



Good



Medium



Poor

Figure 7: Examples of trails in good, medium and poor condition.



Figure 8:
Trail Condition

Legend

Condition

- Poor
- Medium
- Good
- Site Boundary

Client: City of Cockburn
Date: 27/10/2025
Created by: B. Daniels
Image Source: Nearmap, 2025
Datum: GDA2020 / MGA zone 50
Scale: 1: 8000



Hamilton Hill and Spearwood, Western

Australia

3.2.2 Trail Use and Frequency

The most common usage type seen across site during the field survey was walking, with 75 trails recording walking as the main use. Trail frequency was determined in the field by the number of footprints or tyre tracks present (Figure 9). A total of 31 trails recorded running as the main use and 20 trails recorded biking as the main use (Figure 10). There was a total of 52 trails with a high frequency of use, 49 trails with a medium frequency of use and 25 trails with a low frequency of use during the survey (Table 3).



Figure 9: Examples of indicators of high, medium and low use observed in the field.

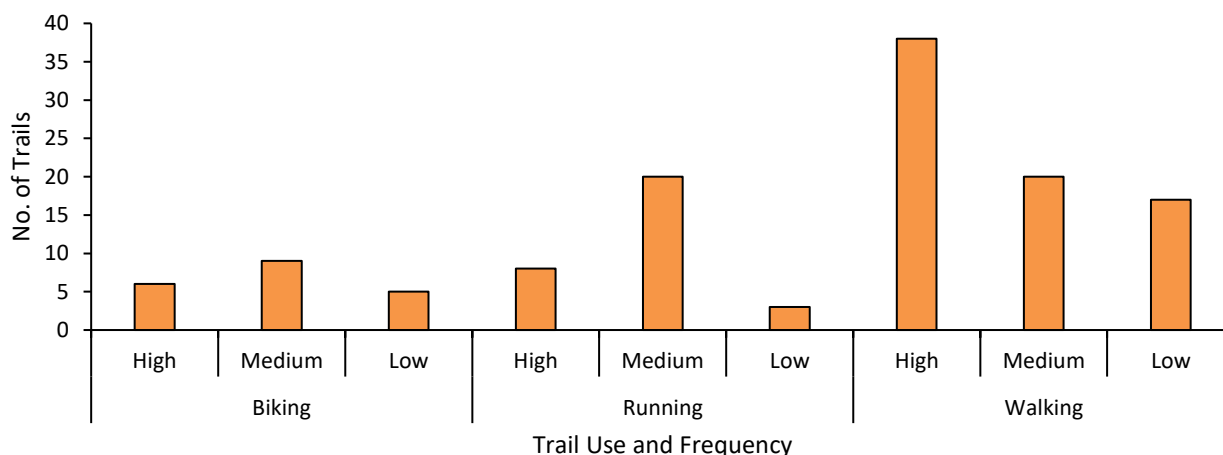


Figure 10: Trail use and frequency observed during the field survey

3.2.3 Potential Impact to Heritage or the Environment

Observed impacts were trails considered to be currently causing harm to the environment or heritage recorded instances of introduction of weeds, erosion or instances of vandalism. Trails with likely impacts included trails in the vicinity of threatened and priority flora and ecological communities, heritage sites, fauna habitat values, trails likely to exacerbate erosion and trails that have the potential to introduce and spread weeds into an area of bushland (overly sandy trails, freshly forged trails). Trails deemed unlikely to cause harm include formalised trails with a compacted base that are not likely to facilitate weed spread or erosion and trails that do not intersect with significant environmental and heritage values identified at Manning Park. A total of 15 trails recorded observations of heritage or environmental harm occurring and 52 trails recorded the potential to cause environmental or heritage harm through continued use. A total of 59 trails were recorded as unlikely to cause harm to the environment or heritage through continued use (Figure 11).



Figure 11:

Potential to Cause Environmental Harm

Legend

Environmental Harm

— Harm Observed

— Harm Likely

— Harm Unlikely

□ Site Boundary

Client: City of Cockburn

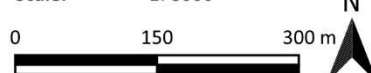
Date: 27/10/2025

Created by: B. Daniels

Image Source: Nearmap, 2025

Datum: GDA2020 / MGA zone 50

Scale: 1: 8000



3.3 Combined Trail Use Frequency Results (Strava and Field Observations)

A combined trail use and frequency was synthesised from a combination of Strava data and on-site observations. The main use was derived from a combination of Strava and field observations, and the frequency was derived from the highest frequency recorded between Strava and field observations. Trails were assigned a category according to a combination of the most predominant uses and frequencies of use:

- biking
- running/walking
- mixed use.

Mixed use trails included trails that showed differences in the most frequent use between Strava and on-site observations. Detailed use types have been provided in Appendix 1. The most common combined trail use was walking/running, with a total of 104 trails recording this as the predominant use (Figure 12). A total of 20 trails recorded mixed uses as the predominant use and 2 trails recorded biking as the predominant use. A total of 90 trails were recorded as having a high frequency of use, 19 trails were recorded as having a medium frequency of use and 17 trails were recorded as having a low frequency of use (Figures 13 to 15).

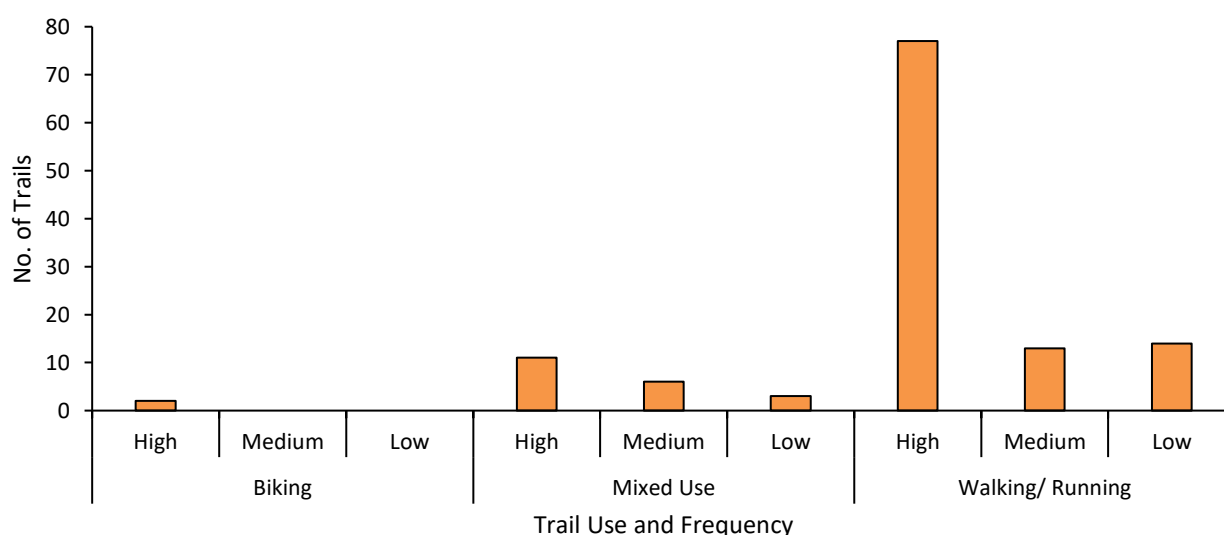


Figure 12: Combined trail use and frequency.



Figure 13:
Trail Use - Low Frequency

Legend

Use

- Mixed Use
- Running/Walking
- Site Boundary

Client: City of Cockburn
Date: 27/10/2025
Created by: B. Daniels
Image Source: Nearmap, 2025
Datum: GDA2020 / MGA zone 50
Scale: 1: 8000

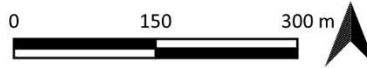




Figure 14:
Trail Use - Medium Frequency

Legend

- Use
- Mixed Use
 - Running/Walking
 - Site Boundary

Client: City of Cockburn
 Date: 27/10/2025
 Created by: B. Daniels
 Image Source: Nearmap, 2025
 Datum: GDA2020 / MGA zone 50
 Scale: 1: 8000





Figure 15:
Trail Use - High Frequency

Legend

Use

- Biking
- Mixed Use
- Running/Walking
- Site Boundary

Client: City of Cockburn
Date: 27/10/2025
Created by: B. Daniels
Image Source: Nearmap, 2025
Datum: GDA2020 / MGA zone 50
Scale: 1: 8000



4.0 Discussion and Recommendations

All factors were considered when assessing trails including the condition of the trails, trail use and frequency, the potential to cause harm to the environmental or heritage values, the continuity of the trails, and the City's requirements. It is recommended that a total of 61 trails should remain open, and 65 trails should be closed.

Trails that are recommended to remain open include trails that are required by the City (Figure 16), are not likely to cause harm to environmental or heritage values, and that have a high frequency of use. Additionally, several trails are recommended to remain open to reduce dead ends in trails, allow access into Manning Park, or to provide a better alternative to trails that are currently causing harm to environmental and heritage values. Typically, trails recommended to remain open were in good condition however, if a trail was considered to have value for use but was in poor -medium condition that trail was recommended to remain open with maintenance or formalisation. Detailed diversion and maintenance recommendations have been provided in Figures 17 and 18, and trails that are recommended to remain open are provided in Figures 19 and 20.

Several trails that are recommended to remain open will require maintenance (track pruning) to ensure safe access down these trails. A higher frequency of maintenance is recommended for high frequency of use trails due to increased likelihood of damage and degradation. These trails are typically wide enough to be considered formal however may be overgrown with vegetation. Several trails recommended to remain open are in poor condition currently and are recommended to undergo formalisation to mitigate potential effects to environmental and heritage values. Trails requiring formalisation are typically sandy trails that may have been created through unauthorised access; however, may allow continuity of a formal trail or may divert access away from environmental and heritage values.

Several trails classed as required to be kept intersect with a known heritage area or priority flora or ecological communities. It is understood the City is required to keep these trails through operational, passive recreational or statutory requirements and therefore, it is recommended that the majority of the length of these trails are kept open. However, the City may wish to consider diverting these trails to avoid negative impacts such as vandalism to heritage values. If trails are required to remain open and diversion is not favourable due to the risk of increased environmental and heritage degradation, it is recommended deterrents such as fencing and signage are installed to discourage foot traffic within high value areas. If negative impacts are observed as a result of the nearby trails, these trails should be diverted to minimise impacts. Additional recommendations that may reduce potential impacts to Manning Park include increased signage and wayfinding improvements. Users are less likely forge unauthorised tracks if they are properly informed of the direction, length, difficulty and location of a trail.

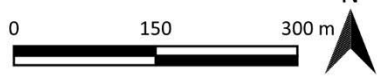
Trails that are recommended to be closed are trails that may potentially cause harm or are causing harm to environmental or heritage values, are not required for continuity of the trails, are unnecessary shortcuts, may have dangerous footing or may require excessive maintenance to remain open (Figures 21 and 22). These include the unauthorised mountain biking trails in the northern section of the site, which are recommended to be closed to discourage further trail clearing and littering in the form of creating bike jumps.



Figure 16:
City of Cockburn Required Trails to
Keep Open

- Legend**
- Keep Open
 - Site Boundary

Client: City of Cockburn
Date: 27/10/2025
Created by: B. Daniels
Image Source: Nearmap, 2025
Datum: GDA2020 / MGA zone 50
Scale: 1: 8000



383321

383449

383577

383705

383833

6449758

6449630

6449502

6449374

6449246

6449118

6449758

6449630

6449502

6449374

6449246

6449118

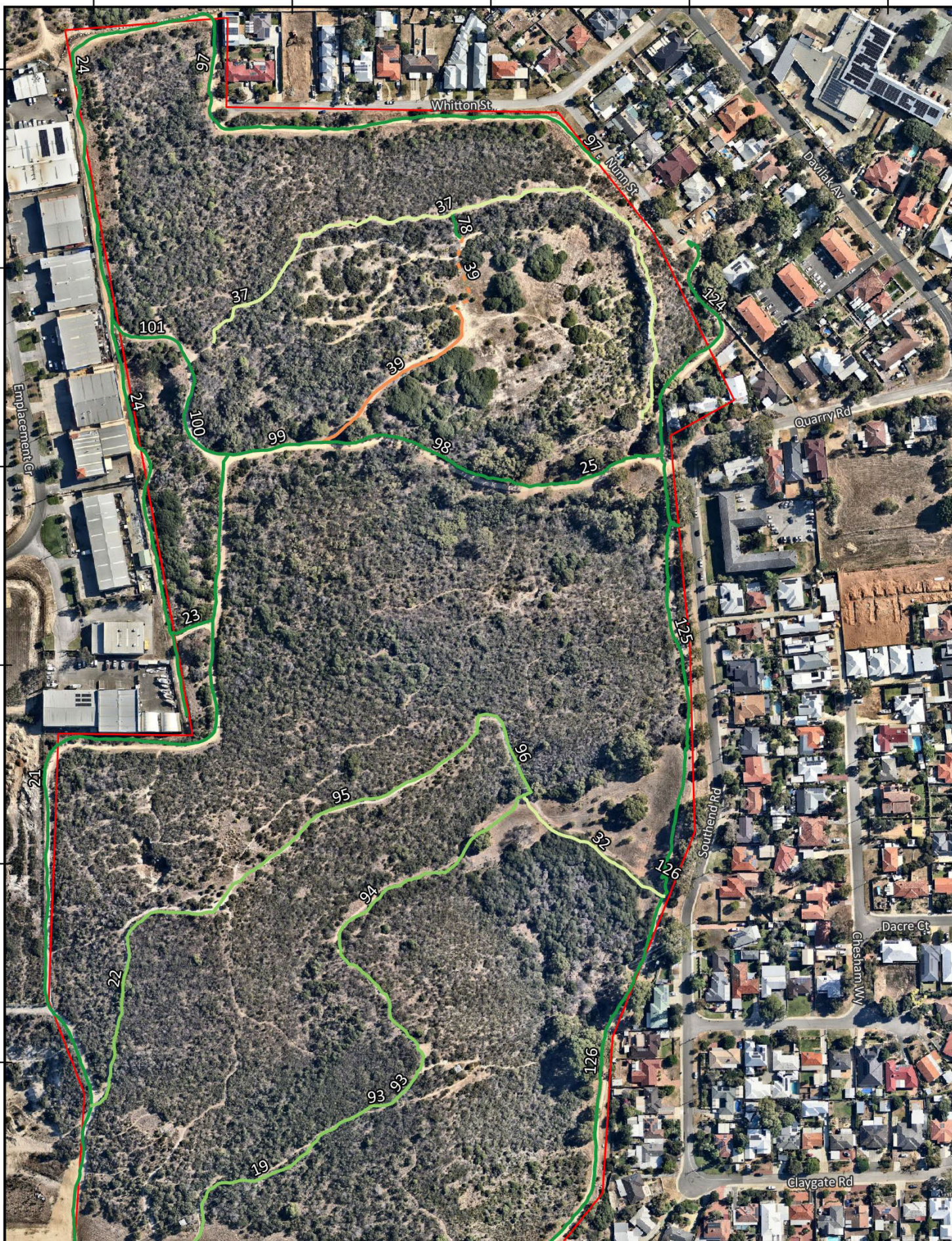


Figure 17:
Detailed Recommendations
for Open Trails
Northern Section

Legend

- Recommendations
- Potential Diversion
 - Divert Trail
 - Formalise Trail
 - Undertake Maintenance
 - No Modification

Site Boundary

Client: City of Cockburn
Date: 27/10/2025
Created by: B. Daniels
Image Source: Nearmap, 2025
Datum: GDA2020 / MGA zone 50
Scale: 1: 3200

0 50 100 m



Hamilton Hill and Spearwood, Western

Document ID: 12562297

Version: 1, Version Date: 23/12/2025

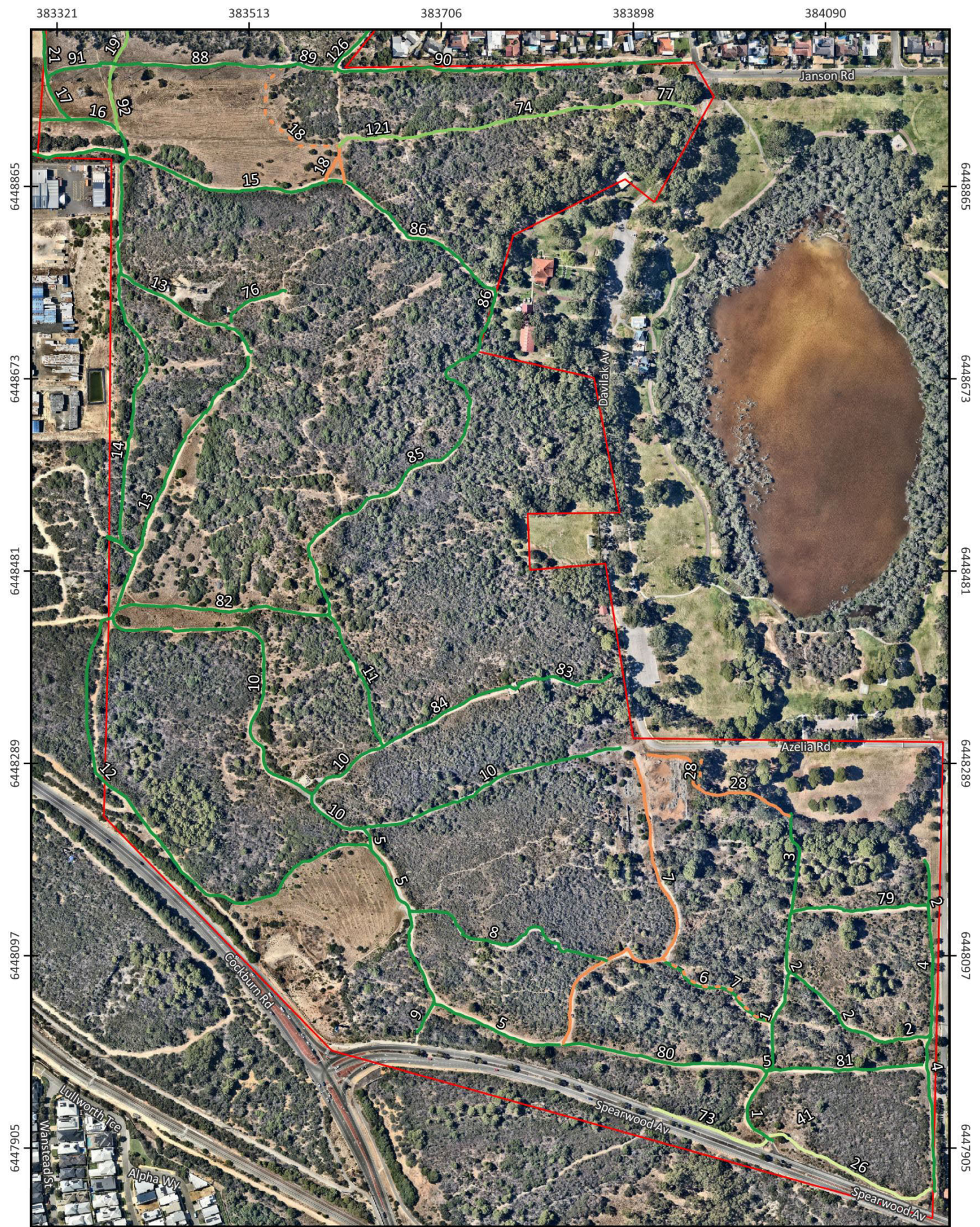


Figure 18:
Detailed Recommendations
for Open Trails
Southern Section

Legend

- Recommendations
- Potential Diversion
 - Divert Trail
 - Formalise Trail
 - Undertake Maintenance
 - No Modification

Site Boundary

Client: City of Cockburn
 Date: 27/10/2025
 Created by: B. Daniels
 Image Source: Nearmap, 2025
 Datum: GDA2020 / MGA zone 50
 Scale: 1: 4800



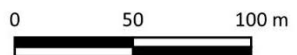


Figure 19:
Recommended Trails to Keep Open
Northern Section

Legend

- Recommendations
- Potential Diversion
 - Keep Open
 - Site Boundary

Client: City of Cockburn
Date: 27/10/2025
Created by: B. Daniels
Image Source: Nearmap, 2025
Datum: GDA2020 / MGA zone 50
Scale: 1: 3200



Hamilton Hill and Spearwood, Western

Document Set ID: 12562297

Version: 1, Version Date: 23/12/2025

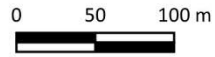


Figure 20:
Recommended Trails to Keep Open
Southern Section

Legend

- Recommendations
- Potential Diversion
 - Keep Open
 - Site Boundary

Client: City of Cockburn
 Date: 27/10/2025
 Created by: B. Daniels
 Image Source: Nearmap, 2025
 Datum: GDA2020 / MGA zone 50
 Scale: 1: 4800



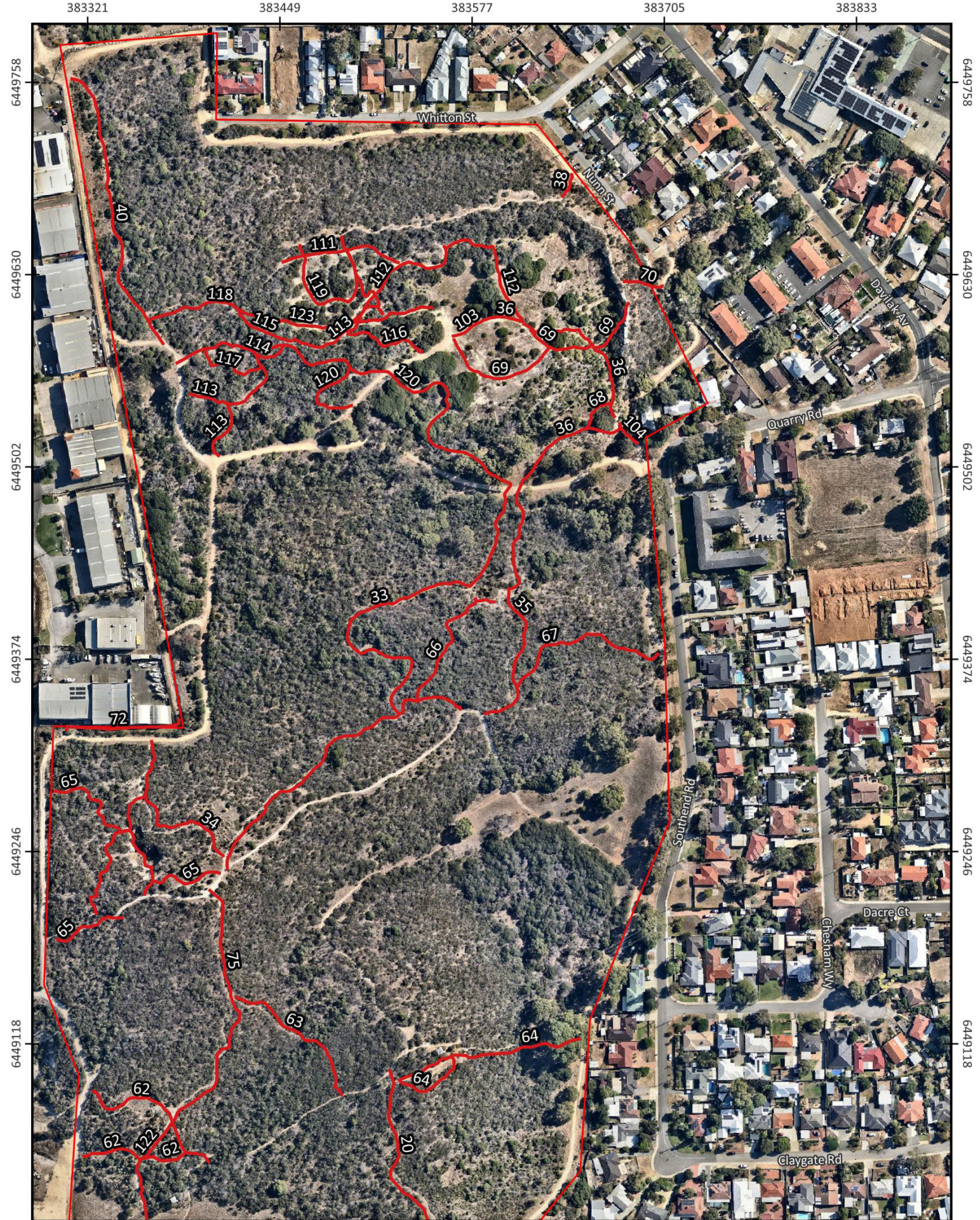


Figure 21:
Recommended Trails to Close
Northern Section

Legend
Recommendations
— Close
□ Site Boundary

Client: City of Cockburn
Date: 27/10/2025
Created by: B. Daniels
Image Source: Nearmap, 2025
Datum: GDA2020 / MGA zone 50
Scale: 1: 3200



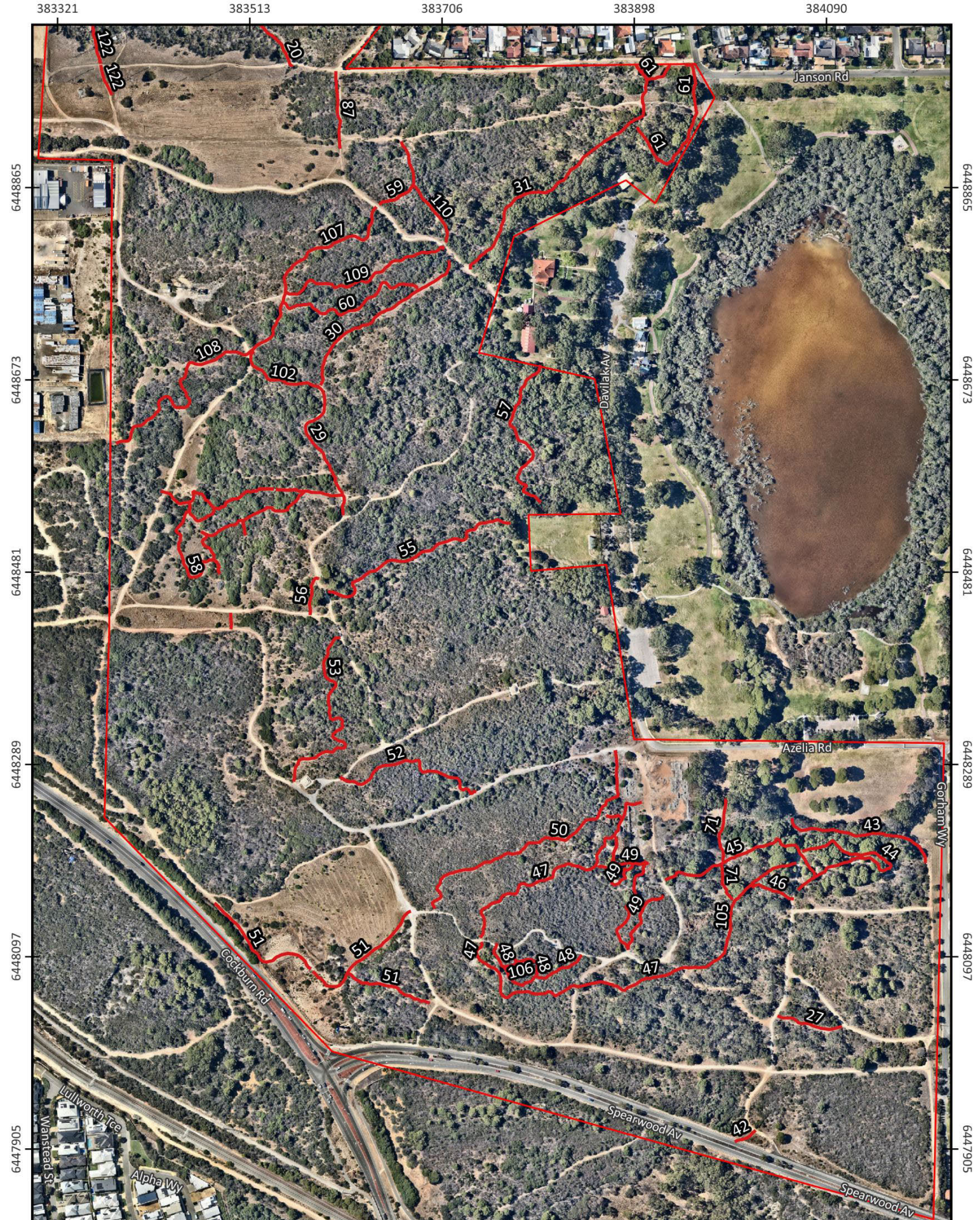
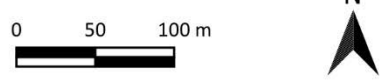


Figure 22:
Recommended Trails to Close
Southern Section

- Legend**
- Recommendations
 - Close
 - Site Boundary

Client: City of Cockburn
 Date: 27/10/2025
 Created by: B. Daniels
 Image Source: Nearmap, 2025
 Datum: GDA2020 / MGA zone 50
 Scale: 1: 4800



5.0 References

[REDACTED]

[REDACTED]

City of Cockburn. (2025). *Manning Park Trails App*. Retrieved from <https://experience.arcgis.com/experience/ed16e243e88b4a29908ad1a6ef85eb8e>

Department of Water and Environmental Regulation (DWER). (2021). Clearing Regulations - Environmentally Sensitive Areas (DWER-046) [Data set]. <https://catalogue.data.wa.gov.au/dataset/clearing-regulations-environmentally-sensitive-areas-dwer-046>

FaunaTrack. (2024). *Detailed Fauna and Fauna Assemblages Survey of Manning Park – Hamilton Hill*. Unpublished report prepared for the City of Cockburn.

Focused Vision Consulting. (2024). *Flora and Vegetation Assessment of Manning Park Reserve*. Unpublished report prepared for the City of Cockburn.

Invasive Plants and Animals Committee. (2016). *Australian Weeds Strategy 2017 to 2027*. Australian Government, Department of Agriculture and Water Resources, Canberra.

Natural Resource Management Ministerial Council. (2010). *Australia's Biodiversity Conservation Strategy 2010-2030*. Australian Government, Department of Sustainability, Environment, Water, Population and Communities, Canberra.