

# Trail Design at Petroglyph

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# Background

- PNM is located on the West Mesa, a distinct landform feature west of Albuquerque, NM. It is 7,230 acres with a 17 mile long basalt escarpment (Gellis).
- The ridgeline was formed by a series of volcanic eruptions between approximately 120,000-140,000 years ago (Zimmerer).

# Cultural Background

- Archaeological studies show that the West Mesa has been integral to human life since at least the latter Paleoindian period (ca. 10,000/9500-5500B.C).
- The escarpment contains upwards of 23,000 petroglyphs (Gellis).



# Primary Concern

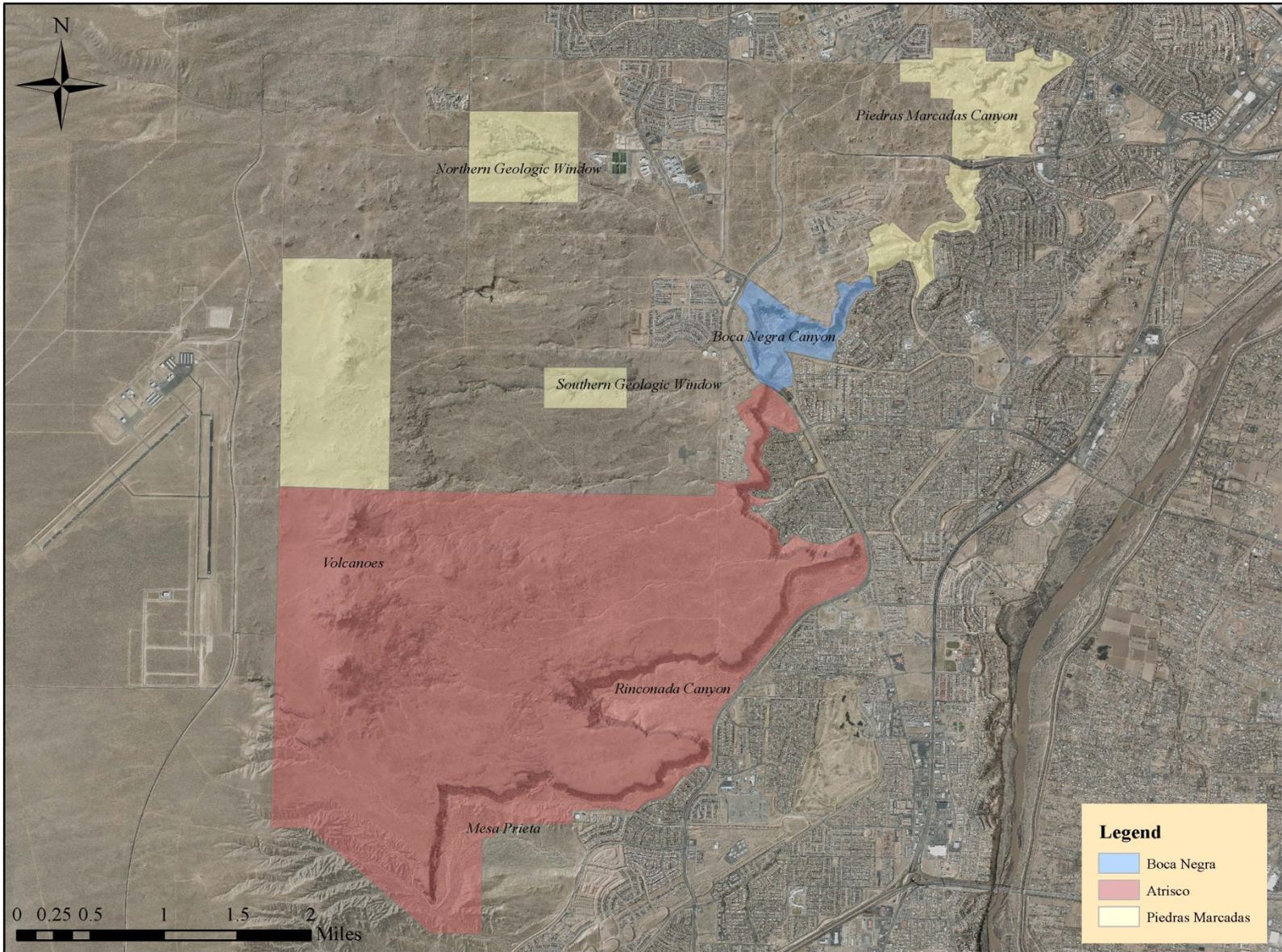
- Due to the nature of the sparse vegetation and impermeable soils, the biggest concern with trail design is dealing with erosion—specifically, gullying.
- Erosion made worse by residents neighboring the monument.

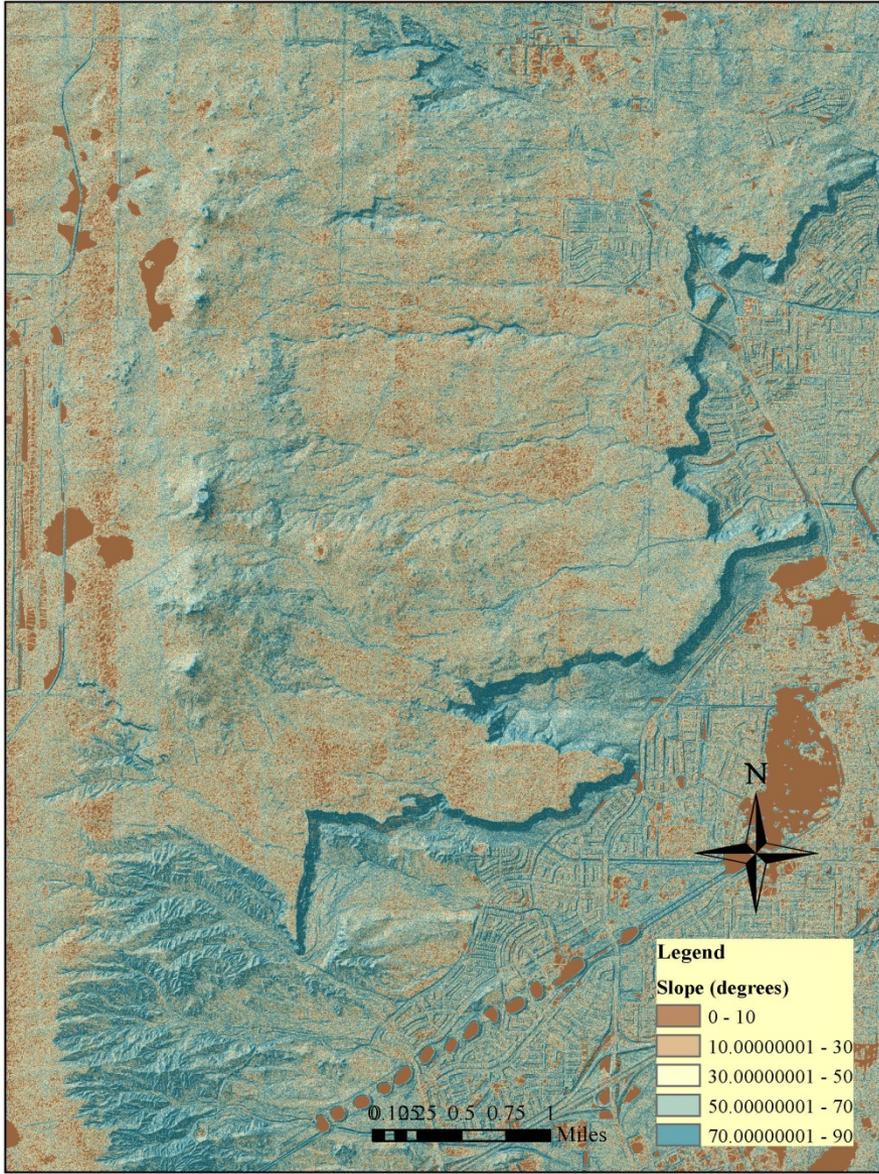


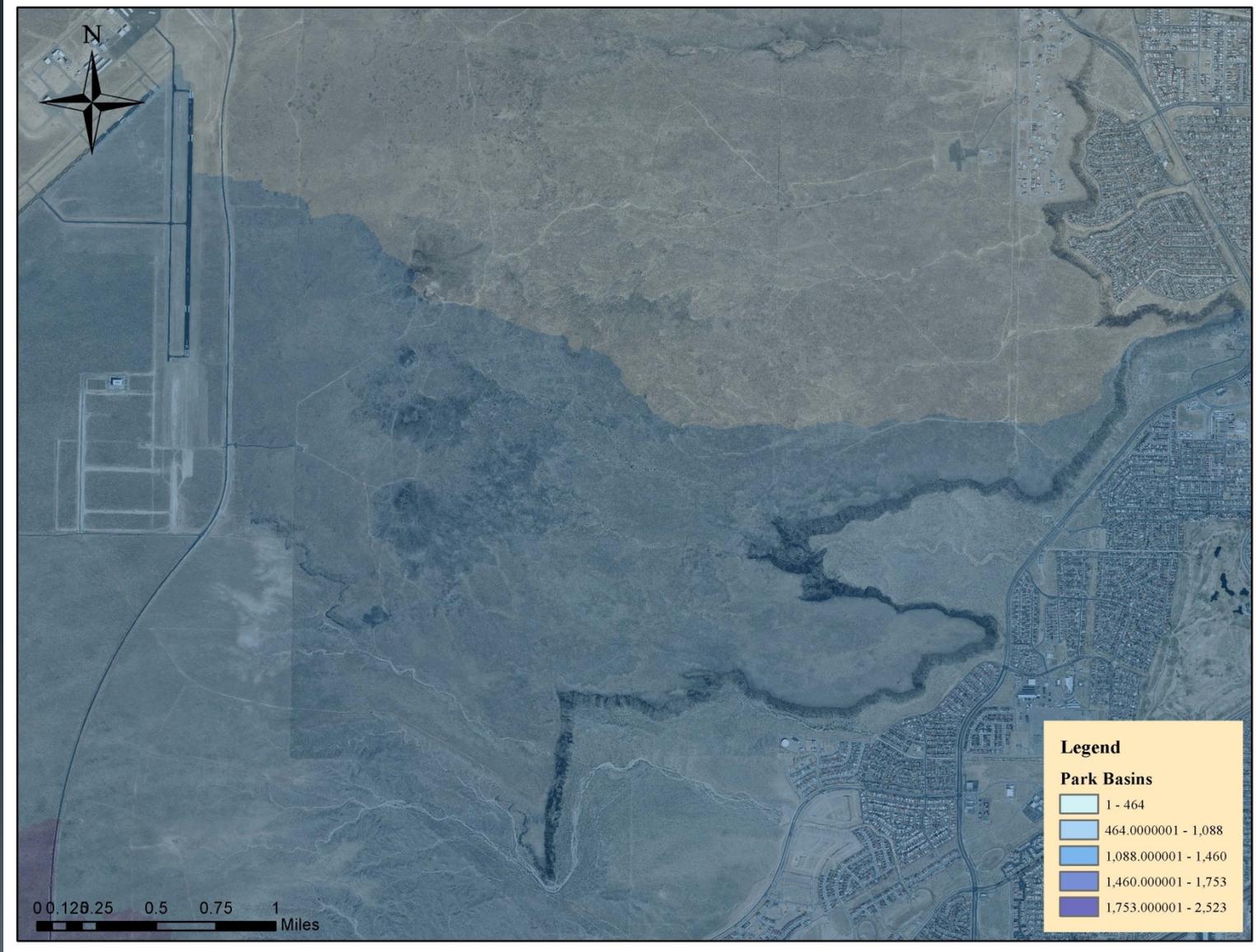


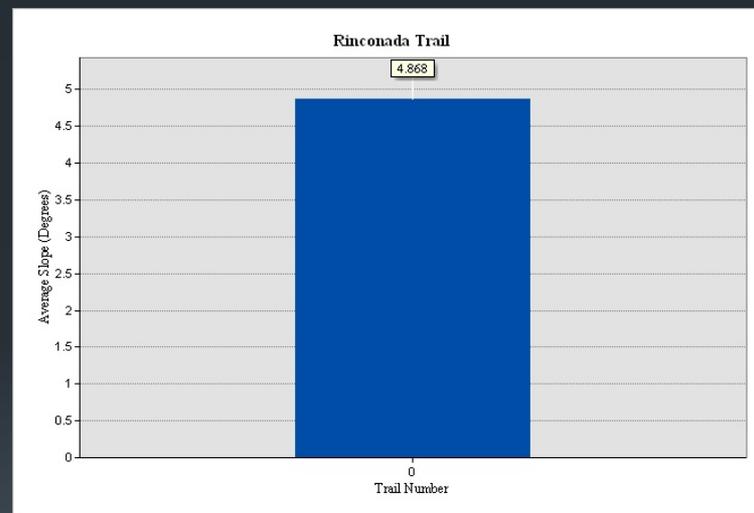
# Trail Design

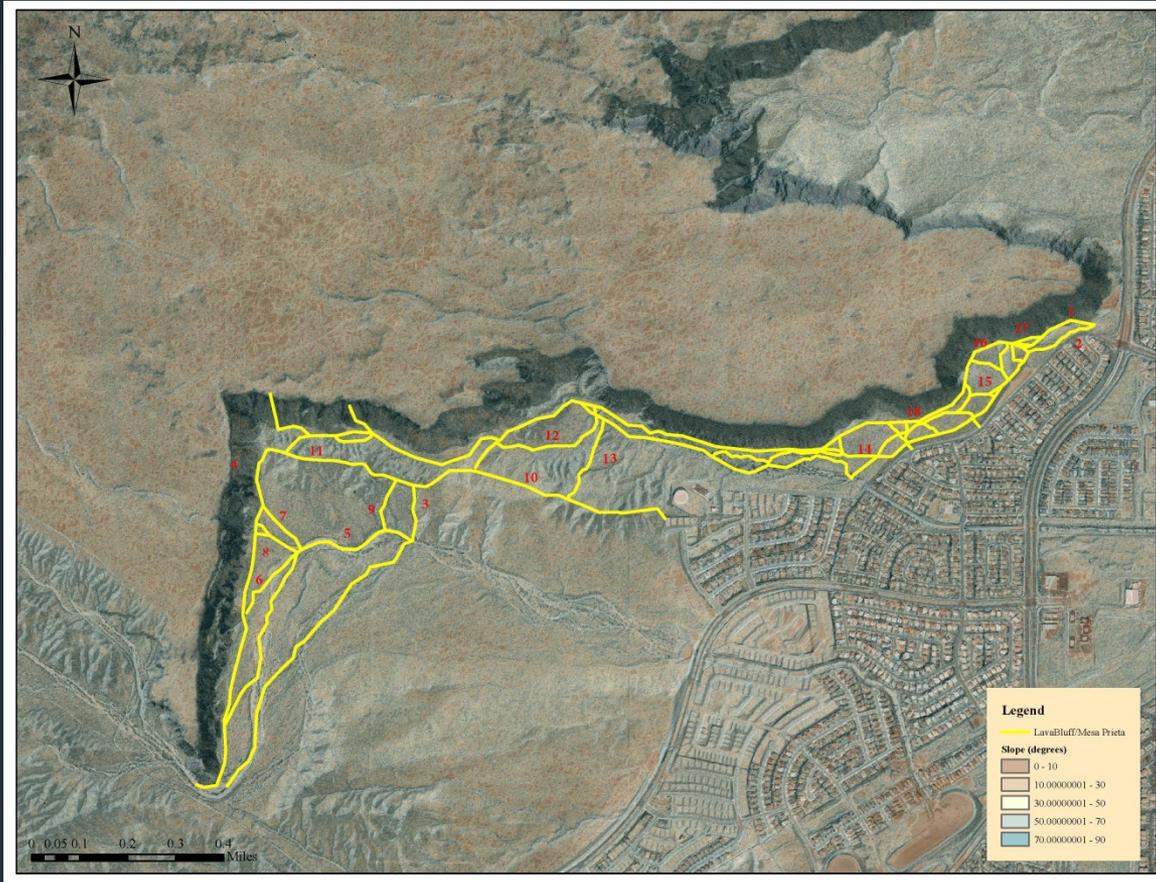
- The slope should normally be less than 10% even in steep terrain (NPS). Ideally, grades less than 7% in all soils are ideal, but in sandy soils like Petroglyph's they are almost a necessity to prevent serious erosion issues.
- In flatter areas, trails should be located with some grade in order to provide proper drainage (NPS).

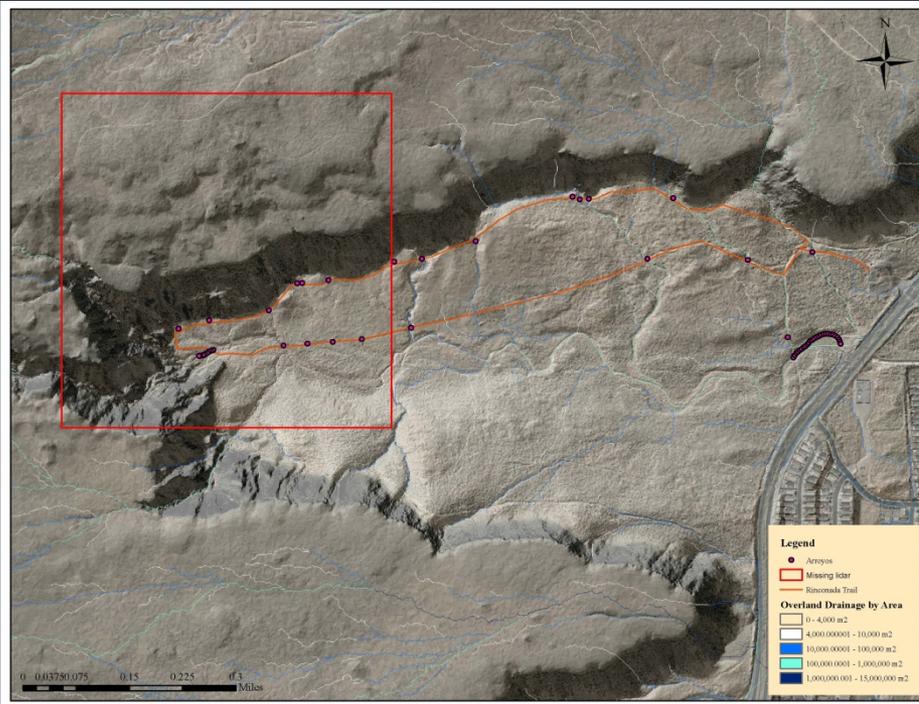




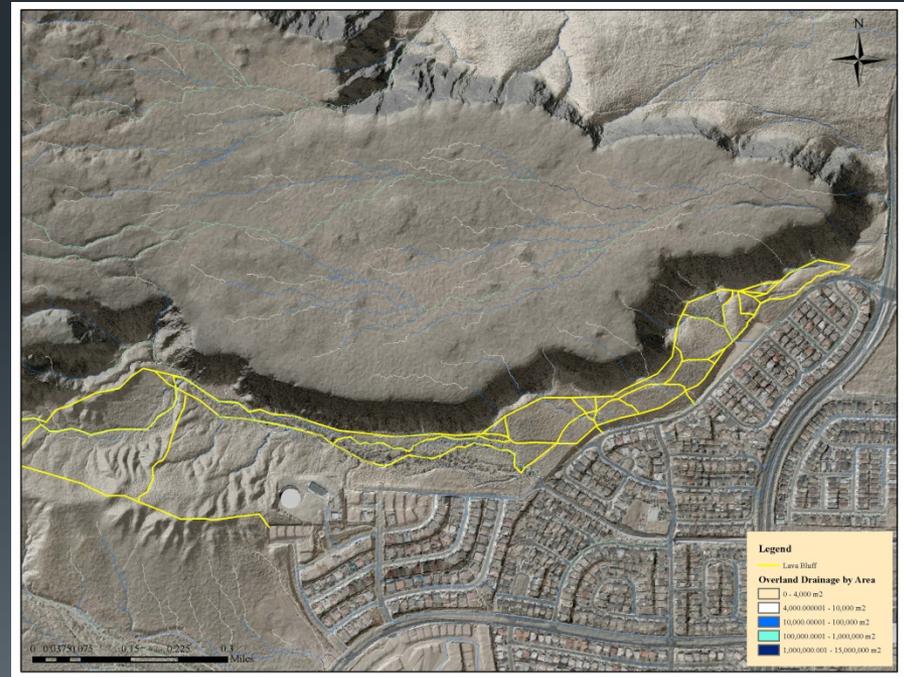




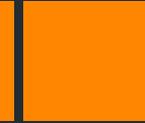


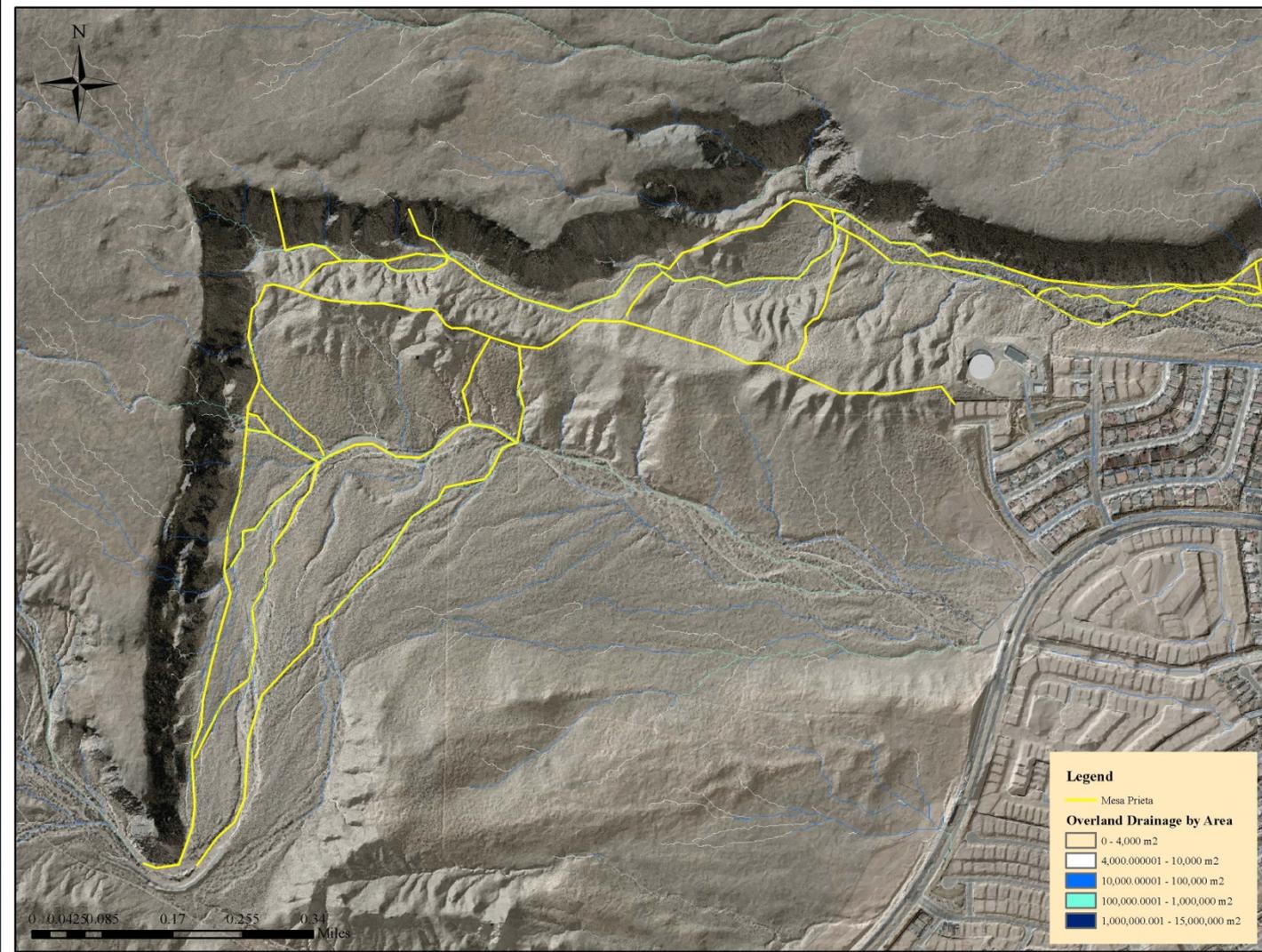


Rinconada Flow Accumulation



Lava Bluff Flow Accumulation





Mesa Prieta Flow Accumulation



# Conclusions

- Rinconada just falls into an acceptable value at the highest limit of what is considered standard by the National Park Service.
- In the case of Lava Bluff and Mesa Prieta, 44% of the distinguished trails are over 10% grade or right at the limit.
- Paired with the flow accumulation maps, future trails can be better planned to avoid problematic areas.



# Acknowledgements

- Mike Medrano, Chief, Division of Resource Management at Petroglyph
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