"Pole Hill and the meridians"

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The Society publishes a wide range of books and booklets on historic OS map series and its journal, Sheetlines, is recognised internationally for its specialist articles on Ordnance Survey-related topics.
This obelisk and trig. point stand on Pole Hill, Chingford. This eminence offers good views over the Lea Valley (site of 2012 Olympics) to the skyscrapers of the city of London, nine miles south west and is a popular destination for walks and bike rides in Epping Forest.

The obelisk was erected in 1824 by the sixth Astronomer Royal, John Pond, on the line of the Greenwich Meridian established by his predecessor, the third Astronomer Royal, James Bradley, on the transit line of his telescope at the Royal Observatory. The Pole Hill location was positioned by direct observation from Greenwich, ten miles to the south and was used as an observation point for checking the alignment of the meridian. The view due south from Pole Hill is today obscured by trees, but the line would lie between Canary Wharf and the Millennium Dome, if it were visible.

The Bradley meridian was superseded as the Greenwich Meridian by Airy’s Transit Circle, established by Pond’s successor, George Airy, in 1850 and this was adopted as the Prime Meridian of the world in 1884.

The Airy line is located 19 feet (5.8 metres) to the east. My attempt to use GPS to determine its exact position was frustrated by the fact that GPS uses yet another meridian, the International Reference Meridian, which lies approx 102 metres further east at this point. Checking the GPS against the engraved line at the observatory itself, shows that Longitude zero actually has a GPS reading of about 0º 0' 5.4".

The official guide book to the Royal Observatory\(^1\) mentions that the Bradley Meridian was used as Longitude zero on the first Ordnance map in 1801 and goes on to say ‘To this day, all maps produced by the Ordnance Survey still use Bradley’s Meridian as their Longitude zero.’ This (to me) surprising revelation led me to discover Brian Adams’s talk to

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the 1994 AGM, published in *Sheetlines 40*. Here he explains in amusing and thorough style how it came as a shock to the Ordnance Survey to find on completion of the 1949 re-triangulation that its longitude was not zero but 0.4 seconds east, equivalent to a difference of about eight metres. He goes on to relate that the forgotten change from the Bradley meridian accounted for about five and three quarters metres and the remaining two and a quarter are the cumulative effect of minor discrepancies. (This is a drastic oversimplification of Brian’s explanation and anyone interested is recommended to read the original!)