Additional stormwater runoff may lead to erosion in adjacent cultivated property and potentially flooding of the adjacent residential areas.**

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Probability of occurrence:	**2 (Improbable: some possibility, but low likelihood)**
Degree to which the impact may cause irreplaceable loss of resources:	**2-Resource may be partly destroyed (PR)** **stormwater run-off may cause partial loss of other resources**
Degree to which the impact can be reversed:	**Completely reversible (R)**
Indirect impacts:	**Additional stormwater runoff may lead to erosion in adjacent cultivated property and potentially flooding of the adjacent residential areas.**
Cumulative impact prior to mitigation:	**Additional stormwater runoff may lead to erosion in adjacent cultivated property and potentially flooding of the adjacent residential areas.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**16 - Low**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**1-Completely mitigatable (CM)**
Proposed mitigation:	• **Installation of a drainage system / plan** • **Cleared areas should be exposed for the minimum time possible before planting**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
OPERATIONAL PHASE	
Potential impact and risk:	**Increased in stormwater runoff**
Nature of impact:	**Operational activities should not cause significant increase in stormwater runoff.**
Extent and duration of impact:	**Extent 1 (footprint) & Duration 5 (permanent)**
Magnitude:	**2 (minor)**
Consequence of impact or risk:	**Additional stormwater runoff.**
Probability of occurrence:	**2 (Improbable: some possibility, but low likelihood)**
Degree to which the impact may cause irreplaceable loss of resources:	**1-Resource will not be lost (R)**
Degree to which the impact can be reversed:	**Completely reversible (R)**
Indirect impacts:	**Uncultivated cleared areas.**
Cumulative impact prior to mitigation:	**Uncultivated cleared areas left exposed for long periods allowing for increased runoff in certain areas could lead to localised flooding of adjacent crops and residential areas and potential loss of resources.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**16 - Low**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**1-Completely mitigatable (CM)**

Proposed mitigation:	**Installation and maintenance of a drainage system / plan**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**Similar to that in development phase.**

Ecological and Biological

3. Loss of indigenous vegetation/Habitat and ecosystem loss/fragmentation

Alternative 1 (PREFERRED)	**Biological Aspect Impacts**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Loss of indigenous vegetation.**
Nature of impact:	**A terrestrial CBA is located on Site A and the development of site A would result in the permanent loss of natural indigenous vegetation considered to be in a moderate to good condition.** **Sites B and C have a low conservation value as they have been previously ploughed (in excess of 10 years) and are considered to be degraded and disturbed.** **The development of sites B and C will have a low impact however the development of Site A will have a high impact. The development of Site A is not in line with the development objectives as defined in the WCBSP 2017.**
Extent and duration of impact:	**Extent 1 (footprint) & Duration 5 (permanent)**
Magnitude:	**10**
Consequence of impact or risk:	**The proposed development will result in the permanent loss of a terrestrial CBA (high conservation value) located on Site A, as well as the loss of degraded vegetation (low conservation value) on Sites B and C.**
Probability of occurrence:	**5 (definite)**
Degree to which the impact may cause irreplaceable loss of resources:	**3-Resource cannot be replaced (IR)**
Degree to which the impact can be reversed:	**Irreversible (IR)**
Indirect impacts:	**Loss of significantly impacted upon indigenous vegetation and habitat.**
Cumulative impact prior to mitigation:	**Loss of significantly impacted upon indigenous vegetation and habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**80 - High**
Degree to which the impact can be avoided:	**Low**
Degree to which the impact can be managed:	**Low**

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Degree to which the impact can be mitigated:	**3 – Un-mitigatable (UM)**
Proposed mitigation:	**The vegetation on site A will be lost. In terms of the WCBSP, 2017 the only mitigation for the loss of the resource would be the provision of a biodiversity offset.** **The vegetation lost on sites B and C will not have a high negative impact as the vegetation is considered to be of low conservation value due to its degraded nature and having been previously disturbed (ploughed in excess of 10 years ago).**
Residual impacts:	**Loss of terrestrial CBA (high conservation value vegetation) and a loss of significantly impacted upon indigenous vegetation and habitat.**
Cumulative impact post mitigation:	**Definite impact on indigenous vegetation and habitats.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High**
OPERATIONAL PHASE	
Potential impact and risk:	**Loss of threatened plant populations.**
Nature of impact:	**Not applicable.**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**Loss of threatened plant populations.**
Nature of impact:	**Not applicable.**

Alternative 2	**Biological Aspect Impacts**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Loss of indigenous vegetation.**
Nature of impact:	**Sites B and C have a low conservation value as they have been previously ploughed (in excess of 10 years) and are considered to be degraded and disturbed.** **The development of sites B and C will have a low impact.**
Extent and duration of impact:	**Extent 1 (footprint) & Duration 5 (permanent)**
Magnitude:	**4**
Consequence of impact or risk:	**The proposed development will result in the permanent loss of degraded vegetation (low conservation value) on Sites B and C.**
Probability of occurrence:	**5 (definite)**
Degree to which the impact may cause irreplaceable loss of resources:	**3-Resource cannot be replaced (IR)**
Degree to which the impact can be reversed:	**Irreversible (IR)**
Indirect impacts:	**Loss of significantly impacted upon indigenous vegetation and habitat.**
Cumulative impact prior to mitigation:	**Loss of significantly impacted upon indigenous vegetation and habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**50 - Medium**
Degree to which the impact can be avoided:	**Low**

Degree to which the impact can be managed:	**Low**
Degree to which the impact can be mitigated:	**3 – Un-mitigatable (UM)**
Proposed mitigation:	**The vegetation lost on sites B and C will not have a high negative impact as the vegetation is considered to be of low conservation value due to its degraded nature and having been previously disturbed (ploughed in excess of 10 years ago).**
Residual impacts:	**Loss of significantly impacted upon indigenous vegetation and habitat.**
Cumulative impact post mitigation:	**Definite impact on indigenous vegetation and habitats.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**
OPERATIONAL PHASE	
Potential impact and risk:	**Loss of threatened plant populations.**
Nature of impact:	**Not applicable.**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**Loss of threatened plant populations.**
Nature of impact:	**Not applicable.**

4. Impact on sensitive environments (rivers, wetlands etc.)

Alternative 1 (PREFERRED) + Alternative 2	**Biological Aspect Impacts**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Impact on sensitive environments ESA (non-perennial rivers)**
Nature of impact:	**Disturbance of an ESAs (non-perennial rivers) located within the development area.**
Extent and duration of impact:	**Extent 2 (site) & Duration 2 (2 - 5 years)**
Magnitude:	**4 (low)**
Consequence of impact or risk:	**Degradation of ecological support areas (non-perennial river).**
Probability of occurrence:	**5 (Definite)**
Degree to which the impact may cause irreplaceable loss of resources:	**2-Resource may be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Irreversible (IR)**
Indirect impacts:	**Loss of significantly impacted upon habitat and bed/bank modification.**
Cumulative impact prior to mitigation:	**Loss of significantly impacted upon habitat and bed/bank modification.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**40 - Medium**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**1- Completely mitigatable (CM)**

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Proposed mitigation:	**The development excludes the ESA watercourses (non-perennial rivers) as well as a 32m buffer implemented around the identified non-perennial rivers.** **Mitigation measures to protect the ESAs and its buffer areas:** • **Construction activities must be controlled and restricted to the development footprint only.** • **The construction area and all proposed no-go areas must be demarcated before construction starts and remain demarcated throughout construction phase.** • **The construction activities must be monitored by an Environmental Control Officer.** • **All disturbed areas should receive ongoing monitoring and management of erosion and invasive plant growth.** • **Construction work must be carried out in the low rainfall season (mid to late summer) and completed in that low rainfall season to minimise the impact on non-perennial rivers.** • **Access to roads and other areas must be controlled to avoid disturbance of areas outside the development footprint. Personnel should be restricted to the immediate construction areas only.** • **Monitor construction areas frequently for signs of erosion and if signs of erosion are detected implement repair and preventative measures immediately.** • **Care should be taken that any soil used for construction or cultivation establishment purposes that is brought onto the site does not contain the seeds of alien invasive plants.** • **Ablution facilities should be available for construction workers, should be located outside the non-perennial rivers and buffer zones and should be regularly serviced.** • **Proper on-site management for the storage and use of materials waste and pesticides/weed killers to prevent any potential pollution of the non-perennial rivers should be addressed in the Environmental Management Plan for the project.**
Residual impacts:	**Loss of significantly impacted upon habitat and bed/bank modification.**
Cumulative impact post mitigation:	**The significance of the impact on the aquatic ecosystems with mitigation is expected to be low.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
OPERATIONAL PHASE	
Potential impact and risk:	**Impact on sensitive environments ESA (non-perennial rivers)**
Nature of impact:	**Disturbance of an ESAs (non-perennial rivers) located within the development area.**
Extent and duration of impact:	**Extent 2 (site) & & Duration 5 (permanent)**
Magnitude:	**4 (low)**
Consequence of impact or risk:	**Degradation of ecological support areas (non-perennial river).**
Probability of occurrence:	**2 - Improbable (I)**
Degree to which the impact may cause irreplaceable loss of resources:	**2 - Resource may be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Partly reversible (PR)**
Indirect impacts:	**Loss of habitat and ecological support areas.**
Cumulative impact prior to mitigation:	**Loss of habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**22 - Low**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**

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Degree to which the impact can be mitigated:	**1- Completely mitigatable (CM)**
Proposed mitigation:	**The ESA watercourses (non-perennial rivers) as well as a 32m buffer implemented around the identified non-perennial rivers must be protected from degradation as a result of cultivation activities occurring adjacent to these features. Mitigation includes but is not limited to:** • **All no-go areas must remain demarcated throughout the operational phase. Demarcation must be by means of basic fence i.e. standard wooden droppers with 1 to 2 wire strands.** • **Should any disturbance i.e. erosion occur within the no-go areas / buffer areas the affected areas should immediately be rehabilitated, and prevention measures must be put in place to ensure that the disturbance does not happen again.** • **All alien invasive plant species must be removed and managed on an ongoing basis from the no-go areas. Removal of alien invasive plant species must take place according to CapeNature approved methods, having the least negative impact on the environment.** • **Only use one existing access road to the sites for operational purposes and avoid disturbance of "new" areas outside the existing access road and infrastructure footprint.** • **Rehabilitate or stabilise eroded areas immediately to prevent increase in erosion.** • **Fertilisers used within the proposed cultivated lands must not contain any weed or alien invasive plant species seeds.** • **Ablution facilities should be available for operational workers, should be located outside the non-perennial rivers and buffer areas and should be regularly serviced.** • **Proper on-site management for the storage and use of materials waste and pesticides/weed killers to prevent any potential pollution of the non-perennial rivers should be addressed in the Environmental Management Plan for the project**
Residual impacts:	**Loss of habitat.**
Cumulative impact post mitigation:	**None.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**Similar to that in development phase.**

Socio-economic

5. Increase in jobs

Alternative 1 (PREFERRED) + Alternative 2	**Socio-Economic Impacts**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Increased jobs**
Nature of impact:	**Temporary jobs will be created for the establishment of apple orchards and the upgrading of the drainage line crossing.**
Extent and duration of impact:	**Extent 2 (On site or within 100 m of the site) & Duration 1 (0 – 1 years)**
Magnitude:	**0**
Consequence of impact or risk:	**Influx of contract workers due to lack of skills.** **Influx of job seekers due to jobs created.**

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	Littering.
Probability of occurrence:	**4 (most likely)**
Degree to which the impact may cause irreplaceable loss of resources:	**NA – Positive**
Degree to which the impact can be reversed:	**NA – Positive**
Indirect impacts:	**NA – Positive**
Cumulative impact prior to mitigation:	**NA – Positive**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**24 – Low (positive)**
Degree to which the impact can be avoided:	**NA – Positive**
Degree to which the impact can be managed:	**NA – Positive**
Degree to which the impact can be mitigated:	**NA – Positive**
Proposed mitigation:	**Local contractors, employing or seeking to employ local (historically disadvantaged individuals (HDIs) from the region who are suitably qualified, should get preference.** **The municipality, local community and local community organizations should be informed of the project and potential job opportunities by the developer.**
Residual impacts:	**NA – Positive**
Cumulative impact post mitigation:	**NA – Positive**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low - Positive**
OPERATIONAL PHASE	
Potential impact and risk:	**Increased jobs**
Nature of impact:	**Jobs will be created. The locals may not have sufficient skills to utilize the employment opportunities and "others (work force and job seekers)" may be employed from outside the community.**
Extent and duration of impact:	**Extent 2 (site) & Duration 5 (permanent)**
Magnitude:	**0**
Consequence of impact or risk:	**Influx of contract workers due to lack of skills.** **Influx of job seekers due to jobs created.** **Littering.**
Probability of occurrence:	**4 (most likely)**
Degree to which the impact may cause irreplaceable loss of resources:	**NA – Positive**
Degree to which the impact can be reversed:	**NA – Positive**
Indirect impacts:	**NA – Positive**
Cumulative impact prior to mitigation:	**NA – Positive**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**28 – Low (positive)**
Degree to which the impact can be avoided:	**NA – Positive**

Degree to which the impact can be managed:	**NA – Positive**
Degree to which the impact can be mitigated:	**NA – Positive**
Proposed mitigation:	**Local contractors, employing or seeking to employ local (historically disadvantaged individuals (HDIs) from the region who are suitably qualified, should get preference.** **The municipality, local community and local community organizations should be informed of the project and potential job opportunities by the developer.**
Residual impacts:	**NA – Positive**
Cumulative impact post mitigation:	**NA – Positive**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (positive)**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**Similar to that in development phase.**

Heritage and cultural historic

6. Impact on archaeological etc.

Alternative 1 (PREFERRED) + Alternative 2	**Cultural-Historical Impacts**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**The potential impact of the proposed development on archaeological, paleontological and heritage remains.**
Nature of impact:	**The potential impact of the proposed development on archaeological, paleontological and heritage remains**
Extent and duration of impact:	**Extent 1 (Footprint) & Duration 5 (Will not cease)**
Magnitude:	**0**
Consequence of impact or risk:	**The proposed development, related facilities and infrastructure will have no impact on the cultural-historical aspects.**
Probability of occurrence:	**2 (some possibility, but low likelihood)**
Degree to which the impact may cause irreplaceable loss of resources:	**2-Resource may be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Partly reversible (PR)**
Indirect impacts:	**The proposed development, related facilities and infrastructure will have no impact on the cultural-historical aspects.**
Cumulative impact prior to mitigation:	**Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**12 – Low**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**2-Partly mitigatable (PM)**
Proposed mitigation:	**Should any burials, fossils or other historical material be encountered during construction, work must cease immediately and**

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	HWC must be contacted.
Residual impacts:	**Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.**
Cumulative impact post mitigation:	**Destruction of cultural-historical features at the site will contribute to the loss of such features in the general area due to other non-related activities. This can at all times be mitigated to prevent/ minimise the loss of such features.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
OPERATIONAL PHASE	
Potential impact and risk:	**Not applicable.**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**Not applicable.**