

Harcourt Mountain Bike Park

Possible impacts and mitigation measures

| Investigation | Summary | Key Findings | Mitigation |
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| Botanical Investigation for Rare and Threatened Species (Blue Devil Consulting) | Some significant species were found (not including <i>Ballantinia</i>). A number of re-routes are recommended, as well as ongoing management measures. | Historically very disturbed site. No <i>Ballantinia</i> found and not likely to occur. Desktop review found 52 rare or threatened taxa (VIC), and 14 taxa and Ecological communities (EPBC Act), and 15 taxa in <i>Fauna and Flora Guarantee Act</i> . 61.3ha of remnant veg, mostly on the two prominent hills. A number of lilies occur in the area. One significant Brooker's Gum found. Recommendations made for bike track re-routing and future management. | Re-route four areas of track. Two of those areas occur on the prominent north hill, which may reduce the difficulty rating of the track. One area to re-route may be difficult due to its close proximity to the Oak Forest camping ground and boundary to the site. Future management implications are to initiate a conservation management plan, as well as future management plan implications for visitor use around these areas, further studies for minimum conditions for 'Critically Endangered EC', further assessment in wetter conditions, and future planning be informed by updated vegetation mapping. |
| Preliminary Indigenous Cultural Heritage Assessment (DDWCAC) | Desktop assessment and on site survey of cultural heritage. Entries submitted to the VAHR Register. Assessments as to whether a CHMP is triggered | CHMP is triggered, as well as any ancillary activities. Observed were one possible shelter, 11 scarred trees, multiple low density artefact distributions, and artefact scatter, three historic/spiritual places. | Develop CHMP and construct in accordance with conditions. Re-route affected tracks to avoid areas of significant cultural heritage. |

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| Bushfire Management Statement (Practical Ecology) | Bushfire Hazard site assessment, landscape assessment, bushfire management statement | Landscape Typology Type 3. Bushfire can approach from one or more areas, fire may cause neighbourhood destruction, minimal fuel management, low proximity to Safe Place. Meets approved measures for landscape risk, proximity of buildings to primary access etc. Some measures are NA, although building design needs to be in accordance with these measures (not necessary for buildings to be AS3959 as they are not suitable as refuges). Access requirements placed on the design e.g. turning circles. | Identify tracks required by DELWP for fire access. Education, limit access to site on Extreme fire days, design buildings to reduce fuel build up, 10m clearing around buildings, signage, ensure access to static water sources within park are maintained. |
| Land Capability Assessment (GHD) | Provide land resource information that will facilitate the planning, design and management requirements for the Harcourt MBP. To assess the capability of the land to sustain the development. | Three quarters of the site according to Lidar is <10% grade and is considered 'most sustainable' by IMBA guidelines. The rest is >10% and would require more armouring or re-routing or avoidance of areas >20%. Site is unsuitable for a septic toilet. Some tracks are incorporated into vehicular tracks or near dam inlets and may cause increased erosion to those structures. Construction should be in accordance with IMBA guidelines. | Areas <10%: attention will be paid to drainage. Areas >10%: will need stabilization and drainage. Areas >20%: will be re-routed where possible. Otherwise construct in accordance with IMBA standards. Waterlogged and drainage areas will contain rock crossings. Re-route tracks near dam structures. Install culverts. Consideration of erosion to already existing tracks where trails intersect or run along them - re-routing where possible. Ongoing maintenance. Installing a self-contained composting toilet. |
| Historic Heritage (David Bannear, Heritage Victoria) | Summary of heritage values within the pine plantation. Some historic heritage was found, but should not be impacted upon by the proposed development. | With sympathetic planning the proposed MTB park poses no risk to heritage values of the site. The 'oak forest' is a standout feature of the Shire's heritage overlay, and thus no development should impact it. Two other sites are listed on the Victorian Heritage Register, but will be removed from the register. | Design to ensure that trails and construction do not occur in the vicinity of assets or to edge of areas. No oak trees >10cm DBH to be removed for trail construction |
| Habitat Hectare and Threatened Species Assessment (Biosis) | Based on the preliminary design of 34 km of 2m wide trail, the proposed development will require the removal of 6.245 hectares of native vegetation from within location risk A. | Key ecological values identified within the study area are as follows: • 214.779 ha of native vegetation. • Areas of White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands. • Suitable habitat for threatened fauna species. | Avoid highest quality remnant native vegetation ie that with strategic biodiversity score >0.61. Hand construction only in native vegetation with score between 0.51 and 0.6. No native trees > 10cm DBH to be removed. |

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| | <p><u>Threatened Species: EPBC Act</u></p> <p>No listed species were recorded on site, but suitable habitat is present for a number of listed fauna species.</p> | <p><i>Granitic</i> Grassy Woodland was the dominant EVC on the site, Granitic Hills Woodland EVC, Creekline Grassy Woodland, and Tall Marsh EVC (restricted to dam in south-west of site) are also present.</p> <p>It is unlikely that the trail development will constitute a significant impact on either flora or fauna species or listed communities under the EPBC Act..</p> | <p>Targeted flora survey was undertaken from the 15-17th of November 2016. The survey was timed to coincide with the flowering season for key flora species. Surveys did not find individuals. Department of Environment and Energy (DEE) confirmed at meeting on 3/3/2017 that no referral was required for the species.</p> <p>Targeted surveys for Golden Sun Moth were undertaken on 7, 13, 23 December 2016 and 3 January 2017 when conditions were suitable for male flight (above 20°C, minimal cloud cover and wind). Surveys were conducted during the middle of the day, approximately between 10 am and 3 pm. The surveys were spaced at least one week apart to capture any variation in emergence patterns. . This level of survey effort was considered sufficient to achieve the objective of confirming presence of Golden Sun Moth within the site.</p> <p>Department of Environment and Energy (DEE) confirmed at meeting on 3/3/2017 that the GSM did not exist and that no referral was required.</p> |

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| | <p>Habitat zones 1, 2, 3 & 7 may meet the definition of the White Box- Yellow Box-Blakely's Red Gum grassy woodlands and derived native grasslands community (Figure 4).</p> <p><u>FFG Act</u></p> <p>Database searches indicate that, although not recorded, four listed threatened species have at least a medium likelihood of occurrence</p> <p>Targeted flora survey was undertaken from the 15-17th of November 2016. The survey was timed to coincide with the flowering season for key flora species Surveys did not find individuals</p> | <p>Conceptual trails would remove approximately 4.789 ha of this community.</p> <p>FFG species listed as 'protected' detected included:</p> <ul style="list-style-type: none"> – Slender Sun-orchid <i>Thelymitra pauciflora</i> – Spotted Sun-orchid <i>Thelymitra ixioides</i> – Shiny Everlasting <i>Xerochrysum viscosum</i> – Fuzzy New Holland Daisy <i>Vittadinia cuneata</i> – Grey Everlasting <i>Ozothamnus obcordatus</i> – Drooping Cassinia <i>Cassinia arcuata</i> – Annual Fireweed <i>Senecio glomeratus</i> – Cotton Fireweed <i>Senecio quadridentatus</i> – Jersey Cudweed <i>Helichrysum luteoalbum</i> – Annual Cudweed <i>Euchiton sphaericus</i> | <p>Department of Environment and Energy (DEE) confirmed at meeting on 3/3/2017 that the community did not exist and that no referral was required.</p> <p>Protected Flora Permit from DELWP required for removal of listed species if/as required by the proposed works</p> |
| <p>Cultural Heritage Investigation</p> <p>(Biosis)</p> | <p>The Standard Assessment was completed over three days, 14, 15 and 17 November 2016 led by Kym Oataway (Heritage Advisor, Biosis) and assisted by Zac Spielvogel (Archaeologist, Biosis) and members from the Dja Dja Wurrung, Damien Saunders (Cultural Heritage Field Leader, DDWCAC), Harley Donnelly-Lee (Cultural Heritage Field Representative, DDWCAC) and Rick Nelson (Cultural Heritage Field Representative, DDWCAC).</p> | <p>Five existing Aboriginal places occur within the site:</p> <p>An additional five rock shelters, five scarred trees and 100 artefacts were located across the site. At least one Aboriginal historical place is still to be recorded. In addition the intangible heritage associated with Mount Alexander requires full recording to add to the cultural landscape.</p> | <p>Cultural Heritage Management Plan (under development) Conditions to include:</p> <ul style="list-style-type: none"> • The recording of the Mount Alexander cultural landscape to include the entirety of the Mount Alexander Regional Park and Mount Alexander Pine Plantation. • Where practicable, cultural heritage components, including all scarred trees and rock shelters are avoided by the final track plans. • The removal of car parking to outside the current, highly sensitive site to minimize harm to the landscape. |



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| | | | <ul style="list-style-type: none">• The two granite knolls identified with archaeological potential become no-go-zones for the construction of the mountain bike trail. The south knoll will have no trails and the north knoll may have a trail away from both ecological and culturally sensitive areas.• All known surface artefacts will be removed by DDWCAC prior to works commencing.• DELWP to sponsor excavations to assist the DDWCAC to understand the site's past use.• Identify and record oral history of the site.• Record and collect any minor artefacts uncovered during the works and return to DDWCAC.• Any discoveries of higher quality artefacts will require cessation of work and notification of DDWCAC and a salvage protocol will be implemented. |