

**A Gradiometer Survey**  
**in**  
**Castle Park, Colchester, Essex**

October 1998



on behalf of  
Landscape Design Associates  
in conjunction with  
Colchester Borough Council



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# A Gradiometer Survey in Castle Park, Colchester, Essex

## 1 Introduction

- 1.1 This is the report on a geophysical survey carried out on behalf of Landscape Design Associates in conjunction with Colchester Borough Council, by Colchester Archaeological Trust (CAT) during September and October 1998.
- 1.2 The survey was carried out by CAT staff, assisted by members of Colchester Museums staff (and families), and CAT volunteer workers, to all of whom we are grateful.

## 2 Method

- 2.1 The survey was carried out using a Geoscan Research (GR) Fluxgate Gradiometer, model FM 18, on loan from Colchester Borough Council.
- 2.2 The Park was split into several grid areas, each defined by wooden pegs surveyed in by Electronic Distance Measurer (EDM) at strategic points (usually at 40-metre intervals). Working from the pegs, a 20-metre grid was laid out, and the survey was carried out within those 20-metre boxes, starting in the north-west corner and walking parallel lines west to east, moving progressively down the boxes north to south (this is the GR recommended technique).
- 2.3 The results were downloaded into a laptop computer running *Geoplot* software. This was used to process the data and print off the results given here.
- 2.4 General Comment  
The survey suffered from the large amounts of metal in the park. This consisted of dumps of iron (Nursery site), underground pipes (Nursery, Putting Green, and under all paths), park benches, litter bins, and bottle tops (everywhere). There were also "iron spikes" all over the survey area. These might well be genuine iron spikes left behind by the many tent-related activities which have taken place in the Park over the years, principally the Tattoo in the Lower Park, and the Fair in the Hollytrees Meadow.

## **3 Results**

### **3.1 Survey Grid A - Hollytrees Meadow**

This was probably the most promising area for geophysical survey, owing to the large number of previously known archaeological remains. However, results were disappointing. Much disturbance was caused to the survey instrumentation by metal objects (mainly below ground).

There is a band of pale (negative) readings along the north (top) edge of the survey, due to the proximity of the Putting Green fence. The children's playground (1) was not surveyed. Several areas of the survey gave bad results (due to metalwork) and are not shown here (2). There was a band of disturbed readings along the south edge of the Meadow (3) caused by the heavy iron trellis work around the roses. Two modern services (pipes or cables) were detected running east-west across the survey area (4). These did not give a huge reading, and are therefore likely to be quite small or perhaps no longer used. The so-called "Mithraeum" gave off a huge reading (5). This is undoubtedly because the Roman walls have been topped with modern reinforced concrete. The positive reading from the "Mithraeum" has a very strong negative shadow (6) which is probably meaningless. There is a strong but unknown metal reading (7) east of the "Mithraeum".

There are two genuine archaeological signals (8, 9), which, in this position, must be ditches either side of the Roman street which runs through the Meadow and out through Duncan's Gate (in the Nursery site). It is possible, perhaps with the eye of faith, to see the southern continuation of the west ditch (10) running via the two metal grids (11, 12) and into the "Mithraeum".

Peter Cott has agreed to carry out a follow-up resistivity survey on selected areas of the Hollytrees Meadow. Hopefully, this should give a better representation of the archaeological remains.

### **3.2 Survey Grid B - the Hollytrees Lawn**

There is a modern cable running along the pathway at the north edge of the lawn (1). A north-south discontinuity (2) is more likely to be a software fault than a genuine signal. There are strong metal disturbances along the west (left) edge, but the principal interest here is a group of dark blobs which look like old tree pits. As it is known that Charles Gray planted trees to the rear of Hollytrees, these signals may represent the position of Gray's trees (one or two still of which survive close to the house).

### **3.3 Survey Grid C - Mayors' Walk area (north side of Castle)**

The area around the pathway and shrub areas was not surveyed (1). Clear signals were given by the pathways and the metal drains running under them (2), and by the obelisk and its path (3). The trees in Mayors' Walk show up clearly (4) because they have chicken wire around their bases. There is one genuine response (5), a large positive reading next to the face of the Castle. Wheelley is known to have dug a pit around here, so perhaps this is it.

DE WARD

ESS

CONST

R

25.8m

25.8m

CONDORES

Putting Green

Putting Green

Putting Green

Putting Green

PC

PC

Pavilion

Castle Park

Playground

MITHRAIC TEMPLE  
(site of)

Central Clinic  
and Health Offices

Central Clinic  
and Health Offices

25.8m

PCs

Holly Trees

Winsley's House

Gate Ho

Grey Friars

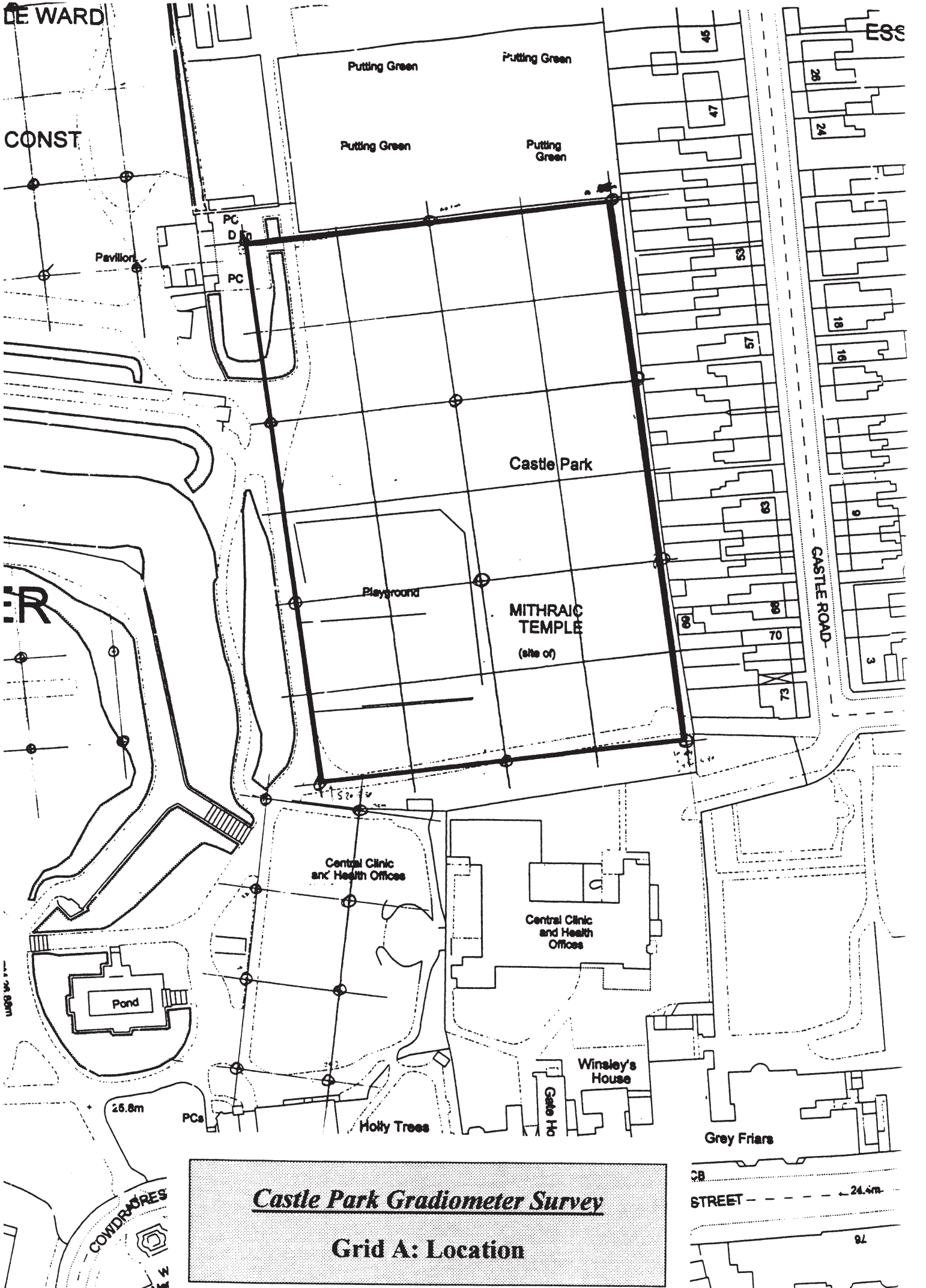
CB

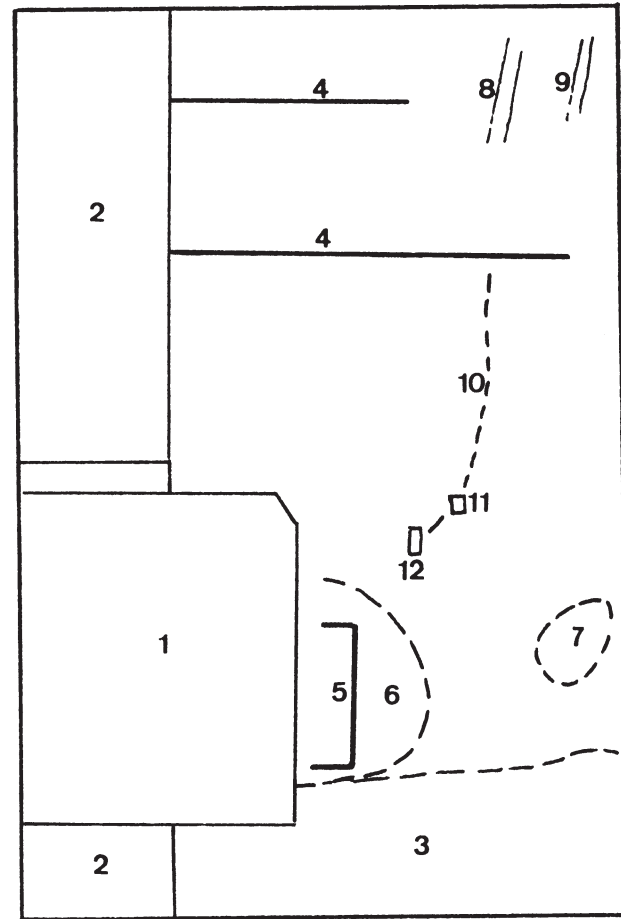
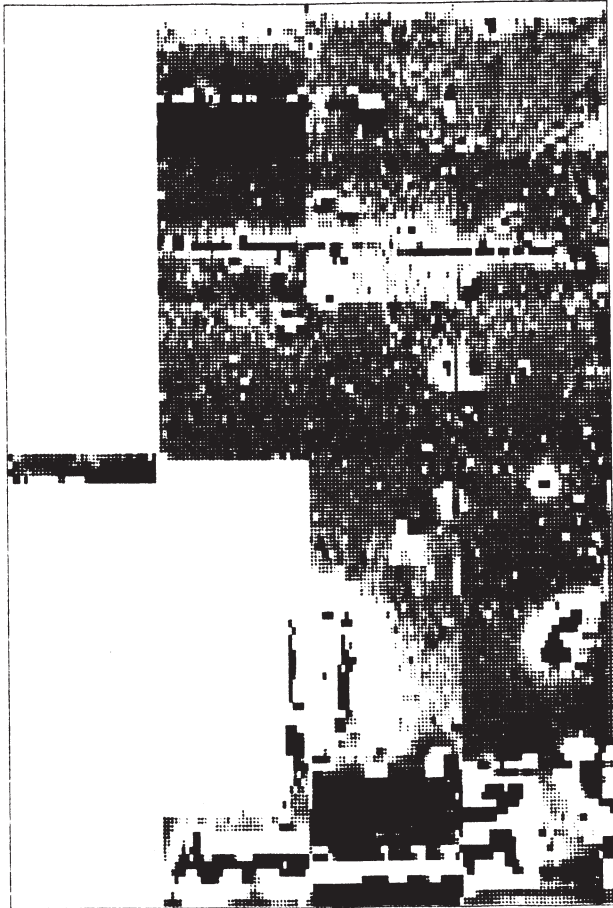
STREET

97

### Castle Park Gradiometer Survey

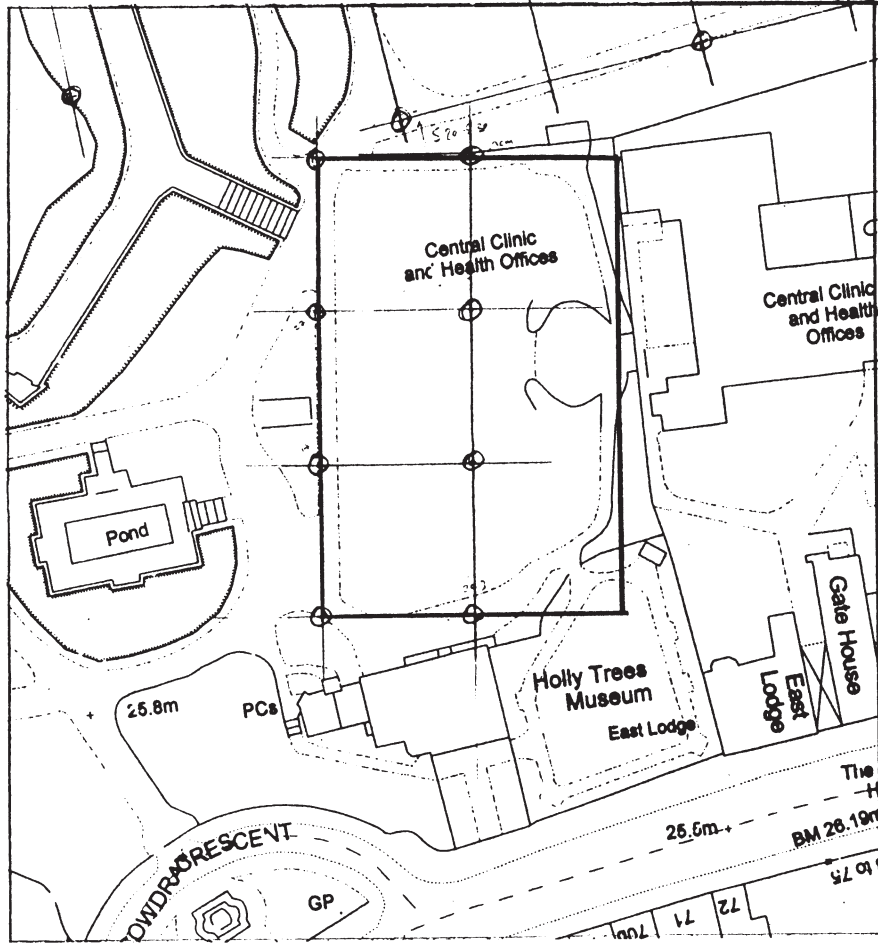
### Grid A: Location





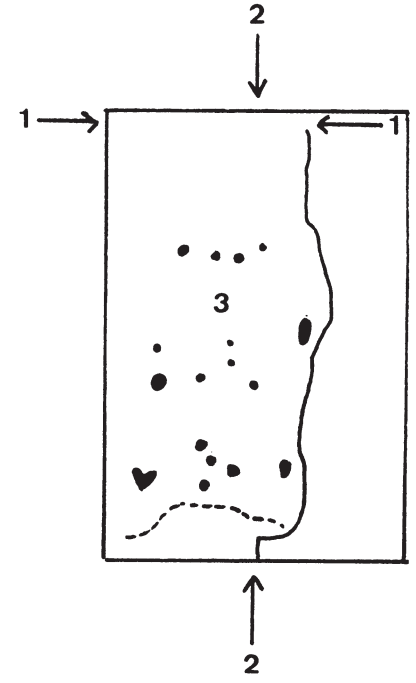
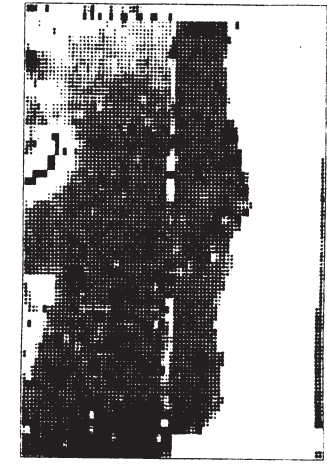
**Castle Park Gradiometer Survey**

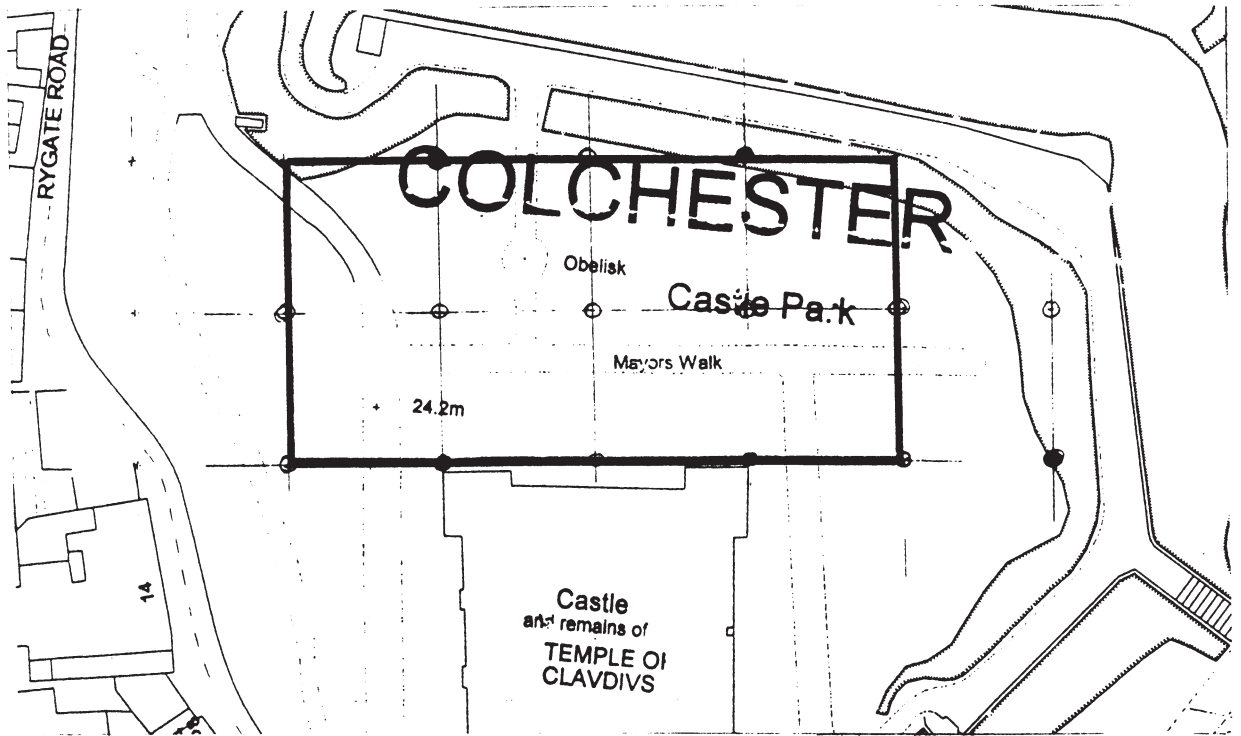
**Grid A: plot & interpretation**



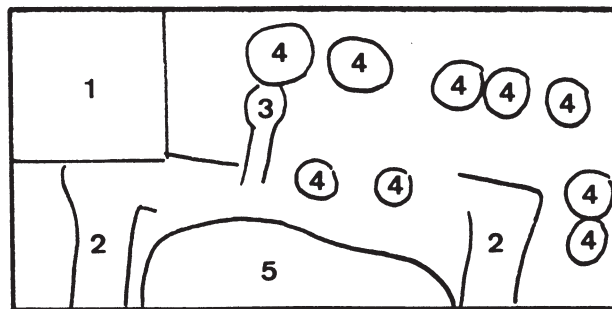
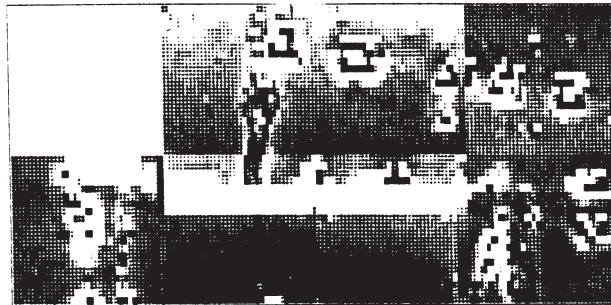
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**Castle Park Gradiometer Survey**  
**Grid B: Location, plot, interpretation**





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***Castle Park Gradiometer Survey***  
**Grid C: Location, plot, interpretation**

### **3.4 Survey Grid D - the Upper Park**

The blank in the north-west corner is the unsurveyed area of the Park-keeper's Lodge (1). The Bandstand area (2) was not surveyed because of the strong signal from the iron structure, which is still visible as a shadow (14). The pathways and iron drains are clear (3). There are also strong metal signals given off by the tree with the seat around it (*the Coronation seat*), and by its modern counterpart (4). The iron railings around the excavated Roman house (*Wheeler's house*) preclude any sensible readings there, although there is one good linear reading (7), which (in this position) must be one of the walls of the Roman house. On the ground it is clear that the other walls of the house are too deeply buried to be visible to this survey, although one might have expected to pick up some of the walls close to the modern footpath. There is one unknown signal (6), a trench of some sort heading to the bandstand. However, this must be cut through the backfilled soil over *Wheeler's house*, and so must date after the 1930s.

There are some genuine readings. The Ordnance Survey of 1923 shows an enclosed wood whose boundary must be line (8). There is a good line (9) of unknown origin, which might continue south as (10). There are two linear traces (12), possibly caused by the tramping of many feet. There is also an interesting negative shadow (13) along the inner face of the Roman town wall. It is not clear whether this is a shadow of the wall, or a genuine signal from a buried feature (Roman street?). There used to be an area of exposed Roman house floors east of the bandstand (like *Wheeler's house* to the west), which was filled in during or after the 1930s. The reading shown as (15) is in precisely the right place.

There is also a reasonable reading close to *Wheeler's house* (11). These alternating black/white/black readings are typical of modern cables or pipes.

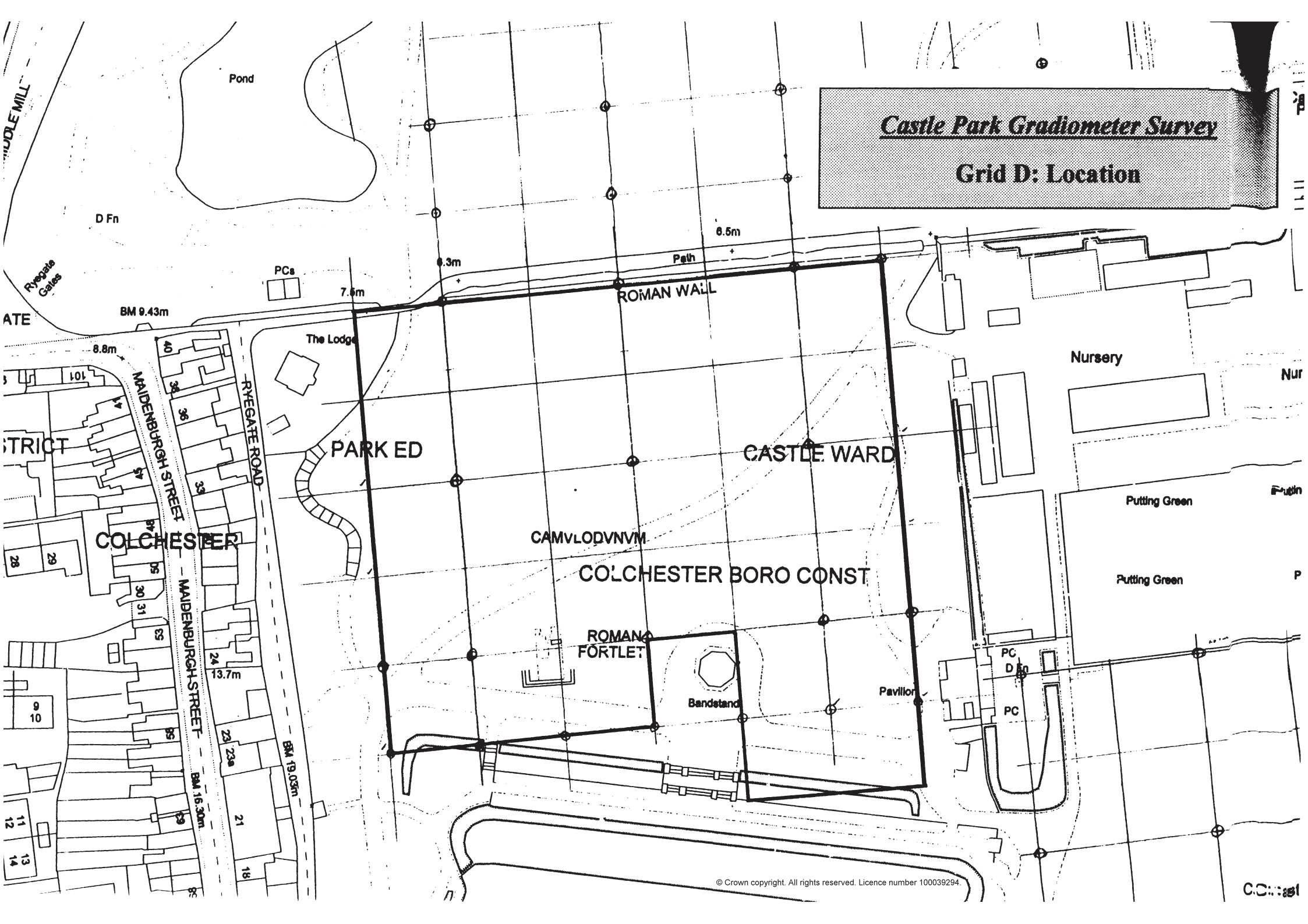
### **3.5 Survey Grid E, F - the Nursery site, and the Putting Green**

The large amounts of above- and below-ground metal precluded any sensible readings here. It was the experience of this operator that *any large amounts of metal in the vicinity made it virtually impossible to "tune in" the gradiometer, and obtain good data.*

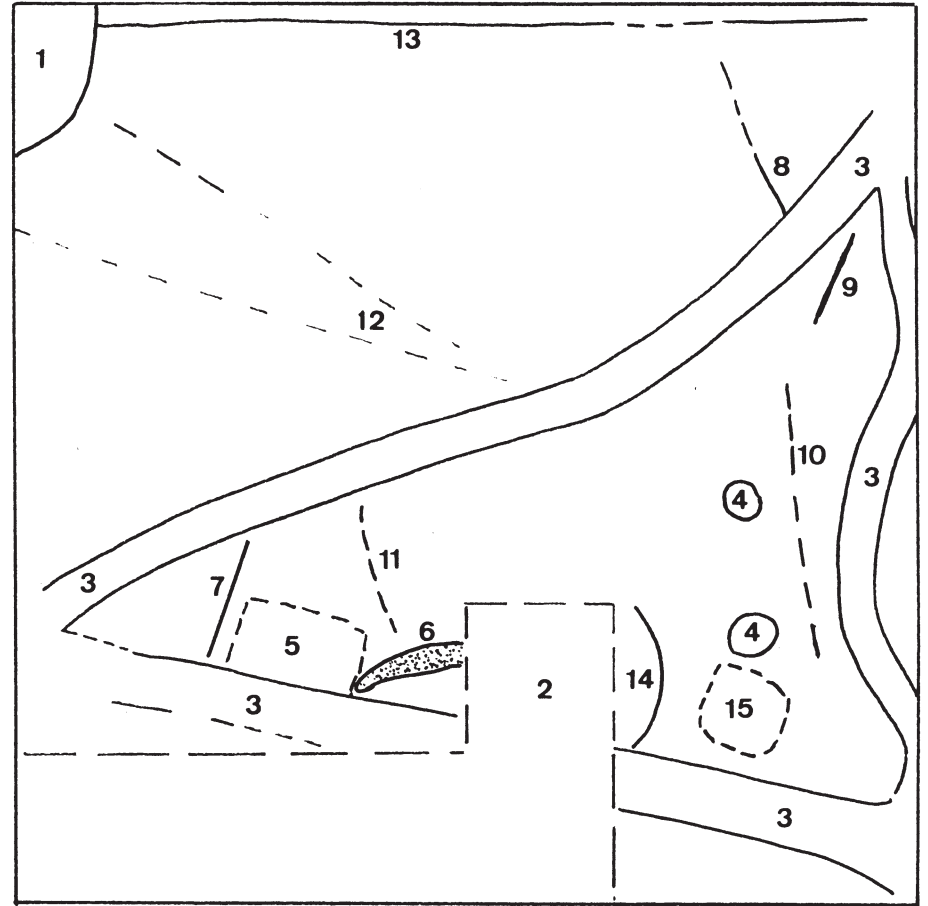
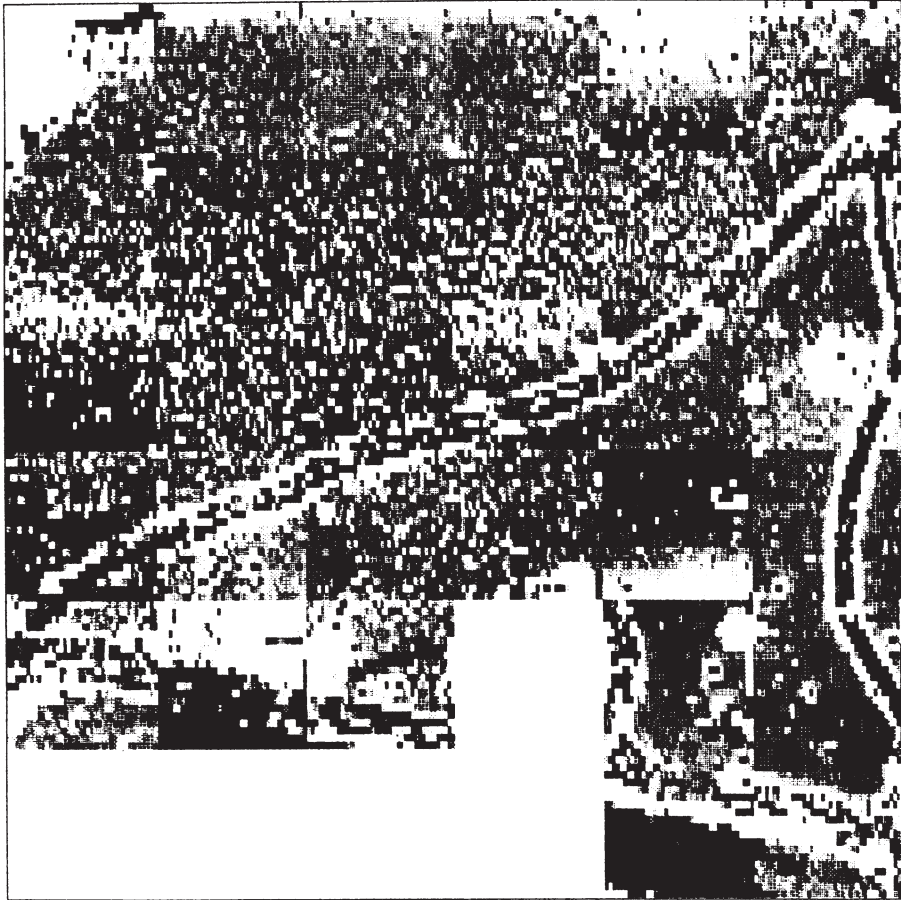


Castle Park Gradiometer Survey

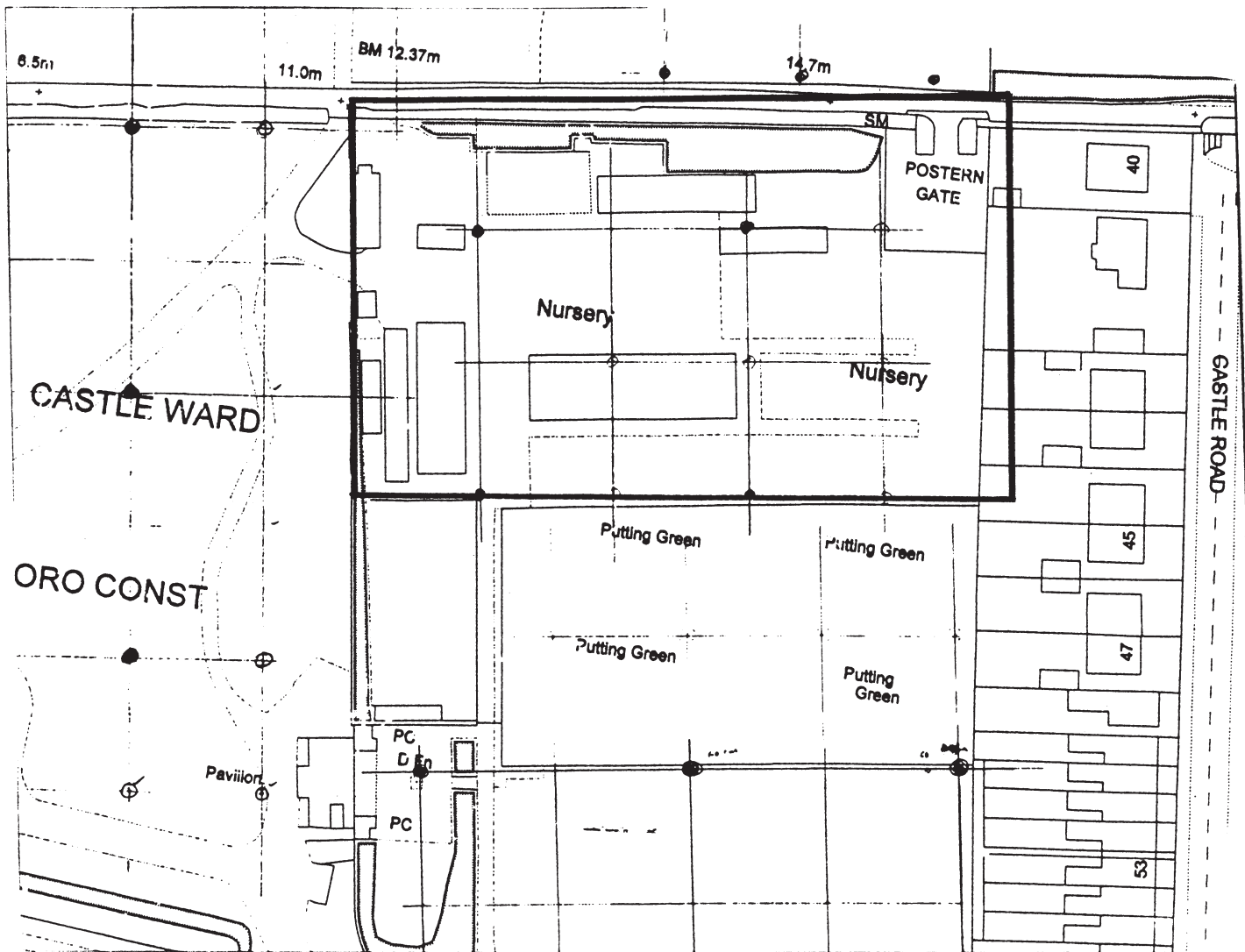
**Grid D: Location**



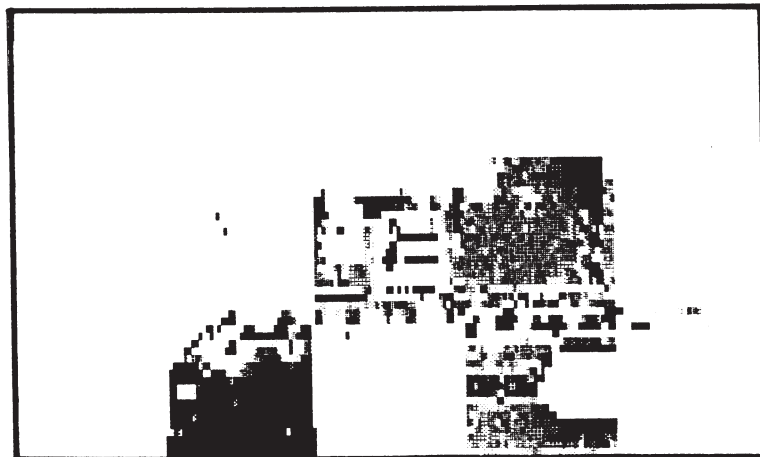
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Units	Absolute			White	Negative



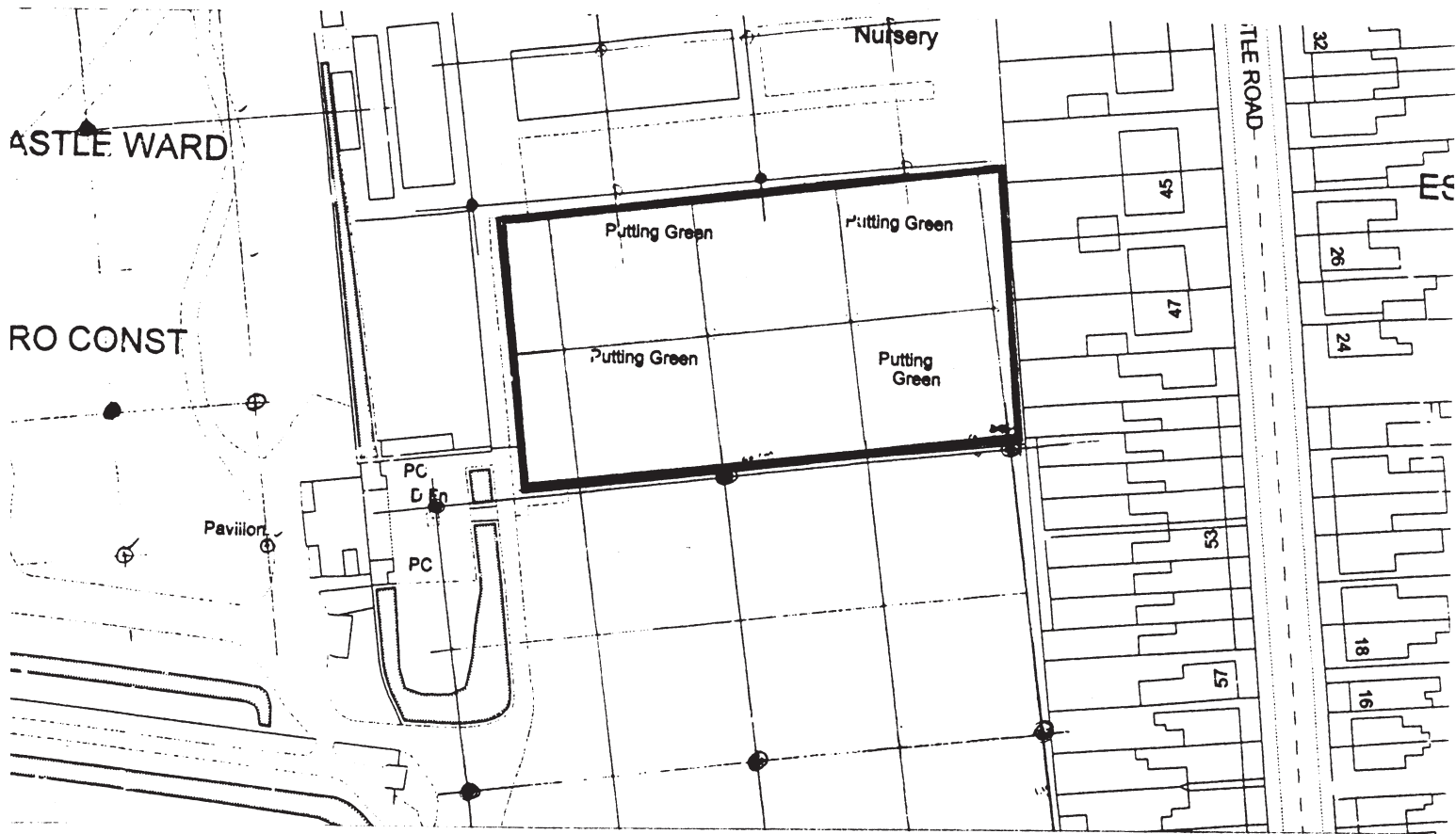
***Castle Park Gradiometer Survey***  
**Grid D: Plot & interpretation**



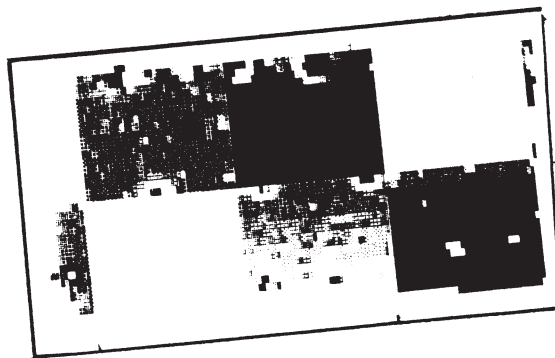
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***Castle Park Gradiometer Survey***  
**Grid E: Location, plot, interpretaion**



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***Castle Park Gradiometer Survey***  
**Grid F: Location, plot, interpretation**

### **3.6 Survey Grid G - the Lower Park**

Some interesting readings were obtained here. The southern strip (1) was not surveyed because of the iron fence which runs along the north side of the path north of the Roman town wall.

There is a large band of east-west negative readings (2) which must be the Roman town ditch. To confuse the issue, there is a band of east-west negative readings along the middle of the ditch. It is easy on the ground to trace where these pipes run, but their signal is not as strong as one would expect from metal pipes. They must therefore be either plastic pipes, or deeply buried metal ones.

There is a good signal (4), which may or may not join up with (5) to give a reasonable semicircle. It seems reasonable to suggest that (5) joins with (6), but whether it runs as far as the faint lines (7) is a matter of debate. In fact, the lines (7) may not be connected at all with (4/5/6). There is also a good signal (8), branching off into (9). Part of this is quite straight, so a modern service trench cannot be ruled out.

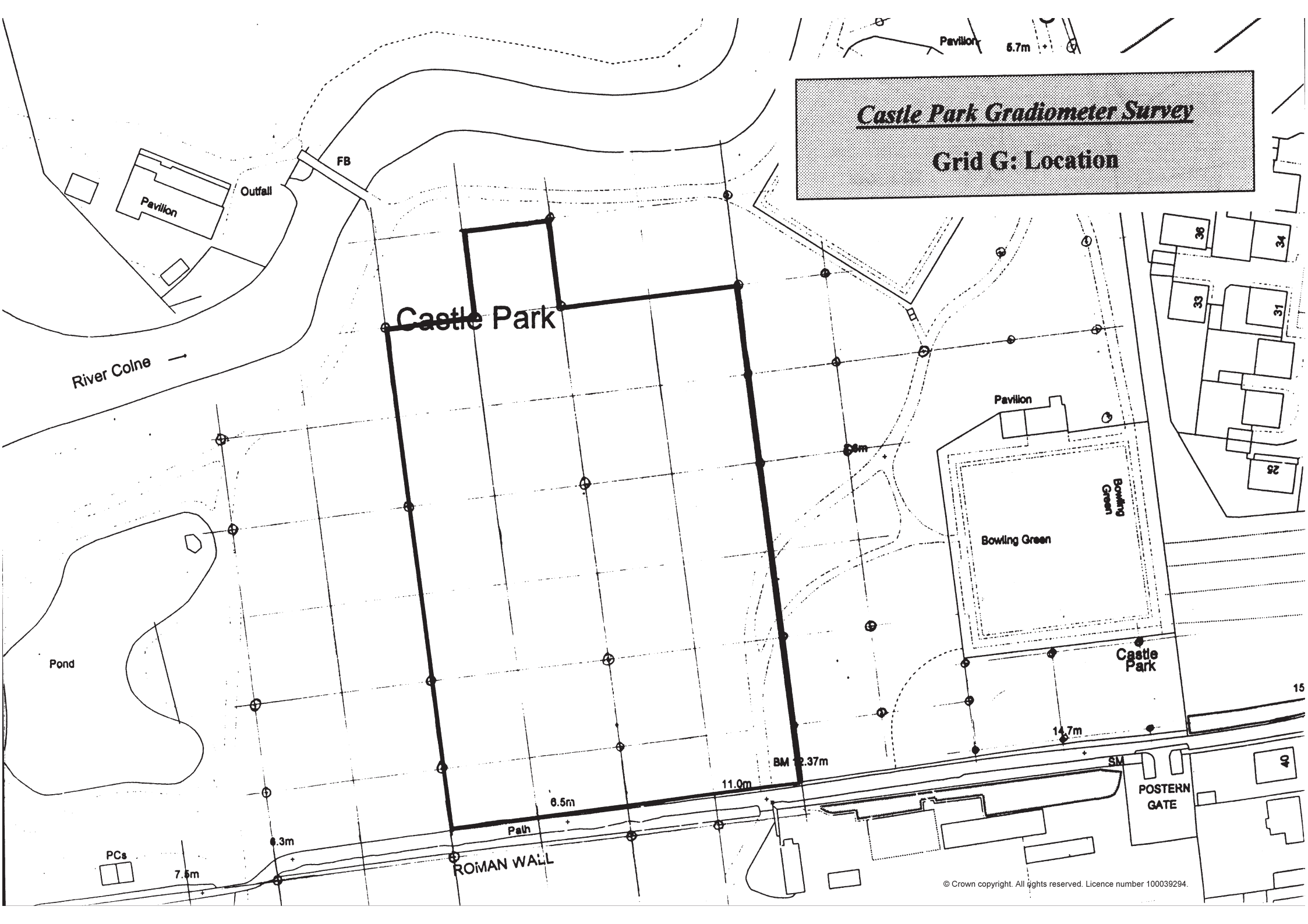
Whatever the apparent circle 4/5/6 represents, it must be borne in mind that there have been at least two phases of landscape work here. First, when the park was laid out in 1892; and second, when Charles Collins (Head Gardener) flattened the area after the Second World War.

Report date: 27/10/98

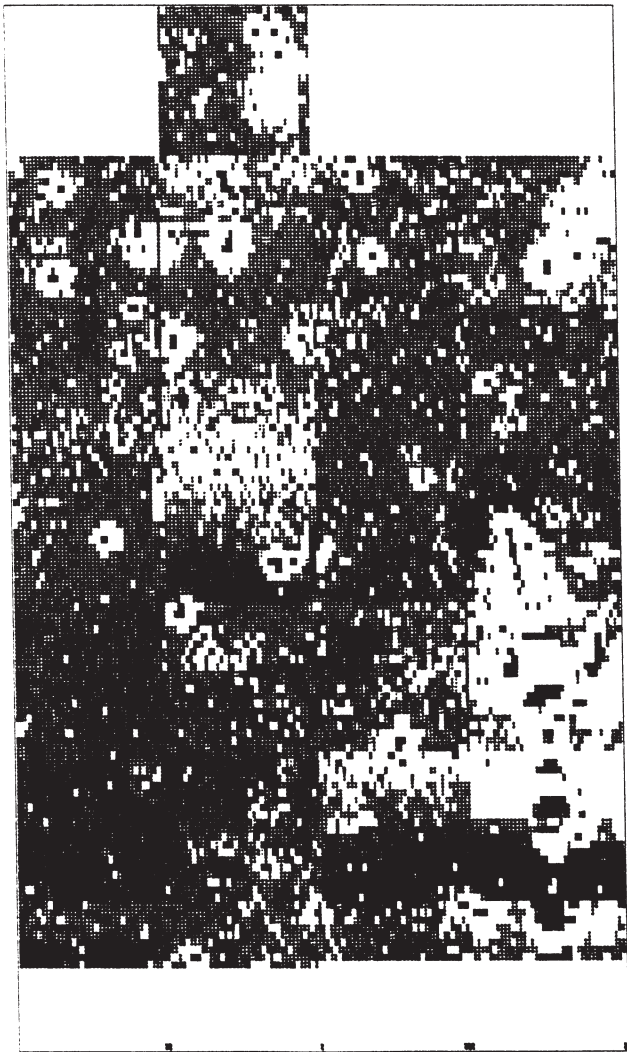
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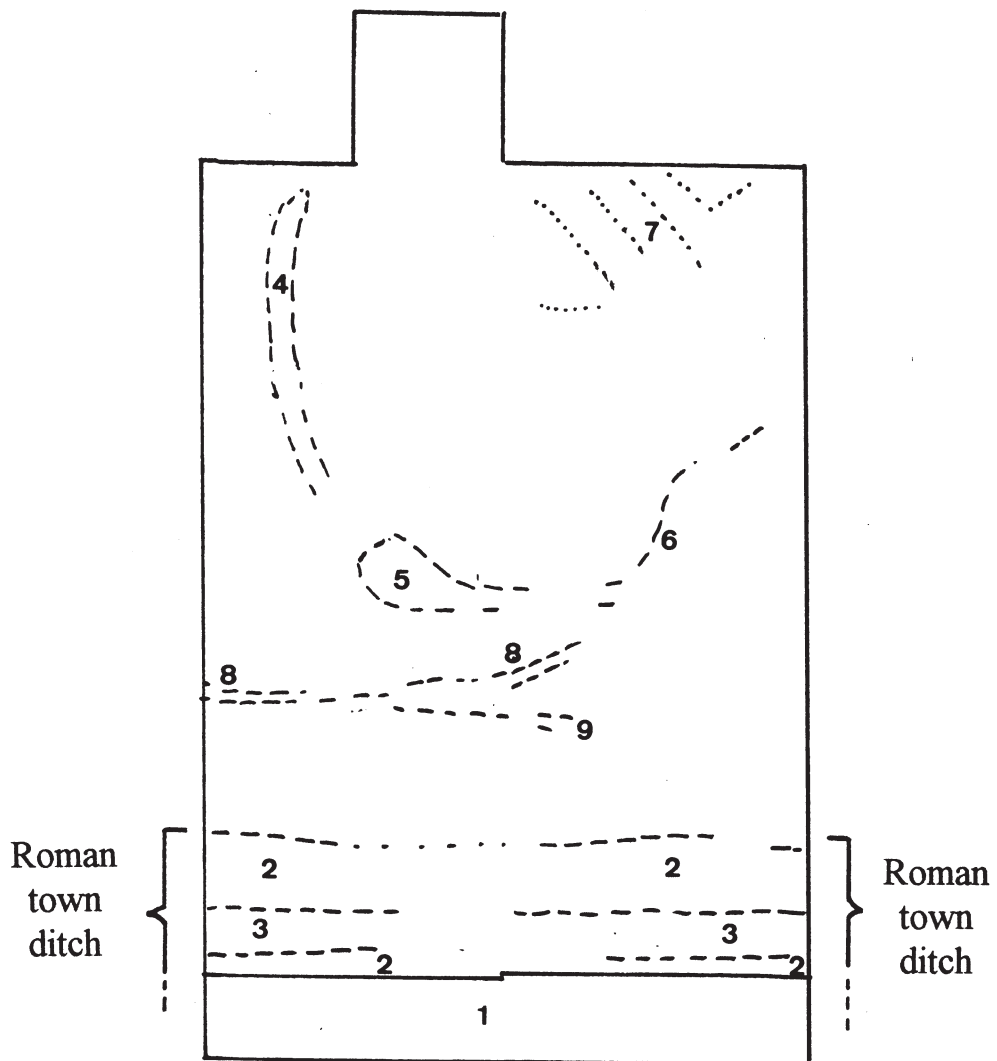
**Castle Park Gradiometer Survey**  
**Grid G: Location**



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Maximum	10	Palette	Positive	White	Negative
Contrast	.2				
Units	Absolute				



**Castle Park Gradiometer Survey**  
**Grid G: Plot**



**Castle Park Gradiometer Survey**  
**Grid G: Interpretation**