

Eric M. Thurston

I. Project Documentation

Project Name: Burdale CAD Project

Reference Number: None

Project Purpose: The goal of this project was to create three distinct CAD files documenting information discovered during excavations at Burdale, North Yorkshire. Distinct layering schemes were chosen to provide a digital version of the site phases, site feature types and gradiometry and aerial photography results from previous research. This work was undertaken by Eric Thurston as a practical exercise examining CAD digitisation. The original excavation of the Burdale site (SE875623) was conducted as a training dig for first year students through the University of York, Department of Archaeology directed by Dr. Steve Roskams. Information used in this exercise was provided by Dr. Steve Roskams and Ben Gourley of the University of York. Specifically, Dr. Steve Roskams provided chronological associations and feature type information and Ben Gourley provided geo-referenced computerised data of the site grid, contour map, aerial photograph interpretation data and geo-referenced images including aerial photography and gradiometry data. The original aerial photography interpretation was conducted by Michael Charno and the original gradiometry data was collected by Kennis Yip of the University of York. Contour maps were originally acquired by Ben Gourley from Ordnance Survey.

Project Keywords: Excavation, CAD, Burdale, University of York, Wolds Research Project, Thixendale-Fimber Valley, Roman, Anglian, Medieval, post-Medieval, Burdale Farm House, gradiometry and aerial photography.

Subject: Excavation trench in the Burdale area where finds date from 3rd to 2nd century BC to 17th century AD.

Site Address: None

Administrative Area: North Yorkshire

Country: England

Spatial Coverage: CAD limits were set within the digitisation environment as SW484000 459000 and NE491000 466000 latitude longitude. A local grid was also establish on the site and in the CAD environment with the SW coordinates of 0, 0 and NE coordinates of 60, 20.

Size: The size of the excavation area is 60 metres east-west by 20 metres north-south.

Duration: The CAD project was completed between January and February 2007.

Originator: The University of York
Department of Archaeology
King's Manor

York
YO1 7EP, UK

Client: The University of York
Department of Archaeology
King's Manor
York
YO1 7EP, UK

Depositor: The University of York
Department of Archaeology
King's Manor
York
YO1 7EP, UK

Primary Archive: The University of York
Department of Archaeology
King's Manor
York
YO1 7EP, UK

Related Archives: The University of York
Department of Archaeology
King's Manor
York
YO1 7EP, UK

Bibliography:

Roskams S P (2004) 'The Wolds Research Project: research objectives',
<http://www.york.ac.uk/depts/arch/Wolds/new/index.html>. Page consulted 18 February
2007.

Yip, K (2006) *Integration of Geophysical Survey and Other Techniques*, unpublished
MA Dissertation, University of York.

Copyright: Ordnance Survey contour maps copyright the Crown. All other
information copyright the University of York.

II. Off-site Data Capture Documentation

Project Name: Burdale CAD Project

Reference Number: None

Source Name: BUR 06 INT 5 D151

Type of Source: Drawing

Source Medium: Permatrace

Original Recorder: MRH et al.

Publisher: The University of York
Department of Archaeology
King's Manor
York
YO1 7EP, UK

Copyright: University of York

Scale: 1:50

Accuracy: Unknown

Techniques: Tablet digitisation

Equipment: Digitising Tablet GTCO CalComp Drawing Board V (approx. A1 size)

Software: AutoCAD 2004

Post-processing: None

Automatic Processing: None

Control Points: Site grid fixed points on plan

Data precision and accuracy: The original drawing was divided into three sections to fit on A3 size permatrace. The first section to be digitised was the western 1/3rd which took place during three sessions. Following this, the eastern and central sections were digitised in sessions as well. Also, there was some overlap between the western and eastern drawings with the central drawing. The calibration documentation for each session is listed below.

Western section Session 1
RMS error: 0.0171
Standard deviation: 0.0073
Largest residual: 0.0245

Western Section Session 2
RMS error: 0.0182
Standard deviation: 0.0072
Largest residual: 0.0269

Western Section Session 3
RMS error: 0.0114
Standard deviation: 0.0050
Largest residual: 0.0143

Eastern Section Session 1

RMS error: 0.0219
Standard deviation: 0.0078
Largest residual: 0.0291

Eastern Section Session 2
RMS error: 0.0182
Standard deviation: 0.0080
Largest residual: 0.0247

Eastern Section Session 3
RMS error: 0.0143
Standard deviation: 0.0037
Largest residual: 0.0175

Central Section Session 1
RMS error: 0.0145
Standard deviation: 0.0066
Largest residual: 0.0199

Copyright: University of York

Data files: AutoCAD 2004

III. List of All Files

File Name: BurdaleSitePhases

Date: 02/2007

Copyright: EMT, University of York, Crown

Format: .dwg file

Content: Layering scheme based on chronological episodes

File Name: BurdaleSiteFunction

Date: 02/2007

Copyright: EMT, University of York, Crown

Format: .dwg file

Content: Layering scheme based on feature type

File Name: BurdaleGeophysicalAP

Date: 02/2007

Copyright: EMT, University of York, Crown

Format: .dwg file

Content: Layering scheme based on gradiometry data and aerial photography

IV: CAD Model Documentation

Project Name: Burdale CAD Project

Reference Number: None

Creator: EMT

Origin References: Eric M. Thurston (EMT), Ben Gourley (BG), Michael Charno (MC) and Ordnance Survey (OS)

Name of CAD model: BurdaleSitePhases

CAD software: AutoCAD 2004

Layer conventions:

Layer Name: 0
Description: Drawing surface
Colour: white
Line Type: Continuous
Origin: AutoCAD blank layer

Layer Name: CONTOURS
Description: Lines of elevation
Colour: 254 (grey)
Line Type: SFTR_SOLID
Origin: OS © Crown

Layer Name: Gradiometry
Description: Unused
Colour: white
Line Type: Continuous
Origin: BG

Layer Name: Group1
Description: Pre-enclosure 1 features
Colour: 50 (yellow)
Line Type: Continuous
Origin: EMT

Layer Name: Group10
Description: Early features
Colour: 51 (light yellow)

Line Type: Continuous
Origin: EMT

Layer Name: Group11
Description: Eastern enclosure 4
Colour: 110 (light green)
Line Type: Continuous
Origin: EMT

Layer Name: Group12
Description: Additions west of enclosure 4
Colour: 214 (purple)
Line Type: Continuous
Origin: EMT

Layer Name: Group13
Description: Unknown
Colour: 210 (magenta)
Line Type: Continuous
Origin: EMT

Layer Name: Group14
Description: Features with enclosure 4
Colour: 190 (blue-purple)
Line Type: Continuous
Origin: EMT

Layer Name: Group15
Description: Furrows and other late additions
Colour: 10 (red)
Line Type: Continuous
Origin: EMT

Layer Name: Group2
Description: Western enclosure 1
Colour: 80 (green)
Line Type: Continuous
Origin: EMT

Layer Name: Group3
Description: Central northern enclosure 2
Colour: 40 (orange)
Line Type: Continuous
Origin: EMT

Layer Name: Group4
Description: Subdivision of enclosure 2
Colour: 33 (light brown)
Line Type: Continuous
Origin: EMT

Layer Name: Group5
Description: Re-definition of enclosure 2
Colour: 11 (pink-red)
Line Type: Continuous
Origin: EMT

Layer Name: Group6
Description: Southern central enclosure 3
Colour: 211 (light purple)
Line Type: Continuous
Origin: EMT

Layer Name: Group7
Description: Features bounded by enclosures 1-3
Colour: 170 (blue)
Line Type: Continuous
Origin: EMT

Layer Name: Group8
Description: Features bounded by enclosures 1-3
Colour: 140 (light blue)
Line Type: Continuous
Origin: EMT

Layer Name: Group9
Description: Features bounded by enclosures 1-3
Colour: 130 (cyan)
Line Type: Continuous
Origin: EMT

Layer Name: images
Description: AP and Gradiometry raster images
Colour: white
Line Type: Continuous
Origin: BG

Layer Name: KEY
Description: Documentation of drawing
Colour: white
Line Type: Continuous
Origin: EMT

Layer Name: Labels
Description: Labels for context and fill numbers
Colour: white
Line Type: Continuous
Origin: EMT

Layer Name: trenchWalls

Description: Excavation boundary and interval markers
Colour: white
Line Type: Continuous
Origin: EMT/BG

Project Name: Burdale CAD Project

Reference Number: None

Creator: EMT

Name of CAD model: BurdaleSiteFunction

CAD software: AutoCAD 2004

Layer conventions:

Layer Name: 0
Description: Drawing surface
Colour: white
Line Type: Continuous
Origin: AutoCAD blank layer

Layer Name: CONTOURS
Description: Lines of elevation
Colour: 254 (grey)
Line Type: SFTR_SOLID
Origin: OS © Crown

Layer Name: ditch
Description: Linear or curvilinear depression
Colour: 80 (green)
Line Type: Continuous
Origin: EMT

Layer Name: ditchExtrap
Description: Extrapolated ditch edges
Colour: 80 (green)
Line Type: ACAD_ISO03W100
Origin: EMT

Layer Name: ditchPostEX
Description: Post-excavation ditch edge
Colour: 80 (green)
Line Type: Continuous
Origin: EMT

Layer Name: excavatedArea
Description: Area excavated
Colour: 210 (magenta)

Line Type: ACAD_ISO03W100
Origin: EMT

Layer Name: images
Description: AP and Gradiometry raster images
Colour: white
Line Type: Continuous
Origin: BG

Layer Name: KEY
Description: Documentation of drawing
Colour: white
Line Type: Continuous
Origin: EMT

Layer Name: Labels
Description: Labels for context and fill numbers
Colour: white
Line Type: Continuous
Origin: EMT

Layer Name: pitSmall
Description: Small pit feature
Colour: 130 (cyan)
Line Type: Continuous
Origin: EMT

Layer Name: pitSmallExtrap
Description: Extrapolated pit edges
Colour: 130 (cyan)
Line Type: ACAD_ISO03W100
Origin: EMT

Layer Name: pitWithHearth
Description: Pit containing a hearth
Colour: 10 (red)
Line Type: Continuous
Origin: EMT

Layer Name: pitWithoutHearth
Description: Pit not containing a hearth
Colour: 170 (blue)
Line Type: Continuous
Origin: EMT

Layer Name: pitWithoutHearthExtrap
Description: Pit not containing a hearth extrapolated edges
Colour: 170 (blue)
Line Type: ACAD_ISO03W100
Origin: EMT

Layer Name: posthole
Description: Post hole feature
Colour: 50 (yellow)
Line Type: Continuous
Origin: EMT

Layer Name: sunkenBuilding
Description: Sunken living area feature
Colour: 40 (orange)
Line Type: Continuous
Origin: EMT

Layer Name: sunkenBuildingExtrap
Description: Sunken living area feature extrapolated edges
Colour: 40 (orange)
Line Type: ACAD_ISO03W100
Origin: EMT

Layer Name: trenchWalls
Description: Excavation boundary and interval markers
Colour: white
Line Type: Continuous
Origin: EMT/BG

Layer Name: unknown
Description: Information unavailable
Colour: 10 (red)
Line Type: Continuous
Origin: EMT

Project Name: Burdale CAD Project

Reference Number: None

Creator: EMT

Name of CAD model: BurdaleGeophysicalAP

CAD software: AutoCAD 2004

Layer conventions:

Layer Name: 0
Description: Drawing surface
Colour: white
Line Type: Continuous
Origin: AutoCAD blank layer

Layer Name: APditch

Description: Possible ditches apparent on aerial photography
Colour: 10 (red)
Line Type: Continuous
Origin: MC

Layer Name: APpospits
Description: Possible pits apparent on aerial photography
Colour: 10 (red)
Line Type: Continuous
Origin: MC

Layer Name: APvisibility
Description: probable association of aerial photography and existing features
Colour: white
Line Type: Continuous
Origin: EMT

Layer Name: CONTOURS
Description: Lines of elevation
Colour: 254 (grey)
Line Type: SFTR_SOLID
Origin: OS © Crown

Layer Name: Images
Description: AP and Gradiometry raster images
Colour: white
Line Type: Continuous
Origin: BG

Layer Name: KEY
Description: Documentation of drawing
Colour: white
Line Type: Continuous
Origin: EMT

Layer Name: Labels
Description: Labels for context and fill numbers
Colour: white
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue0-.99nT
Description: Value of magnetic flux
Colour: 40 (orange)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue1-1.99nT
Description: Value of magnetic flux
Colour: 50 (yellow)

Line Type: Continuous
Origin: EMT

Layer Name: magneticValue2-2.99nT
Description: Value of magnetic flux
Colour: 70 (green)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue3-3.99nT
Description: Value of magnetic flux
Colour: 90 (green)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue4-4.99nT
Description: Value of magnetic flux
Colour: 110 (green)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue5-5.99nT
Description: Value of magnetic flux
Colour: 130 (cyan)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue6-6.99nT
Description: Value of magnetic flux
Colour: 140 (light blue)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue7-7.99nT
Description: Value of magnetic flux
Colour: 170 (blue)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue8-8.99nT
Description: Value of magnetic flux
Colour: 210 (magenta)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValue9-9.99nT
Description: Value of magnetic flux
Colour: 10 (red Value of magnetic flux)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValueNegativeReading
Description: Negative reading from the magnetic flux
Colour: 31 (light brown)
Line Type: Continuous
Origin: EMT

Layer Name: magneticValueNotAvailable
Description: Information unavailable for this feature
Colour: 33 (brown)
Line Type: Continuous
Origin: EMT

Layer Name: trenchWall
Description: Excavation boundary and interval markers
Colour: white
Line Type: Continuous
Origin: EMT/BG

End of documentation