

# Gone ... but not forgotten

Barbara Samner relates how modern field mapping is being applied to a natural woodland burial ground in Suffolk

Since the 1990s, the concept of woodland burial parks has become increasingly popular. Indeed, the attraction of being laid to rest closer to nature has seen the creation to date of more than 250 natural burial parks across the United Kingdom

Because these sites strive to minimise the environmental impact of the burial process, plots are often not marked with any type of identifier. While that helps maintain a more natural, peaceful environment, it presents an obvious managerial challenge as sites mature and plots are no longer recognisable in their original form.

Gunton Woodland Burial Park in Lowestoft<sup>1</sup> solved the challenge by turning to digital mapping solutions provider Pear Technology of Havant, Hampshire<sup>2</sup> and to hardware supplied by the UK arm of Juniper Systems in Bromsgrove, Worcestershire.<sup>3</sup>

Established in 2016, Gunton was the first environmentally-friendly Woodland Burial Park to be opened in the Waveney and Great Yarmouth area. Its mission: to enhance the natural environment while creating a peaceful, forever resting place. It is also one of the first of its kind in the UK to be run as a non-profit making charity.

## Transformation

Previously an open space of about 30 acres, it was transformed into the beginnings of a woodland, with volunteers planting 7,000



 Gunton Woodland Burial Park

Volunteers planted more than 7,000 saplings to transform an open space into woodland in the first phase of creating the Gunton Woodland Burial Park

native British trees. Five glades for burial plots were also created, with wildflowers being progressively planted in each glade. The flora was specifically selected to provide ground cover and as food that would attract a variety of wildlife. As this environment matures, it will offer calm, tranquil spaces surrounded by woodland with areas for visitors to sit and reflect.

Conscious that the task of finding loved ones would become progressively more challenging for visitors as the site matures, the Gunton Woodland Burial Trust and park management decided that a better means of mapping and managing the site was needed.

"The manager, having contacted the Institute of Cemetery and Crematorium Management, learned of Pear Technology and work we have done", explains Jonathan Smith, sales consultant at Pear Technology. The Trust tasked the company to survey the site and create an accurate, electronic map of the burial park. The results would allow the park to locate individual burial plots with confidence, even as trees and plants mature and spread, as well as plan future burial plot use.



### Merging tradition with technology

Pear Technology is no stranger to GIS surveys and mapping. It offers services in a wide variety of sectors, including farm and estate mapping, tree surveying and management of council assets. For this project, the natural environment and wet weather conditions meant that rugged, long-lasting mapping and data-gathering devices were required.

Pear Technology turned to the field computing solutions of Juniper Systems Limited. Since 1993, Juniper Systems has been designing and manufacturing ultra-rugged handheld computers, and creating field data collection solutions for use in extreme environments.

Using the Geode™ Real-time, Sub-meter GPS/GNSS Receiver, and the Mesa²™ Rugged Tablet, Pear Technology surveyed and plotted multiple points on the grounds to create an accurate map of all the park's features – including significant flora, landmarks, and the park's exterior boundaries, in addition to all of the burial plots. The maps were then uploaded to Epitaph, an online Cemetery and Crematorium Administration system from EDGE IT Systems of Coventry,<sup>4</sup> which provides grounds managers with all the functions needed to manage the burial park both now and in the future.

Pear Technology chose the Geode because it is a highly-accurate, cost-effective, and self-contained real-time

GNSS sub-meter receiver that can achieve less than 60 cm 2DRMS horizontal accuracy with no external reference data. It is light, long-lasting (10 hours of use on one battery charge), and provides a precise positioning point, making it ideal to transport and use in the field. Rated IP68, it withstands high variations in temperature and is sealed against the ingress of rain or dust.

"We needed the high accuracy of the Geode to get to below 30 cm of accuracy when we created each point. That's particularly important with cremation plots and which are significantly smaller to mark out than burial plots. We can't ethically or legally disturb buried remains, so it's extremely important to get it right", says Smith.



Using the Geode™ GPS/GNSS receiver and Mesa²™ tablet to survey and plot multiple points, thereby creating an accurate map of all the park's features

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**Ideal companion**

While mapping the grounds, Juniper Systems' Mesa<sup>2</sup> Rugged Tablet was the ideal companion to the Geode. Also rated IP68 to withstand dust, dirt, sand, and rain, it is also resistant to submersion up to a maximum depth of 1.5 m underwater for up to 30 minutes. The Mesa<sup>2</sup> is designed to be ultra-rugged to handle virtually any environment, making it perfect for the wet weather conditions of the U.K. In addition, the user-swappable, high capacity battery has the stamina to operate with the screen in use for up to 10 hours. It also offers up to five additional hours of operating time from the optional, internal, 'hot-swap' battery.

Designed for ease of use and efficiency, the Mesa<sup>2</sup>'s high-visibility, 7-inch screen provides superior clarity, as well as a capacitive touchscreen capability and a unique rain profile that allows for continued work, even with rain on the display.

Together, the Geode and Mesa<sup>2</sup> made the process much more efficient for the surveyors. Joining Pear Technology at the park was Andy Cray, U.K. sales manager for Juniper Systems Limited. "The weather at times was very wet and cold, and the sky was quite grey! But the Geode performed as expected during mapping and we didn't have to be out in the wet and cold for as long," he recollects.

Pear Technology was able to map several site variables during the course of two visits. The first visit included a physical walk around the perimeter to map out the glades and record positions of all existing plots using the Mesa<sup>2</sup> and Geode.

"As we made our way around the entire park, we pinpointed plots on



The Mesa 2's high-visibility, 7-inch screen provides superior clarity, as well as a capacitive touchscreen

the Geode and displayed that data on the Mesa<sup>2</sup>'s screen. That information populated a new cemetery map, with a layout for new burial plots as well as plots for cremated remains", says Cray.

During the second visit, Pear Technology used the Geode to transfer data from the map onto the grounds, marking the corners of 15 m x 15 m plots. The team also used the Geode to plot five groundwater sampling points. "With burial, we need to be concerned with groundwater and monitor its level in multiple areas. Burial parks are meticulous to avoid burying too deep or too close to groundwater areas", Smith explains.

**Opportunity through accuracy**

The plotting and mapping of Gunton Woodland Burial Park is complete, and the plots have been linked with the

data in the Epitaph database to ensure complete synchronisation of the data. With this information, the burial park can confidently offer open plots to the public, as well as ensure burial sites are recorded, all while keeping the natural environment undisturbed and thriving.

For Pear Technology, using Juniper Systems' solutions has generated more business in the burial management industry, including the creation of new, natural sites such as the Gunton Woodland Burial Park. "We are also increasingly working with existing burial grounds and traditional cemeteries", adds Smith, who notes that existing sites are looking for maps and measurements from his business to link to their own historical records and data.

In addition, the company uses the Geode to assist in situations of burial plot re-utilisation, ensuring the accurate measurement and marking of existing graves. With such precise documentation, Pear Technology can confirm the accurate movement and replacement of headstones.

The company has so much confidence in the Mesa<sup>2</sup> and the Geode that it also rents these sophisticated devices to other GIS consultants. Smith concludes, "It simply makes sense to use these devices for outdoor mapping projects because the high accuracy level is so achievable."

1. [www.guntonwoodlandburial.co.uk](http://www.guntonwoodlandburial.co.uk)
2. [www.peartechnology.co.uk](http://www.peartechnology.co.uk)
3. [www.junipersys.com](http://www.junipersys.com)
4. [www.edgeitsystems.com](http://www.edgeitsystems.com)

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