

Hanger Cemetery - GPS

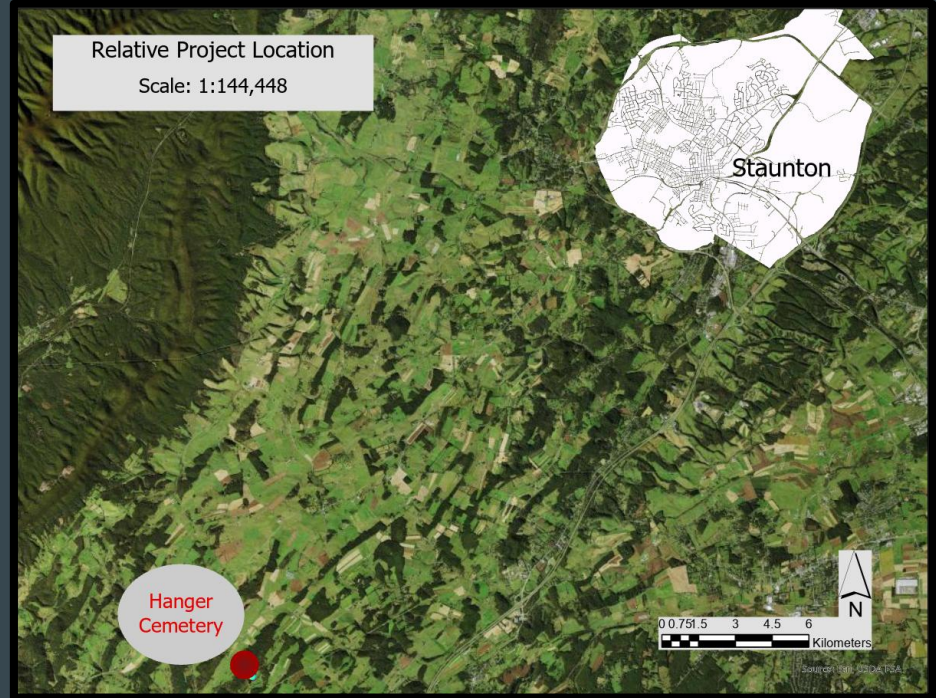
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Location

The location we were working on was relatively small and far away from Harrisonburg.

Approximately 45
Minute Drive



Overview

Research Questions

- Are there graves beneath the sites that the cadaver dogs have identified?
- How can we use GPS and GPR to map graves in Hanger cemetery?
- How can this data contribute towards a certified cemetery?

Background Research

- Hangar Cemetery
 - We looked thoroughly through photos online and Mr. Hanger's website to gather background knowledge first.

Records

- Progressing further we looked at some of the records to grasp what had been documented in the past.
- <https://dhhcemetery.org/cemeteryRecords.php?lv=R&cid=2>

Grave Plots Map

- The other grave plot maps we looked at can be found in slide (Reference)
- Peer reviewed Literature - Riezzo, Neri, M., Rendine, M., Bellifemina, A., Cantatore, S., Fiore, C., & Turillazzi, E. (2014). Cadaver dogs: Unscientific myth or reliable biological devices? Forensic Science International, 244, 213–221. <https://doi.org/10.1016/j.forsciint.2014.08.026>.
- Anna Majewska. (2017). Surface prospection of burial grounds and new research tools (on the example of the study of changes in cemetery boundaries). Journal of Geography, Politics and Society, 7(1), 60–69. <https://doi.org/10.4467/24512249JG.17.008.6207>

Methodology Of Project

- 2 person teams; one handling the GPS and one handling physical data recording to field sheets.
- Survey grade GPS backpack unit marked point and polygon features
 - Perimeter, datums, positive and possible cadaver dog hits, gates, posts, trees, daffodils, and yuccas.
- PDOP: 1.5
- Consistently 19-20 satellites



Challenges

- Troubleshooting set up; bluetooth issues connecting the backpack unit
- Navigating barbed wire, foliage, etc, with the unit
- Keeping fingers warm

Post Data Collection

- Post processing data to the same datum
- Cross referencing hits

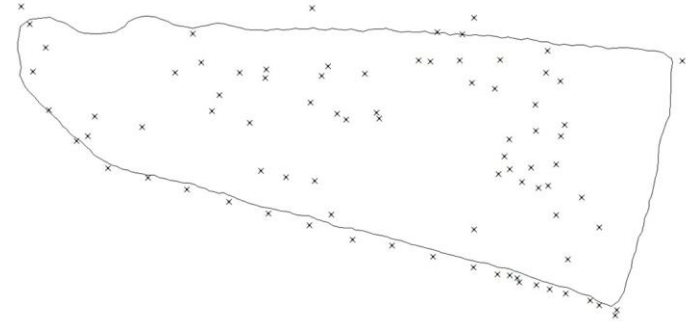
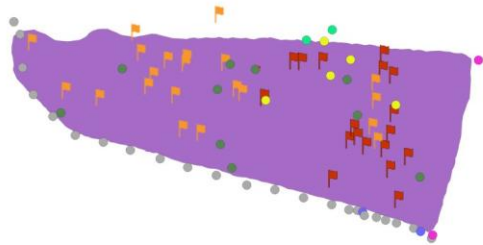
Results

- We were able to map all of the locations that the cadaver dogs had identified
- These were symbolized in two different categories:
 - Possible cadaver dog hit
 - Positive cadaver dog hit

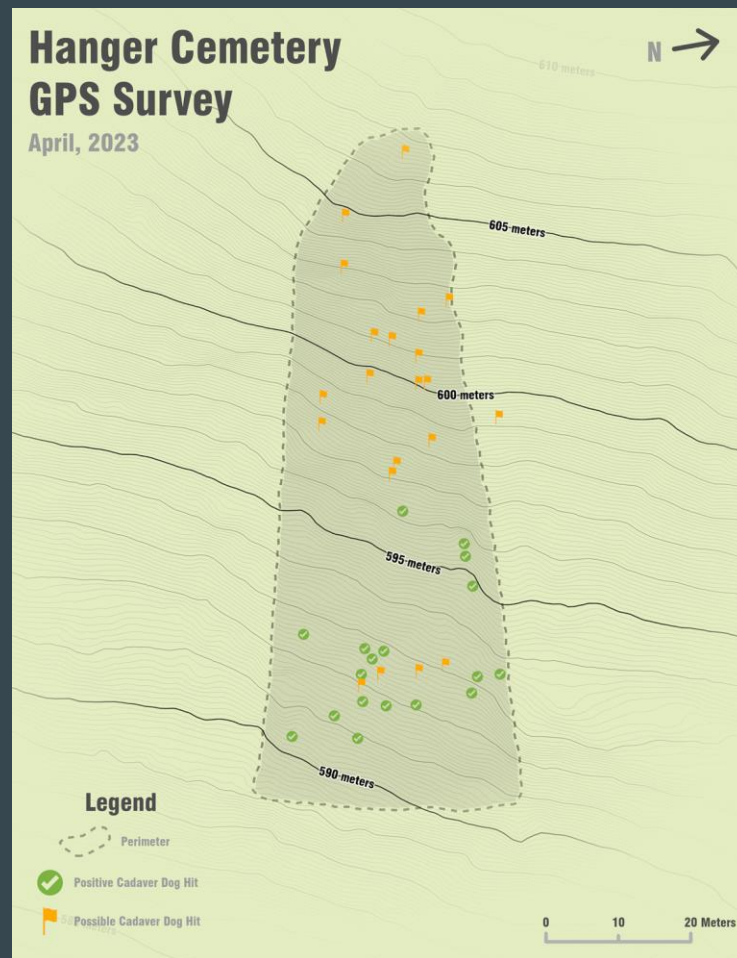
Future Student Research

- Data is available online on Arcgis Online in our organization.
- Future research has lots of area to cover.
- Established Data Dictionary.
- Positive interactions in the community, Pre-Existing Connections.

Project maps 1-2



Project maps 3-4



Cemetery Setting



References

- Hanger, G. (2006, August). *Dutch hollow hanger cemetery in Middlebrook, Virginia - find a grave cemetery*. Find a Grave. Retrieved May 7, 2023, from <https://www.findagrave.com/cemetery/2185709/dutch-hollow-hanger-cemetery>
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- Shull, C. (2023, April 12). *GUIDELINES FOR EVALUATING AND REGISTERING CEMETERIES AND BURIAL PLACES* . National Park Service. Retrieved May 7, 2023, from <https://www.nps.gov/subjects/nationalregister/upload/NRB41-Complete.pdf>