NSW NATIONAL PARKS & WILDLIFE SERVICE

Addendum Report

Modification of a Determined Review of Environmental Factors:
Gardens of Stone Multi-Day Walk, Section One

Original (Current) Review of Environmental Factors

CM10 reference	REF title	Determined by	Date determined
DOC24/137887	Review of Environmental Factors: Gardens of Stone Multi-day Walk, Section One	David Crust, Blue Mountains Director	4 April 2024

Addendum Report

By submitting this report for determination, the person preparing it and the proponent of the modified activity certify they have reviewed and endorsed the contents of this document and, to the best of their knowledge, it is in accordance with the *Environmental Planning and Assessment Act 1979*, the EP&A Regulation and the Guidelines approved under section 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.

Stage	Position	Contact person	Date finalised
Prepared by	Consultant	Jessica Davis, Project Manager and Ecologist Lesryk Environmental Pty Ltd	Draft V1: 17 December 2024 Draft V2: 9 January 2025 Final: 13 January 2025
Reviewed by	Consultant	Kerrie Symonds, Eco Projects Director	29 January 2025
Endorsed by proponent			

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1. Overview

1.1 Current activity as determined under the EP&A Act

The activity assessed and determined under the NSW *Environmental Planning and Assessment Act 1979* (EPA Act) is the establishment of the first section of the Gardens of Stone Multi-day Walk, comprising a 12 km section of new walking track. The activity as per the determined Review of Environmental Factors (REF) involves the conversion of an unauthorised motorcycle trail to a Grade 3 walking track within the Gardens of Stone State Conservation Area (SCA). Two dedicated helicopter landing pads were also included in the determined REF. The first section comprises roughly 40% of the total 30 km multi-day walk.

An REF was prepared by Lesryk Environmental Pty Ltd ('Lesryk') and determined by NPWS on 4 April 2024, prior to construction. Works commenced in late April 2024, with construction nearing 80% completion in January 2025. Programmed works are tracking as planned, with stage one works estimated for completion in June 2025.

1.2 Proposed modification to activity

The modification to the approved activity involves the realignment of 469 metres (m) of the walking track that occurs within the northern extent of the alignment assessed in the determined REF (Appendix A; Figure 1). The new alignment is proposed to follow a former unauthorised motorcycle track that has been used between Western Boundary Road to Birds Rock Trail, north of Carne Creek.

Use of this realigned length of track followed the conducting of a qualitative review in June 2024 and subsequent quantitative risk assessment on geotechnical hazards in the area (Jacobs Group Australia ['Jacobs'] 2024).

The works outlined in the determined REF included a track diversion from the existing motorcycle track to enhance the visitor experience and capture key points of interest. However, a track diversion is now recommended to manage potential geotechnical risks.

The recommended realignment remains wholly within the footprint of the existing motorcycle track, which has been significantly impacted by previous unauthorised use.

The modified track alignment will fully convert the motorcycle track to a walking track, removing the need for additional remediation of the heavily eroded track. It also manages geotechnical risks without significantly compromising the visitor experience. The full scope is outlined below in section 2.2.1.

1.3 Justification for the modification

NPWS completed a qualitative review on geotechnical hazards in the area of the proposed realignment prior to commencing construction. The qualitative review was assessed as low risk and referred to Jacobs for further assessment as part of a broader review on the Gardens of Stone Multi-day Walk. Geotechnical advice received from Jacobs resulted in the recommendation that the track be diverted to avoid hazards and manage risks associated with potential rockfall, including loss of human life (Appendix B) (Jacobs 2024).

The track alignment has been thoughtfully considered to minimise environmental impacts, leverage natural assets and support sustainable ongoing maintenance. Best practice remote area facility principles will ensure that the new track alignment will have minimal impact on

natural and cultural values. Further, NPWS has considered a number of factors in establishing and refining the current alignment, including:

- incorporating points of interest, including lookouts, rock formations, rainforests, waterfalls, gullies and unique features where possible
- avoiding roads and operational mining infrastructure
- capturing a sense of remoteness
- ensuring the distances between camps can be walked comfortably in one day
- providing critical links to complementary visitor infrastructure and experiences, while supporting economic outcomes for regional towns and communities.

Construction of tracks and ancillary facilities will be according to the NPWS Parks Facilities Manual and best practice standards.

Further, the proposed new walking track linking the Gardens of Stone State Conservation Area (SCA) to the Glow Worm Tunnel has been developed in collaboration with leaders in remote walking track establishment.

2. Modification of the Gardens of Stone Multi-day Walk Section 1 alignment

2.1 The current review of environmental factors

The current REF includes the development of a 12 km new walking track and ancillary infrastructure located wholly within the Gardens of Stone SCA. The track predominantly follows an existing motorcycle track, with minor detours to improve the visitor experience and support ongoing track management.

The works assessed in the determined REF considered the construction of a publicly accessible walking track with an associated camping area and two dedicated helicopter landing pads.

The Multi-day Walk forms part of the Gardens of Stone SCA visitor infrastructure program – a $49.5 million NSW Government commitment to strengthen protection of the park while delivering meaningful economic and community outcomes for Lithgow. The walk supports visitor dispersal and provides new opportunities for regional tourism development in NSW, and has been developed to cater for both independent and guided walkers.

The proposed work is consistent with the *Gardens of Stone State Conservation Area Plan of Management*, which provides for the development of a multi-day walk and associated camping areas that will be publicly accessible and includes principles outlined in Section 4 of the plan which are summarised below (NPWS 2022):

- Section 4.1: The track is located in Wiradjuri Country and bypasses many known and likely unknown Aboriginal sites, providing opportunities for interpretation.
- Section 4.2: The park contains a range of biodiversity values. NPWS will develop and implement strategies for the management of biodiversity values, including priority areas that have been impacted by off-road vehicle activity. The work improves biodiversity outcomes by converting a significantly eroded, unauthorised motorcycle track to a low impact walking track.
- Section 4.4: Establishing the park as a major new visitor destination will require high-quality access roads, signs and carefully designed facilities that meet the needs of future visitors, including camping areas, toilets, information shelters, lookouts and walking and cycling tracks. Once constructed, this infrastructure will provide opportunities for a broad range of safe, attractive and environmentally sustainable experiences to help drive the growth of tourism in the region.

This action will also support other policies and outcomes outlined in the PoM, including conservation programs and caring for Country.

2.2 The scope of the modification

Modification description

NPWS is proposing the realignment of 469 m of the approved Section 1 walking track following qualitative review of geotechnical risks and a subsequent quantitative risk assessment. An inspection of the walking track by Jacobs to inform a Slope Risk Assessment, focussed on an area that passes through a narrow slot (situated north of Carne Creek), which has been considered to have potential rockfall sources from the cliffs surrounding the slot (Appendix B). Hazards that could impact the track include toppling and

planar sliding failures initiating from the cliffs on both sides of the “slot” feature (Jacobs 2024). Furthermore the “slot” features act as a funnel, such that rockfalls impacting the upper slope are likely to be directed downslope, potentially impacting the walking track alignment at multiple locations (Jacobs 2024).

The proposed realignment is situated between 50-105 m south-west of the approved current alignment, and follows a former unauthorised motorcycle track that was established when the area was recognised as a State Forest (see Figure 1 in Appendix A).

Following the Australian Walking Track Grading System, the track standard will be a combination of Grade 3 and Grade 4. Track width will vary between 600 mm and 900 mm and will primarily involve the use of timber steps, carved steps, sandstone steps and drains, with safety barriers as required. Timber steps and local stone will be used in the construction.

During the construction phase of the project, it is expected that an additional disturbance footprint of no greater than 2 m either side of the track would be required to permit the movement of machinery and personnel.

The alignment will be sympathetic to the topography of the landscape. During the course of its operation, tree management, including pruning and removal, may be required to manage any hazardous trees. This would be conducted in accordance with NPWS's *Tree Risk Management Policy*, noting that mature and high-value trees (i.e., hollow-bearing trees [HBT]) will be retained where possible.

Where applicable, any materials won during the work, including that associated with the benching sections of the track will be reused on site.

After construction, areas adjacent to the established track would be permitted to naturally regenerate. Based on the observations made during the course of botanical surveys conducted to inform the approved REF, natural regeneration from a viable soil seedbank is evident.

Category of modification

This modification is considered a Category B ‘negligible’ modification as it is substantially the same level of disturbance considered and assessed in the determined REF. The construction methods used to establish the walking track along the proposed realigned length will remain the same and will have no greater impact to the surrounding environment than the alignment assessed in the approved REF.

Scope of works associated with the modification

The scope of the modification to the activity is outlined in Table 1.

Justification for modification

The proposed modified activity is justified as it manages potential geotechnical risks, including loss of life, with no greater impact to natural or cultural values than the determined proposal.

Any impacts that may arise during the construction and operations of the walking track have been assessed, with applicable safeguards listed in Section 9 of the approved REF (also presented in Appendix F of this Addendum Report). This table has, where necessary, been updated to include any mitigation measures presented in this Addendum Report.

Table 1. Proposed modification

Reference	Current provision	Modified provision	Environmental value
Section 6.2 of current REF	Construction of tracks and ancillary facilities will be according to the NPWS Parks Facilities Manual and best practice standards. Construction methods include: • Manual track construction • Carved bedrock steps and ramps • Benching with the use of excavators, hand tools and power tools • Timber steps • Sandstone steps and drains • Vegetation clearing • Sandstone stepping stones • Timber and galvanised steel handrails and barriers	The scope of works outlined in the current provision apply to the proposed 469 m realignment.	Nil.

Substantially the same activity

The determined REF considered the establishment of the Section 1 walking track using the construction methods outlined in Table 1, these aligning with the NPWS Parks Facilities Manual and best practice standards. The 469 m realignment will be established using the same methods and does not affect the findings of the determined REF.

There is no significant change to any other aspect of what was originally proposed and described. The work considered in this Addendum report is substantially similar to the works outlined in this modified proposal. Impacts will be no greater than those outlined in the determined REF. Benefits include active management of erosion and complete conversion of a heavily degraded motorcycle track to a walking track, facilitating greater public use.

The intent of the activity remains the same, with revisions to the determined REF required to manage public safety considerations which were unknown at the time of determination, including potential geotechnical risks.

Statutory concurrence and consultation requirements

Consultation was conducted with ecologists to determine the effect of the modification on the outcome of the 5-Part Tests of Significance for threatened species in the activity footprint. There is no change to the outcome of these tests.

Consultation was undertaken with geotechnical engineers to determine the effect of the modification on geotechnical hazards and risks. The modified activity removes the need to complete major de-scaling works which would be required on the sections of track included in the determined REF.

Consultation was also undertaken with Aboriginal Cultural Heritage consultants to determine if the modification would impact Aboriginal heritage objects or places. No Aboriginal archaeological sites or areas of archaeological potential were identified within the modified sections of track.

Statutory approvals affected by the modification

No statutory approvals are affected by the modification.

Economic viability of the modification

No economic impacts will result from the proposed modification, in comparison to the costs and expenditure proposed for the current REF.

The modified track alignment presents the most cost-effective solution to manage geotechnical risks, with no de-scaling works required to manage public safety risks. The modified proposal also actively manages significant erosion caused by the existing motorcycle trail, providing cost benefits to the project.

2.3 Statutory considerations

2.3.1 National Parks & Wildlife Act 1974

The modification is consistent with objects of the *National Parks and Wildlife Act 1974* (NPW Act) through the conservation of a place or historical cultural value and 2A(c) fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation.

The modification is consistent with the following reserve management principle for state recreation areas by s.30G(2)(d) provision for sustainable visitor or tourist use and enjoyment that is compatible with the conservation of the SCA's natural and cultural values and with uses permitted under other provisions of this Act in such areas.

No further considerations are required regarding permissibility.

2.3.2 Environmental Planning & Assessment Act 1979

The proposed walking track realignment remains compliant with the EP&A Act and any relevant environmental planning instrument as assessed in Section 3.2 of the approved REF.

2.3.3 Other State or Commonwealth legislation considered

Section 3 of the determined REF addresses the following legislation:

- *Biodiversity Conservation Act 2016*
- NPW Act and NPW Regulation
- *Rural Fires Act 1997*
- *Fisheries Management Act 1994*
- *Heritage Act 1977*
- *Contaminated Land Management Act 1997*
- *State Environmental Planning Policy (Resilience and Hazards) 2021*
- *Environment Protection and Biodiversity Conservation Act 1999.*

The modification will not affect the application of any of these statutory instruments.

2.4 Impact assessment

2.4.1 Natural values

Biodiversity

To achieve the objectives of the determined REF, and assess any environmental impacts associated with the proposal, the walking track requiring investigation was traversed on foot on 25 May 2023 by Paul Burcher (B.App.Sc) [Botanist], Harry Engel (B.Mar.Sc) [Ecologist] and Isabel Burcher (B.Sc.) [Research Assistant]. At this time, though not the proposed alignment, the 469 m long section of unauthorised motorcycle track considered for use in this REF Addendum Report was also surveyed as an alternative route to that considered in the determined REF.

The investigation of the proposed realignment was conducted on foot and lasted for approximately one person hour (cumulative).

The botanical surveys conducted to inform the approved REF were undertaken in winter. This timing is outside the TBDC (DPE 2024a) recommended survey period for three of the locally occurring threatened plants that are associated with the Plant Community Types (PCTs) the proposed walking track (including the proposed realigned length) traverses, namely:

- Small Pale Grass-lily (*Caesia parviflora* var. *minor*) – listed as Vulnerable under the BC Act
- Deane's Boronia (*Boronia deanei*) – listed as Vulnerable under the BC and EPBC Act
- *Veronica blakelyi* – listed as Endangered under the BC Act.

Of these three species, during the course of the botanical surveys, it was considered that *Veronica blakelyi* would have been readily recognisable outside its flowering period. As part of the botanical assessment prepared during the course of the determined REF, a precautionary approach was taken to the presence of Deane's Boronia and the Small Pale Grass-lily.

In relation to the Small Pale Grass-lily, the only PCT along the proposed alignment that is associated with the species is PCT 3687. Compared to the determined REF, the proposed realignment would affect 82 m^2 less of this PCT (Table 2). Therefore, potential impacts on this species are reduced by the proposed realignment. Furthermore, it is considered highly unlikely that it would occur in the affected area of the PCT given the very small area of potential habitat affected (350 m^2 – Table 2).

None of the PCTs affected by the proposed realignment (Table 2) are potential habitat of Deane's Boronia. Therefore, there would be no change to potential impacts on this species.

By the completion of the fauna surveys conducted to inform the approved REF, the following birds listed under the EPBC and/or BC Acts were recorded (Appendix A; Figure 2):

- Varied Sittella (*Daphoenositta chrysoptera*) – listed as Vulnerable under the BC Act
- Flame Robin (*Petroica phoenicea*) – listed as Vulnerable under the BC Act
- Scarlet Robin (*Petroica boodang*) – listed as Vulnerable under the BC Act
- Gang-gang Cockatoo (*Callocephalon fimbriatum*) – listed as Vulnerable under the BC Act and Endangered under the EPBC Act.

In the determined REF, it was found that, in relation to the criteria provided under Section 7.2 of the BC Act (being the 'Assessment of Significance'), the proposed walking tracks would not significantly affect any of the flora or fauna species, or their habitats. Similarly, in relation to those species listed on the EPBC Act, it was found there would not be a

significant effect on these plants or animals. Given that the proposed realignment would affect less potential habitat for these species (see Table 2 below), it is considered that this conclusion remains current and updated assessments of impacts would be superfluous.

Should HBTs require removal, further assessment for those threatened hollow-dependent species previously recorded within the study area, as identified in Appendix A of the determined REF, would be required to determine if the works are likely to have a significant impact on these species or their habitat.

Any tree removals would be undertaken in compliance with NPWS' tree risk management procedures.

Modification

The proposed realignment follows a previously disturbed motorcycle track that has an existing average width of 0.5 m. The vegetation that would be affected consists of the same PCTs as that under the previous alignment, none of which are threatened ecological communities listed, or currently being considered for listing, under the BC Act or the EPBC Act (Table 2 and Appendix A; Figure 3).

Given a predicted disturbance width of 2.9 m, 1,126 m^2 of extant vegetation would be affected by the realignment. The previous (approved) 397 m alignment along this section of the track would have affected 1,151 m^2. Therefore, the proposed realignment would have less impact on the surrounding biodiversity in the study area, minimising the required disturbance/removal of vegetation to establish the 469 m portion of the Section 1 walking track (Table 2). There is a very low risk of adverse additional risks.

Table 2. Changes in vegetation impacts

PCT	Estimated area removed/ modified by original proposal (m^2) *	Estimated area removed/ modified by track realignment (m^2)	Net change (m^2)
3687 Newnes Plateau Peppermint Ash Tall Forest	432	350	-82
3694 Upper Blue Mountains Ridgetop Woodland	238	278	41
3695 Western Blue Mountains Peppermint Sheltered Forest	84	466	382
3865 Western Blue Mountains Pagoda Scrub	397	31	-366
Total	**1151**	**1126**	**-26**

* figures have been rounded to the nearest integer.

Mitigation measures

The mitigation measures outlined in the determined REF remain relevant and unchanged, including those specific to the potential presence of the following threatened plants:

- Deane's Boronia
- Small Pale Grass-lily.

The following mitigation measures regarding the potential removal of HBTs are recommended and are considered as a best practice guideline within NPWS:

- Removal of any trees is to be undertaken in compliance with NPWS' tree risk management procedures.

- Ensure that a suitably qualified and licensed ecologist (who is vaccinated for Australian bat lyssavirus) supervises the removal of HBT. Any bats found must only be handled by a person vaccinated for lyssavirus.
- Clearly mark the HBT to be removed and/or retained by differentiating with coloured flagging tape.
- Check for fauna in the zone of disturbance before clearing and scare or remove them before beginning operations.
- Remove all non-hollow bearing vegetation prior to the removal of HBT.
- After clearing, re-check to ensure no fauna have become trapped or injured during clearing operations. Any fauna found should be safely located to nearby habitat.
- Leave HBT standing for at least one night after other clearing to allow any fauna the opportunity to remove themselves after site disturbance.
- Before felling HBT, tap along trunk using an excavator or loader to scare fauna from the hollows. Repeat several times. The aim of this procedure is to 'substantially' shake the tree. The majority of fauna will exit the tree during this process.
- Re-check after felling HBT to ensure no fauna have become trapped or injured during clearing operations. Any fauna found should be safely located to nearby habitat.
- If taking the HBT tree down in stages, the non-hollow-bearing branches should be removed before the hollow-bearing branches are removed.
- Fell trees into the zone of disturbance to avoid damaging adjacent vegetation
- Take care when moving equipment near vegetation to be retained.
- Rather than mulching or burning cleared vegetation, logs from the felled trees should be distributed into areas of vegetation to be retained where it would not be considered a fire hazard. This would provide additional potential habitat for ground dwelling fauna such as reptiles and small mammals.

Environmental quality

Modification

There would be no changes to the nature, likelihood and extent of impact as a result of the track realignment compared to the determined REF.

Mitigation measures

The mitigation measures outlined in the determined REF remain relevant and unchanged.

Geodiversity, landform, soils and hydrology

Modification

The realignment recommended by Jacobs would reduce track susceptibility to rockfall impact. Track width will vary between 600 mm and 900 mm with primary use of timber steps, carved steps, sandstone steps and drains, with safety barriers as required. Timber steps and local stone will be used in the construction. Currently, the former motorcycle track exhibits significant degradation and erosion (Appendix D). The construction of the walking track at this location will address these issues, resulting in improvements to the landscape.

Mitigation measures

The mitigation measures outlined in the determined REF remain relevant and unchanged.

2.4.2 Cultural and social values

Aboriginal cultural heritage

Kelleher Nightingale Consulting (KNC) prepared an Aboriginal Due Diligence (ADD) report for the determined Section 1 walking track alignment in 2023, with an updated ADD provided to NPWS in November 2024 that considers the proposed realignment length assessed in this Addendum Report (KNC 2024) (Appendix E).

A visual inspection of the Section 1 walking track was conducted by KNC during August 2022, and again during April and June 2023. The inspection aimed to identify any Aboriginal objects or sites, and assessing the potential of the archeologically sensitive landforms within the study area to contain Aboriginal objects.

Given the proximity of the realigned section to the alignment initially assessed, KNC did not conduct any additional fieldwork as part of the ADD update.

With reference to the ADD, two previously registered Aboriginal archaeological sites, CC 3 Newnes SF (AHIMS 45-1-0177) and CC 4 Newnes SF (AHIMS 45-1-0178) were revisited and assessed during the visual inspection. Four newly recorded rock shelter sites were also identified as a result of the site inspections conducted by KNC, including two rock shelters with artefact deposit and two rock shelters with art (KNC 2024). These six sites were confirmed to be present in proximity to the Gardens of Stone Multi-day Walk – Section 1 study area (Refer to Appendix A; Figure 4 for the location of each ACH site relative to the proposed track realignment).

Section 7 of the November 2024 ADD report outlines the following management and recommendations for the walking track:

- Future detailed design and development planning for the project should take the location of the identified sites into consideration and avoid impact where possible. If impact to identified sites cannot be avoided, an AHIP for the proposal would be required.
- Future management and protection of rockshelter with art sites may consider a fire fuels hazard reduction regime (potentially with the inclusion of cultural burning activities) to prevent further fire damage to Aboriginal sites. This could include the manual removal of fuel loads directly below the rockshelter sites.

Modification

There would be no changes to the nature, likelihood and extent of impact due to the modification and resulting variation to the activity, and no likelihood of any additional risks (adverse or otherwise) to Aboriginal cultural heritage.

Whilst in the locality, no previously recorded or new sites are present in proximity to the proposed track realignment; therefore, the proposal would not alter the findings of the ADD report prepared as part of the determined REF.

Mitigation measures

The principle of avoiding and minimising harm remains the same as outlined in the determined REF and the mitigation measures in the determined REF do not need to be modified.

No variation to approvals under Part 6 of the NPW Act would be required.

Historic heritage

No additional heritages sites, other than those outlined and assessed in the determined REF, were identified within proximity to the proposed track realignment.

Modification

There would be no changes to the nature, likelihood and extent of impact due to the modification, and no residual impact.

Mitigation measures

The principle of avoiding and minimising harm remains the same as outlined in the determined REF and the mitigation measures in the determined REF do not need to be modified.

No variation to approvals under the NSW *Heritage Act 1977* would be required.

Tourism and amenity values

Modification

There would be no new changes to impact on property rights and values, amenity (due to noise, deposited dust, visual impact, lights and traffic), reduction or degradation of primary resources, impact on tourism or reduced benefits for the broader community than those previously identified.

Mitigation measures

The mitigation measures in the determined REF remain relevant and do not need to be modified.

2.4.3 NPWS functions and operations

Modification

The proposed walking track realignment would not adversely affect NPWS infrastructure or critical operations in this locality compared to the levels of impact identified and assessed in the determined REF.

Mitigation measures

There are no new mitigation measures that need to be applied to avoid disruption to NPWS operations or damage to internal infrastructure.

3. Conclusion

The proposal involves the realignment of 469 m of the previously determined Section 1 walking track that forms part of the Gardens of Stone Multi-day Walk.

The additional work from that described in the determined REF is negligible, with the total disturbance footprint size expected to be in the order of 1,126 m^2. The extent of vegetation disturbance/removal as part of these works would be less than that proposed in the determined REF, with vegetation either side of the established walking track being permitted to naturally regenerate post-work. Based on the observations made during the course of the botanical surveys conducted to inform the approved REF, natural regeneration from the soil seedbank is highly likely.

No sites of European heritage value, and no Aboriginal sites are known or were detected in proximity to the realigned section during the course of those surveys conducted to inform the determined REF. Similarly, within this section of the walk, no threatened species or ecological communities were detected.

Precautionary assessments conducted on potentially occurring threatened plants and animals that drew on the criteria provided under Section 7b of the BC Act and the EPBC Significant Impact Guidelines concluded that the track would not have a significant impact on any State or Federally listed threatened species or their habitats.

The broad environmental characteristics of the realignment which the works are to occur within remain the same as described in the determined REF. The modified works follow a disturbed former unauthorised motorcycle track, with the proposal to actively manage erosion issues while improving visitor access to the area.

There are no significant changes of any kind to the nature, likelihood and extent of impact identified and assessed in the determined REF as a result of the modification proposed. No residual impacts have been identified.

If approved, a change will be required to the REF Determination Notice to include reference of this Addendum. No change required to the Schedule of Conditions.

4. Revised technical reports, plans or designs

Attached as	Revised Document Title	Prepared by	Date
Appendix A	Figures	Lesryk Environmental Pty Ltd	December 2024
Appendix B	Slope Risk Assessment for Gardens of Stone Multi-Day Walk	Jacobs Group (Australia) Pty Ltd	18 October 2024
Appendix C	NPWS Tree risk management procedure	NPWS	October 2019
Appendix D	Photographic record	NPWS	October 2024
Appendix E	Gardens of Stone State Conservation Area, NSW: Aboriginal Heritage Assessment	Kelleher Nightingale Consulting Pty Ltd	27 November 2024
Appendix F	Impact assessment	Lesryk Environmental Pty Ltd	December 2024

Appendix A – Figures

Figure 1. Locality of proposal.

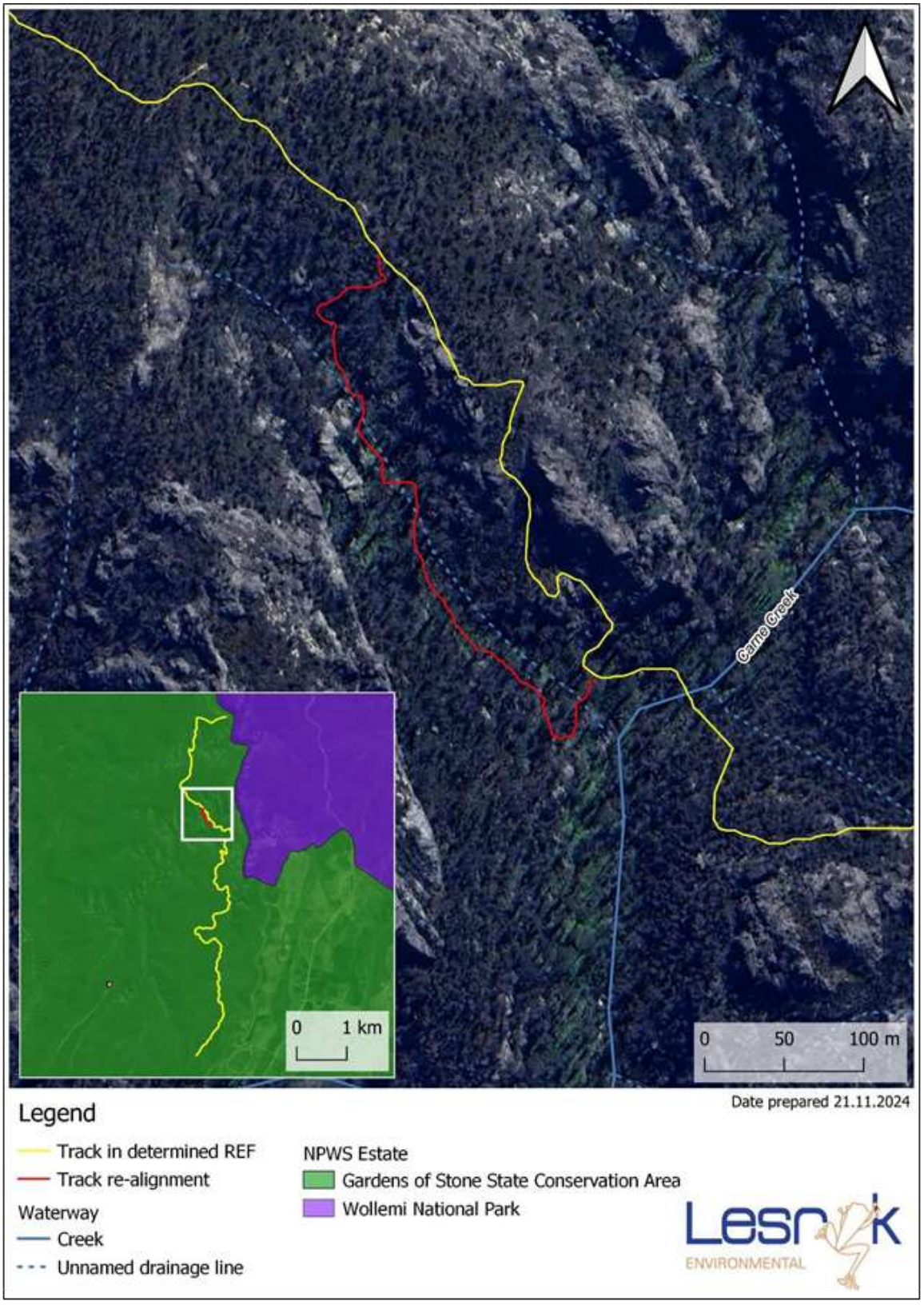
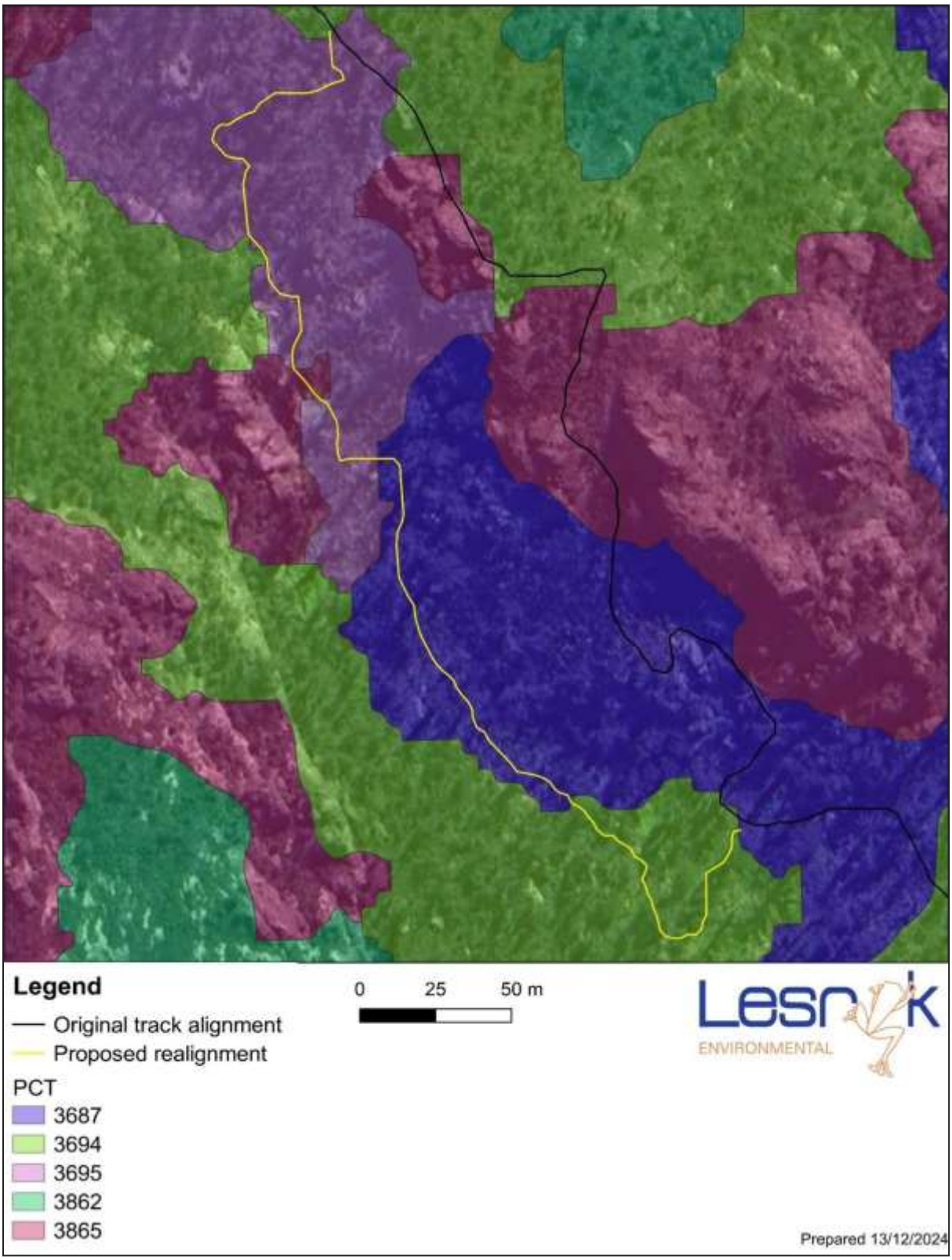


Figure 2. Threatened fauna recorded.

Figure 3. State vegetation type mapping in relation to the proposed realignment.



Source: NSW State Vegetation Type Map Release C2.0.M2.1

Figure 4. Aboriginal cultural heritage sites in relation to the proposed realignment

Source: KNC 2024 (Appendix E)
Note: Red rectangle denotes region of proposed realignment

Appendix B – Geotechnical Report

See separate document

Appendix C – Tree risk management procedure

See separate document at
Tree risk management procedures | Environment and Heritage

Appendix D – Photographic Record

Photographs of the proposed walking track realignment and existing damage from motorcycle use extracted from GoS Multi-Day Walk REF Addendum: Proposal Overview, provided by NPWS (2024).

Appendix E – Aboriginal Heritage Assessment

Separate report (KNC 2024) redacted due to culturally sensitive information

Appendix F – Impact assessment (Lesryk 2024)

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A. Impact assessment

Physical and chemical impacts during all stages of the activity

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. impact on soil quality or land stability?	☒	Low, positive	Earthwork/excavation will be required to establish and/or formalise/re-profile existing motorcycle track alignment, including the establishment of footings to support any boardwalks over the existing ephemeral drainage lines. Earthwork activities associated with construction would result in the disturbance and exposure of the track's soils. Exposure of this material could potentially cause erosion of the soils during periods of high winds, or where surface runoff is concentrated.	• An ESCP will be prepared for the proposal. • Sedimentation fencing/structures (e.g. sandbags) will be established as required prior to the commencement of works to ensure negligible impact on nearby waterways, and kept in place for the duration, of the proposed work in accordance with Landcom (2004) 'Soils and Construction: Managing Urban Stormwater' (the 'Blue Book'). • Disturbed surfaces would be compacted prior to the end of the work day or before rainfall to minimise potential for erosion and sedimentation during construction. • If required, stockpiles would be treated in accordance with Landcom (2004) 'Soils and Construction: Managing Urban Stormwater' (the 'Blue Book'). • Uncontaminated spoil would be retained and reused onsite.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
2. affect a waterbody, watercourse, wetland or natural drainage system – either physically or chemically (e.g. due to runoff or pollution)?	☒	Low.	Carne Creek is present within the study area. The proposed track alignment traverses multiple ephemeral drainage lines, and crosses the main creek in two locations. In proximity to the waterways/drainage lines present within the study area, the native riparian vegetation present will not be significantly disturbed by the proposal. As the investigated walking track essentially follows the alignment of a degraded and disturbed motorcycle track, and given the existing condition of the waterways/drainage lines present, the removal of some vegetation is not expected to cause the further instability of any waterway's banks or reduce the quality of the water Mitigation measures would be provided to prevent potential site runoff into any adjacent areas.	No further safeguards/mitigation measures than those already provided above.
3. change flood or tidal regimes, or be affected by flooding?	☐	N/A.	N/A.	N/A.
4. affect or be affected by coastal processes and coastal hazards, including those under climate change projections (e.g. sea level rise)?	☐	N/A.	N/A.	N/A.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
5. involve the use, storage or transport of hazardous substances, or use or generate chemicals which may build up residues in the environment?	☒	Low, negative short-term.	It is anticipated that, considering the machinery/equipment employed during the proposed work, there will be requirements to store and re-fuel equipment on site. These will be stored in an adequately bundled and locked receptacle on site.	• A terrestrial spill kit must be maintained on site at all times. The type and nature of the kit must be commensurate to the type and quantity of hazardous material used on site. • Should associated machinery require re-fuelling, this would occur within a bunded area at a minimum 50 m from any waterbody or drainage line. • Any associated fuel would be placed beyond the limits of nearby waterbodies within a bunded location.
6. involve the generation or disposal of gaseous, liquid or solid wastes or emissions?	☒	Low, negative short-term.	Minor exhaust emissions would result from the use of machinery during the work. These emissions would be minimal and only for the duration of the project (i.e. short-term). Waste would be disposed to authorised waste facilities.	• Vehicles would be serviced and operate within standard Transport for NSW guidelines. • Vehicles conveying materials to waste disposal sites will be covered. • Where possible, construction and demolition wastes would be recycled or reused. • Work to be conducted during those periods when high winds are not predicted. • Any clean surplus excavated soil and pruned vegetation may be retained for use on site. • Other waste would be disposed to authorised waste facilities. • Any personal rubbish would be removed and deposited in an approved waste receptacle and re-cycling methods enacted where appropriate.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
7. involve the emission of dust, odours, noise, vibration or radiation?	☒	Low, negative short-term.	The proposed work may have minor potential dust impacts associated with work activities and the presence of machinery/vehicles. There is expected to be a minor temporary acoustic and vibration impact during construction work associated with machinery and the presence of personnel, for members of the public within the surrounding area.	• Dust, odour and noise would be restricted to the construction/installation work period. • Construction activities would be limited to the period 7.00 am to 6.00 pm Monday to Friday, and 8.00 am to 1.00 pm on Saturday. • Compliance of all vehicles and machinery with industry noise guidelines.

Biodiversity impacts during all stages of the activity

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. affect any declared area of outstanding biodiversity value or critical habitat or environmental asset of intergenerational significance?	☐	N/A.	Through reference to the Australian Government's Register of Critical Habitat (DCCEEW 2023c), and the AOBV register (DPE 2023c) (in conjunction with Part 3 of the Biodiversity Conservation Regulation 2017), per listings provided under the EPBC and BC Acts, no gazetted areas of critical habitat or AOBV for any terrestrial species or communities occur within or near the proposal area.	N/A.
2. result in the clearing or modification of vegetation, including	☒	Low.	During this construction phase, 22,742 m^2 of vegetation would be potentially cleared.	• Clearing of native vegetation/plants would not be more than that required to permit the scope of work.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
ecological communities and plant community types of conservation significance? ^			The following MNES had been recorded or were considered likely to occur within or near the proposal area: • Temperate Highlands Peat Swamps on Sandstone – listed as an endangered ecological community The proposed work has the potential to affect the following biota listed on the BC Act: • Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion – listed as an endangered ecological community Assessments drawing on the criteria provided under section 7.3 of the BC Act were undertaken on the community and each of these species. It was found that, provided the recommended mitigative measures were undertaken, the proposed work would not significantly affect the community, the species, or their habitats. As such, the preparation of a SIS/BDAR is not required (Appendix A).	• Near the occurrences of the Newnes Plateau Shrub Swamp, the track would be slightly elevated off the ground and constructed of stepping stones. This would permit ground traversing fauna to negotiate the walking track unrestricted and enable light to penetrate and promote the growth of ground cover plants. • Construction should be undertaken sequentially along the track, with exposed/disturbed areas being compacted and stabilised. • As works progress along the proposed track alignment, NPWS or similar qualified personnel should conduct pre-clearing inspections of each planned section (i.e. works that are planned to progress the track over the next several days will affect areas A, B and C, these being checked before works commence). These should be conducted to determine any unexpected finds and permit any slight track deviations/realignments. • Known locations of *Persoonia hindii* would be marked on plans provided to the works contractor. • Contract staff would be briefed by NPWS staff of the conservation significance of *Persoonia hindii*, its indicative features and the need to avoid removal and/or direct/indirect disturbance • Known *Persoonia hindii* habitat adjacent to the track would be temporarily marked with exclusion tape or similar where necessary.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
				• As far as practical, sufficient buffers beyond the plants recorded will be established to prevent the individuals present being indirectly affected. • To permit future maintenance works to be conducted, the *Persoonia hindii* locations will be included in the NSW BioNet and any internal NPWS databases. • No mature or hollow-bearing trees are be removed or indirectly disturbed **unless required for safety reasons as a result of a quantitative risk assessment**. Any maintenance or management of high value trees must be completed in accordance with NPWS's *Tree risk management procedures* (NPWS 2019) and advice from a suitably qualified arborist and ecologist. • In the event trees do require clearing: – Removal of these is to be undertaken in compliance with NPWS' tree risk management procedures. – Ensure that a suitably qualified and licensed ecologist (who is vaccinated for Australian bat lyssavirus) supervises the removal of HBT. Any bats found must only be handled by a person vaccinated for lyssavirus. – Clearly mark the HBT to be removed and/or retained by differentiating with coloured flagging tape.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
				– Check for fauna in the zone of disturbance before clearing and scare or remove them before beginning operations. – Remove all non-hollow bearing vegetation prior to the removal of HBT. – After clearing, re-check to ensure no fauna have become trapped or injured during clearing operations. Any fauna found should be safely located to nearby habitat. – Leave HBT standing for at least one night after other clearing to allow any fauna the opportunity to remove themselves after site disturbance. – Before felling HBT, tap along trunk using an excavator or loader to scare fauna from the hollows. Repeat several times. The aim of this procedure is to 'substantially' shake the tree. The majority of fauna will exit the tree during this process. – Re-check after felling HBT to ensure no fauna have become trapped or injured during clearing operations. Any fauna found should be safely located to nearby habitat. – If taking the HBT tree down in stages, the non-hollow-bearing branches should be removed before the hollow-bearing branches are removed. – Fell trees into the zone of disturbance to avoid damaging adjacent vegetation

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
				– Take care when moving equipment near vegetation to be retained. – Rather than mulching or burning cleared vegetation, logs from the felled trees should be distributed into areas of vegetation to be retained where it would not be considered a fire hazard. This would provide additional potential habitat for ground dwelling fauna such as reptiles and small mammals. • All vehicles/machinery would enter the site via the existing trail network and stabilised access areas to prevent the introduction and spread of weed propagules and/or pathogens. • Refrain from parking any vehicle/storing machinery near tree trunks. • Where possible, construction machinery will be washed prior to entering and leaving site to ensure weed propagules are not transported. • The proposed activity has the potential to introduce the plant pathogens *Phytophthora cinnamomi* and Myrtle Rust. In particular, the BC Act listed *Persoonia hindii*, is at risk of infection by *Phytophthora*. Work must therefore avoid the potential spread of plant pathogens as far as possible, with contractors adhering to the following hygiene protocols: • Before entering and leaving the work site, workers are to remove excess soil and mud and then spray boots, tools, gloves and small

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
				equipment with recommended disinfectant supplied by the contractor (70% Methylated spirits / 30% Water) until runoff is clear. • Avoid unnecessary soil disturbance. • In addition to these work-related hygiene protocols, boot cleaning devices should be installed at each end of the multi-day walk to prevent visitors spreading plant pathogens. • Inadvertent disturbed areas not part of the proposed scope of work will be permitted to naturally revegetate. • Any animals injured during the proposed work would be collected and taken to a local veterinarian or wildlife carer for treatment • Once rehabilitated, native animals must be released at their point of capture. • It is expected injured exotic fauna would be ethically treated.
3. endanger, displace or disturb terrestrial or aquatic fauna, including fauna of conservation significance, or create a barrier to their movement? ^	☒	Low	The following MNES had been recorded or were considered likely to occur within or near the proposal area: • Gang-gang Cockatoo – listed as an endangered species • Blue Mountains Water Skink – listed as an endangered species. The proposed work has the potential to affect the following biota listed on the BC Act:	No further safeguards/mitigation measures than those already provided above.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			• Flame Robin – listed as a vulnerable species • Scarlet Robin – listed as a vulnerable species • Varied Sittella – listed as a vulnerable species • Blue Mountains Water Skink - listed as an endangered species • Giant Dragonfly - listed as an endangered species • Gang-gang Cockatoo - listed as a vulnerable species. Assessments drawing on the criteria provided under section 7.3 of the BC Act were undertaken on the community and each of these species. It was found that, provided the recommended mitigative measures were undertaken, the proposed work would not significantly affect the community, the species, or their habitats. As such, the preparation of a SIS/BDAR is not required. While the proposed work may temporarily disturb fauna species during construction/installation work due to associated noise, the proposal would not significantly endanger, displace or disturb native fauna, or create a barrier to their movement patterns.	
4. result in the removal of protected flora or plants or fungi of	☒	Low.	The following MNES had been recorded or were considered likely to occur within or near the proposal area:	In addition to those measured listed above: Deane's Boronia

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
conservation significance? ^			• Deane's Boronia – listed as a vulnerable species The proposed work has the potential to affect the following biota listed on the BC Act: • *Persoonia hindii* – listed as an endangered species • Deane's Boronia – listed as a vulnerable species • Small Pale Grass-lily – listed as an endangered species *Persoonia hindii* has been recorded at numerous locations along the southern half of the proposed walking track alignment. In order to upgrade the existing informal motorcycle trail to a walking track of 1 m width, the proposed work has the potential to directly remove some stems of the species that are currently growing adjacent to the extant track which is generally less than one metre wide. At these locations the track would be diverted to avoid removal of these stems. Assessments drawing on the criteria provided under section 7.3 of the BC Act were undertaken on the community and each of these species. It was found that, provided the recommended mitigative measures were undertaken, the proposed work would not significantly affect the community, the species, or their habitats. As such, the preparation of a SIS/BDAR is not required (Appendix A of the Approved REF).	– a pre-works survey for Deane's Boronia be undertaken where the alignment traverses affected potential habitat (Newnes Plateau Shrub Swamp [PCT 3945} and adjacent Upper Blue Mountains Fringing Swamp Woodland [PCT 3691) during the appropriate survey season (September to November) – should any plants be detected, the track would be re-routed to avoid their removal – should any plants be detected, their location would be marked on the works plans – contract staff would be briefed by NPWS staff of the conservation significance of Deane's Boronia and the need to avoid removal and disturbance, should it occur. – confirmed Deane's Boronia habitat areas adjacent to the track would be marked with exclusion tape or similar where necessary. <u>*Persoonia hindii*</u> – known locations of *Persoonia hindii* would be marked on the works plans – contract staff would be briefed by NPWS staff of the conservation significance of *Persoonia hindii* and the need to avoid removal and disturbance

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
				– *Persoonia hindii* areas adjacent to the track would be marked with exclusion tape or similar where necessary. – Hygiene protocols to prevent the spread of *Phytophthora* adopted and implemented. – Upon completion of track construction, boot cleaning devices be provided at the start of the walk with accompanying signage highlighting the conservation significance of the species and the importance of this practice in maintaining and protecting the population. Provided the safeguards for track construction and subsequent visitor use are adopted, the local population is unlikely to be placed at risk of extinction. <u>Small Pale Grass-lily</u> – pre-works survey for Small Pale Grass-lily be undertaken where the alignment traverses affected potential habitat (PCTs 3687, 3688 and 3945) during the appropriate survey season (October to February) – known locations of the Small Pale Grass-lily (including the North Ridge Road record) would be marked on the works plans – contract staff would be briefed by NPWS staff of the species conservation significance and need to avoid removal and disturbance

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
				– known and confirmed Small Pale Grass-lily habitat adjacent to the track would be marked with exclusion tape or similar where necessary. Provided these safeguards are adopted, there would be no removal of any individuals of the species during the proposed work. For further detail refer to Appendix A of the Approved REF.
5. contribute to a key threatening process to biodiversity or ecological integrity?	☒	Low.	Of the KTP listed under the EPBC, BC and/or FM Acts, those that are relevant to the proposal are identified below. Based on the adherence of those recommendations provided in Section 5.3 and 7 of this report, the proposal can proceed as planned without contributing to, or increasing the impact of, the following KTPs: • Clearing of native vegetation (BC Act) • Degradation of native riparian vegetation along NSW water courses (FM Act) • Infection of native plants by Phytophthora cinnamomi (BC Act) • Dieback caused by the root-rot fungus (Phytophthora cinnamomi) (EPBC Act) • Introduction and establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae (Myrtle Rust) (BC Act).	In addition to any safeguards/mitigation measures already provided above: • *Phytophthora cinnamomi* and Myrtle Rust are area associated with the dieback of native plant species in Australia. Work must therefore avoid the potential spread of these organisms as far as possible by adhering to the following hygiene protocols: • Remove excess soil and mud and then spray boots, tools, gloves and small equipment with recommended disinfectant supplied by the contractor (70% Methylated spirits / 30% Water) until runoff is clear. • Avoid unnecessary soil disturbance.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
6. introduce weeds, pathogens, pest animals or genetically modified organisms into an area?	☒	Low	The scope of work proposed would not intentionally introduce, or benefit the presence of noxious weeds, vermin or feral species, or genetically modified organisms to the local area. Soil disturbance associated with construction of the track could favour the establishment of invasive plant species such as annual and perennial species of the Asteraceae (daisy) family such as Catsear (*Hypochaeris radicata*) which was observed at one of the locations where the proposed track alignment crossed the swamp. Were this to occur, such plants would be confined to these disturbed edges and unlikely to spread into the extant, intact area of swamp. Weed invasion is an identified threat to the Blue Mountains Water Skink. The disturbance during construction and proposed activities of the area post works may aid colonisation of it by opportunistic weeds such as Blackberry (*Rubus ulmifolius*). Disturbance of the habitat may also permit introduced predators access to portions of the swamp community not previously accessible to these species. Provided the recommended mitigative measures proposed are adopted, the activity would not result in invasive species harmful to the Blue Mountains Water Skink becoming established in its habitat beyond what may already be extant.	In addition to any safeguards/mitigation measures already provided above: • All equipment and vehicles would enter the site via stabilised accesses to prevent the introduction and spread of weed seeds and/or pathogens. • Vehicles transporting any exotic vegetation off site would ensure that their loads are covered. • Weeds could readily be controlled during routine maintenance and monitoring operations along the track.

Community impacts during all stages of the activity

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. affect community services or infrastructure?	☐	N/A.	N/A.	N/A.
2. affect sites important to the local or broader community for their recreational or other values or access to these sites?	☐	Long-term positive Short-term negative	Short-term adverse impact includes the track construction activities. Long-term benefits associated with the track's construction would offer improved infrastructure and service, conserving the natural, cultural heritage and recreational values of the area, and provide improved public safety for those visitors who frequent the area.	• To facilitate public awareness and safety regarding work in progress, management structures (i.e., fencing and signage) would be installed to manage visitor access where necessary, and ensure safety. • No work would be carried out on Sundays or during public holidays unless otherwise authorised by NPWS.
3. affect economic factors, including employment, industry and property value?	☒	Positive.	The anticipated increase in tourism to the region as a result of the proposal would increase employment opportunities, both directly linked to the Multi-day Walk, and indirectly.	No further safeguards/mitigation measures than those already provided above.
4. have an impact on the safety of the community?	☐	Positive.	The proposed track work will improve visitor safety by addressing current infrastructure, safety and environmental hazards associated with the current track.	No further safeguards/mitigation measures than those already provided above.
5. cause a bushfire risk?	☐	N/A.	N/A.	• All contractors will be required to have basic firefighting equipment (e.g., fire extinguisher etc.) on site at all times.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
6. affect the visual or scenic landscape? ^	☒	Positive.	The works will not affect the visual or scenic character of the locality. The track will be consistent with similar walks present within national parks, and will upgrade the existing motorcycle track alignment to complement the surrounding environment. Short-term, temporary noise, visual and/or vibration impact may be experienced by visitors to the surrounding area due to the presence of personnel, use of machinery and occupation of the site during the work. Minor emissions may occur as a result of the proposed work. No glare or overshadowing would occur as a result of the proposal.	• Contractor will act on any noise, vibration and other complaints. • All vehicles and machinery will be checked, and where appropriate maintained, prior to commencement of the project. • Compliance of all vehicles and machinery with industry noise guidelines.

Natural resource impacts during all stages of the activity

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. result in the degradation of the park or any other area	☐	N/A.	N/A.	N/A.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
reserved for conservation purposes?				
2. affect the use of, or the community's ability to use, natural resources?	☒	Long-term positive.	Temporary, short-term disruptions may occur to the community's ability to use natural resources; however, ultimately the objective of the proposal is to permit the construction of a walking track that increases the community's ability to use the natural resources present within this portion of RNP.	No further safeguards/mitigation measures than those already provided above.
3. involve the use, wastage, destruction or depletion of natural resources including water, fuels, timber or extractive materials? ^	☒	Low.	Natural resources including fuel, water, timber and stone will be used during the construction of the track.	• Site-won or local materials to be used wherever possible.
4. provide for the sustainable and efficient use of water and energy? †	☐	N/A.	N/A.	N/A.

Aboriginal cultural heritage impacts during all stages of the activity

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. disturb the ground surface or any vegetation likely to contain culturally modified trees?	☒	Low.	The proposed work will involve minor ground disturbance. Sites of ACH identified in the ADD will be avoided during construction (refer to section 8.3.1 and Appendix B) No culturally modified trees are present in the study area.	• In the event unexpected ACH is discovered during the course of the work, the work will cease within that area immediately and an archaeologist called to assess the find(s). Workers must contact the Project Manager to implement the NPWS unexpected finds procedure. • If ACH is identified, Heritage NSW must be notified. • Appropriate management and avoidance, or AHIP, should then be sought if Aboriginal objects are to be moved or harmed. • If human remains are found, the following will occur: • stop work • secure the site • notify the NSW Police and DPE.
2. affect or occur near known Aboriginal objects, Aboriginal places or an Aboriginal cultural asset of	☒	Low.	Recorded ACH are present within the study area (Figure 9). With reference to the ADD, two previously registered Aboriginal archaeological sites, CC 3 Newnes SF (AHIMS 45-1-0177) and CC 4 Newnes SF (AHIMS 45-1-0178) were revisited and assessed during the visual inspection. These sites were	If Aboriginal objects are unexpectedly disturbed, work in the vicinity will cease and the NPWS Aboriginal Partnerships and Heritage Unit will be contacted immediately. The NPWS Unexpected Finds Procedures would be followed.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
intergenerational significance? If so, can impacts be avoided? How?			confirmed to be located within the Gardens of Stone Multi-Day Walk – Section 1 study area. Four newly recorded rockshelter sites were identified as a result of the visual inspection, including two rockshelters with artefact deposit and two rockshelters with art. These sites were located within proximity to the study area. Refer to Appendix B, section 6.4 for detailed site descriptions and photographic records. The proposal will be conducted within previously disturbed/modified areas; as such, no unexpected ACH is anticipated to be present. There are no nearby declarations under s153G of the NPW Act of cultural assets of intergenerational significance (AIS) for Aboriginal cultural value. The study area has not been declared an Aboriginal Place under s.84 of the NPW Act.	If impact to identified Aboriginal archaeological sites cannot be avoided an AHIP issued by Heritage NSW under section 90(1) of the *National Parks and Wildlife Act 1974* would be required for the project.
3. affect areas: - within 200 m of waters - within a sand dune system - on a ridge top, ridge line or headland - within 200 m below or above a cliff face - in or within 20 m of a cave, rock shelter or a cave mouth?	☒	Low.	The proposed walking track alignment is within 200m and traverses one named waterway, Carne Creek, this present in the northern half of the area investigated (Figure 5). Multiple ephemeral drainage lines that feed this creek would also be traversed. The alignment traverses ridge tops/lines and is within 200m below or avobe cliff faces, and within 20m of caves and rock shelters. Sites of ACH have been identified within the ADD, and any	No further safeguards/mitigation measures than those already provided above.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
If so, can impacts be avoided? How?			impact to these areas would be avoided during the proposed work. The proposed track alignment is predominantly located within the footprint of a previously disturbed/modified track alignment, as such, it is considered that no ACH would be directly or indirectly impacted by the proposal.	
4. affect wild resources which are used or valued by the Aboriginal community or affect access to these resources?	☐	N/A.	N/A.	N/A.
5. affect access to culturally important locations?	☐	N/A.	N/A.	N/A.

Special explanatory note: If the above assessment indicates that there is still a reasonable risk or potential that Aboriginal objects, Aboriginal places or sensitive landscape features could be adversely affected by a proposal, consistent with the precautionary principle, it should either be reconsidered or further detailed investigations undertaken. If it is concluded that an activity **may** have unavoidable and justified impacts on Aboriginal objects or Aboriginal places, the proponent should consider applying for an Aboriginal heritage impact permit (AHIP) **under s 90 of the NPW Act**.

Other cultural heritage impacts during all stages of the activity

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. affect or occur near places, buildings or landscapes of heritage significance? ^	☒	Negligible.	A desktop review of relevant heritage databases indicated the following within, or near to, the study area: • The Wolgan Valley Railway - listed on the SHI (item # 33 3900332), Schedule 5 of the Lithgow LEP (item # 1245) and on the HHIMS (item ID 308) This runs approximately 2km to the east of the proposed Section One walking track, with the southernmost 50 metres of the proposed walking track and carpark area following the railway track through an approximate 2m high rock cutting (Figure 10).	• As the proponent and a public authority, NPWS is the consent authority. In accordance with Cl 5.10(3), NPWS must consider the effect of the proposed development on the heritage significance of the area concerned. • Contractors will be made aware of the significance of the heritage listing of the study area and to avoid any impact to the any structures associated with the item. • In the unlikely event that any significant non-Aboriginal [European] cultural heritage items are discovered during the work, a stop work protocol would be in place for unexpected archaeological finds. o All work in the area of the find would cease and a qualified archaeologist engaged to conduct an assessment. Should the assessment identify the exposed remains as 'relics' as defined by the Heritage Act, the Heritage Division, OEH would be notified in accordance with s.146 of the Heritage Act.
2. impact on relics or moveable heritage items, or an area with a	☐	N/A.	N/A.	N/A.

Is the proposed activity likely to…	Applicable? *	Impact level (negligible; or low, medium or high adverse; or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
high likelihood of containing relics? ^				
3. impact on vegetation of cultural landscape value (e.g. gardens and settings, introduced exotic species, or evidence of broader remnant land uses)?	☐	N/A.	N/A.	N/A.

^ Attach relevant supporting information where required, such as a statement of heritage impact. Consider any cultural asset of intergenerational significance for non-Aboriginal heritage value, items on the state heritage register or listed as local heritage on the local environmental plan. Also consider items on HHIMS (the NPWS s 170 register) or any relic or material evidence of non-Aboriginal origin older than 25 years, as these are protected under the NPW Regulation.

Impacts on matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act* during all stages of the activity

Is the proposal likely to affect MNES, including:	Applicable? *	Likely impact (negligible, low, medium or high adverse; or positive; or N/A)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. listed threatened species or ecological communities)?	☒	Low.	PCT 3945 Newnes Plateau Shrub Swamp, which the proposed track route traverse at four locations (Figure 6), is part of the:	• Clearing of native vegetation/plants would not be more than that required to permit the scope of work.

Is the proposal likely to affect MNES, including:	Applicable? *	Likely impact (negligible, low, medium or high adverse; or positive; or N/A)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			• BC Act listed EEC Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion • EPBC Act EEC Temperate Highland Peat Swamps on Sandstone. The track alignment has been designed to minimise impacts on the TECs. One flora species detected during the survey, *Persoonia hindii*, is listed as endangered on the BC Act. This species was found at numerous locations adjacent to the southern half of the extant motorcycle track. In association with track design staff, the track alignment will be modified during the works to avoid removal of this plant. In addition to this species, it is considered necessary to adopt the precautionary approach to the potential presence of the following flora species as they have been recorded in proximity to the proposed track alignment and suitable habitat is present along it: • Deane's Boronia – Vulnerable, EPBC Act and BC Act • Small Pale Grass-lily – Vulnerable BC Act. Four fauna species recorded during the field investigations are listed as under the EPBC and/or BC Acts: • Varied Sittella (*Daphoenositta chrysoptera*)	• Near the occurrences of the Newnes Plateau Shrub Swamp, the track would be slightly elevated off the ground and constructed stepping stones. This would permit ground traversing fauna to negotiate the walking track unrestricted and enable light to penetrate and promote the growth of ground cover plants. • Construction should be undertaken sequentially along the track, with exposed/disturbed areas being compacted and stabilised. • As works progress along the proposed track alignment, NPWS or similar qualified personnel should conduct pre-clearing inspections of each planned section (i.e. works that are planned to progress the track over the next several days will affect areas A, B and C, these being checked before works commence). These should be conducted to determine any unexpected finds and permit any slight track deviations/realignments. • Known locations of *Persoonia hindii* would be marked on plans provided to the works contractor. • Contract staff would be briefed by NPWS staff of the conservation significance of *Persoonia hindii*, its indicative features and the need to avoid removal and/or direct/indirect disturbance. • Known *Persoonia hindii* habitat adjacent to the track would be temporarily marked with exclusion tape or similar where necessary.

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			– Vulnerable BC Act • Flame Robin (*Petroica phoenicea*) – Vulnerable BC Ac • Scarlet Robin (*Petroica boodang*) – Vulnerable BC Ac • Gang-gang Cockatoo (*Callocephalon fimbriatum*) – Vulnerable BC Act, Endangered EPBC Act. With reference to the BAR (Appendix A), a review of the DCCEEW's PMST and DPE's BioNet Atlas databases (DCCEEW 2023a, DPE 2023a) identified 43 threatened flora species and 72 threatened fauna species listed under the Schedules of the EPBC, FM and/or BC Acts that have been previously recorded, or are considered to have habitat, within a 10 km radius of the study area (Appendix 1 of the BAR). The scale of work proposed is not considered to have an adverse impact on any of these species or their lifecycle requirements, would not cause the local extinction of these species, nor would it present any significant barriers to their movement patterns. Beyond the existing conditions presented within the site, the work will not fragment or isolate any of their habitat areas.	• As far as practical, sufficient buffers beyond the plants recorded will be established to prevent the individuals present being indirectly affected. • To permit future maintenance works to be conducted, the *Persoonia hindii* locations will be included in the NSW BioNet and any internal NPWS databases. • No mature or hollow-bearing trees are be removed or indirectly disturbed **unless required for safety reasons as a result of a quantitative risk assessment**. Any maintenance or management of high value trees must be completed in accordance with NPWS's *Tree risk management procedures* (NPWS 2019) and advice from a suitably qualified arborist and ecologist. • All vehicles/machinery would enter the site via the existing trail network and stabilised access areas to prevent the introduction and spread of weed propagules and/or pathogens. • Refrain from parking any vehicle/storing machinery near tree trunks. • Construction machinery will be washed prior to entering and leaving site to ensure weed propagules are not transported. • The proposed activity has the potential to introduce the plant pathogens *Phytophthora cinnamomi* and Myrtle Rust. In particular, the BC Act listed *Persoonia hindii*, is at risk of infection by *Phytophthora*. Work must therefore avoid the

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			These animals are expected to be tolerant of the current disturbance cause by the creation of an unauthorised motorcycle track and, post-work, are expected to be present within, and disperse across, both the proposed walking track and surrounding area.	potential spread of plant pathogens as far as possible, with contractors adhering to the following hygiene protocols: • Before entering and leaving the work site, workers are to remove excess soil and mud and then spray boots, tools, gloves and small equipment with recommended disinfectant supplied by the contractor (70% Methylated spirits / 30% Water) until runoff is clear. • Avoid unnecessary soil disturbance. • In addition to these work-related hygiene protocols, boot cleaning devices should be installed at each end of this stage of the multi-day walk to prevent visitors spreading plant pathogens. • Inadvertent disturbed areas not part of the proposed scope of work will be permitted to naturally revegetate. • Any animals injured during the proposed work would be collected and taken to a local veterinarian or wildlife carer for treatment • Once rehabilitated, native animals must be released at their point of capture. • It is expected injured exotic fauna would be ethically treated.
2. listed migratory species?	☐	N/A.	N/A.	N/A.
3. the ecology of Ramsar wetlands?	☐	N/A.	N/A.	N/A.

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4. world heritage values of World Heritage properties?	☐	N/A.	N/A.	N/A.
5. the national heritage values of national heritage places?	☐	N/A.	N/A.	N/A.