

## Section 18

### Construction and repair techniques at La Grava

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Cross-references to Digital Supplement in red  
Cross-references to Printed Synthesis in brown

[18.01, 18.02, 8.03, 18.04, 18.05, 18.06, 18.07, 18.08]

The 109 buildings are grouped into 80 structure sequences, which include roofless constructions, dating from the 11th to late 16th centuries [18.09]. A wide variety and combination of building techniques in timber, stone, and both in combination, were used in both manorial and ecclesiastical phases. Analysis of the techniques used for constructing the La Grava buildings might have potential to throw some light (at least in the east Anglia/east midlands region) on possible datable sequences of construction type just as pottery forms have identifiable form changes through time, and demonstrate that particular structural techniques, or combinations of them, were considered more appropriate for structures intended to be used for specific functions. There is the good potential for identifying changes of function in some structures and structure sequences, and future work should include codification into an expandable database.

This might clarify whether the more unusual techniques were unique to the La Grava monastic grange or royal manor site, or whether the evidence might be capable of supporting alternative interpretations. Specific techniques are identified that facilitate following the use or disuse of particular building techniques across the normal divisions of periodisation. Particular techniques or combinations of technique may have significant distribution patterns or contribute to arguments on date, function, or status.

Construction techniques of all periods have been broken down into their diagnostic elements in the same way as a ceramicist might approach their material. The series has used and built upon existing typologies including those of Chapelot and Fossier (1985) and Brunskill (1994), but cannot include the multifarious types of timber walling that require wood survival. When suitable evidence is recovered, it can be integrated into the series.

Other structural features such as hearths, drains, and roof forms can be used independently or in conjunction with the construction elements comprising the building shells.

There is a limit to the diagnostic capabilities of such a system when it comes to reconstructing timber constructions based upon vestigial evidence. La Grava has no direct evidence of carpentry. There may be no direct evidence to determine whether a slot carried round wood uprights or stave planking; some padstones might have been bearers of early cruck superstructures rather than the now more common box frame. The evidence can be capable of alternative interpretation. Earth-fast systems of construction appear to be more flexible, rebuilding walls using a different system; combination buildings are possible such as S13.

Structure descriptions refer to particular techniques, including levelling up with clay tile or stone in the coursing. Repairs, where recognised, are recorded.

## The construction typology

The building descriptions [19-28] include details of construction techniques and materials: timber, stone and timber, stone alone, or earth construction such as cob. One structure may incorporate several construction techniques in different parts of the building. These differences may relate to function or date or both. They must be read with the description below and the diagrams. All building techniques have been illustrated.

### Construction Techniques 1-38

#### CT1

[18.01]

Individual earthfast post

Pointed timber post larger than a stake, probably, but not necessarily set into a small excavated void cut into the existing ground surface. It may have a narrow gap between post and ground backfilled with soil, or no visible gap (driven post). Generally accepted as being used in the early medieval period. See Newstead in Le Patourel 1973, 69, and Chapelot and Fossier (1985, 250).

Used in

S1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 20, 22, 26, 30, 36, 44, 53, 67, 82, 83, 84, 86, 87, 89, 100, 101, 105, 106

#### CT2

[18.01]

Individual earthfast post with stone packing

Large to medium sized flat bottomed post set in a void and packed with masonry fragments to hold it firmly in place. Generally held to be slightly later than CT1, viz East Haddlesey in Chapelot and Fossier (1985).

Used in

S9

#### CT3

[18.01]

Individual earthfast post set in a post pit

A substantial post placed in a wider post pit which is then packed with soil; the post pit is usually clearly distinguishable from the post stain or post void. It may be possible to detect deliberate dismantling or decay.

Used in

S7, 10, 14, 17, 18, 20, 26, 33, 54, 86, 88, 96, 102, 107

#### CT4

[18.01]

Stakehole

A small pointed stake is driven into the ground leaving a tapering hole.

Used in

S7, 10, 11, 14, 15, 18, 21, 22, 26, 89, 96, 98, 99, 100, 101

**CT5****[18.01, 18.08]****Individual clayfast post**

Posts set in clay-packed voids with the packing rising above ground level. Each void may hold one or two posts.

Used in

**S35, 68****CT6****[18.01]****Earthfast post and interrupted sill beam**

Posts set in post pits with sill beams set directly on the ground surface. This can normally be detected through the misalignment of the structure demanding an irregular articulation. Examples come from Weoley Castle in the 13th century, Chapelot and Fossier (1985, 264).

Used in

**S9, 11****CT7****[18.02]****Beam slot**

Sill beams set into trenches cut into the ground surface to take timber uprights. The same ground evidence would show for Goodburn's London wall system b) stave in grooved base-plate (Goodburn 1997).

Used in

**S6, 8, 12, 13, 14, 33, 36, 37, 38, 75, 79, 88, 97****CT8****[18.02]****Sill beam on ground surface**

Timber sill beams laid directly on the ground, either inferred by the pattern of floor surface or by pressure marks.

Used in

**S45, 47, 48, 56, 71, 79, 92, 94, 95****CT9****[18.02]****Individual post on padstone**

Timber upright seated on a flat stone, on the existing ground surface. See Chapelot and Fossier (1985), citing both Haddlesey and Newstead, dating from the 13th to 15th centuries, and leaving little or no trace once the stone has been removed.

Used in

**S36, 40, 19, 23, 40, 41, 54, 60, 61****CT10****[18.02]****Continuous sill beam on masonry footing**

Shallow wall footings rest upon the ground surface with a continuous sill beam on a level course or courses of masonry. Chapelot and Fossier (1985) Type 4.

Used in

**S20, 23, 27, 30, 31, 32, 41, 42, 50, 61, 63, 64, 77**

**CT11****[18.02]****Continuous sill beam on partly buried wall****At least two courses of masonry footing within a construction trench gives way to an above ground footing upon which the sill beam rests. Chapelot and Fossier (1985) Type 10.****Used in****S20, 23, 36, 39, 41****CT12****[18.02]****Interrupted sill beam on surface post pad within a wall****Post pad incorporated within a surface laid footing, with sill beams in between the pads and posts. Chapelot and Fossier (1985) Type 9A.****Used in****S9, 29, 65****CT13****[18.02]****Interrupted sill beam and buried post pad****Timber post set on a padstone partly buried in the ground along with a shallow, level, stone footing. ?East Haddlesey, Chapelot and Fossier (1985) Type 8A; 14th and 15th centuries.****Used in****S59****CT14****[18.03]****Clay-fast posts set in masonry****Posts set in clay within deliberately-constructed voids placed at intervals within dwarf masonry footings. Interrupted sill beams might be inferred, carrying a box frame.****Used in****S35****CT15****[18.03]****Masonry blocks within a construction trench seated on a base of erratics****Erratic cobbles laid within a foundation trench to take substantial blocks of masonry probably to two storeys.****Used in****S16****CT16****[18.03]****Masonry blocks within a construction trench****Masonry blocks, usually dressed, built into a construction trench marginally wider than the wall footing. It takes the masonry to first floor height.****Used in****S16, 17, 19, 23, 24, 25, 28, 51, 54, 56, 58, 80**

**CT17****[18.03]****Multiple storey stone on ground**

Substantial masonry footings constructed directly on the ground surface; at more than 0.45m wide it is wider than CT18 below, and generally comprises larger and better dressed stone laid in courses which could take the wall above a bottom storey. The centre part of the wall is usually rubble-filled.

Used in

**S53, 54, 55, 69, 70, 72, 78****CT18****[18.03]****Single storey stone on ground surface**

Masonry footing constructed directly on the ground surface. This is usually 0.40m–0.45m wide, and therefore wider than a dwarf stone wall footing; it is intended to take stone up to eaves height for a single-storey structure, or to take up the frame thereafter. Used in

**S27, 28, 33, 34, 35, 43, 44, 47, 49, 54, 57, 66, 72, 73, 74, 76, 85, 103****CT19****[18.03]****Pitched stone laid to take a sill beam**

One course of pitched stone laid in a shallow depression, with the top surface flat enough to take a sill beam raised above ground level. The upper part of the wall is usually cob or clay lump.

Used in

**S62, 33****CT20****[18.04]****Pitched stone footing with dressed stone above**

Pitched stone footing within a foundation trench, carrying levelled courses of masonry. The foundations are wider than 0.40m, and intended to carry the walling above the ground storey.

Used in

**S19****CT1****[18.04]****Packed post pads**

Shallow pits filled with close-packed rubble or other hard material to act as post pads for timber uprights.

Used in

**S37, 38, 57****CT22****[18.04]****Cob on pitched stone footings**

Pitched stone pressed into the ground to lift a clay lump superstructure.

Used in

**S36, 52, 62**

**CT23****[18.04]**

Erratic, masonry and padstone footing with clay superstructure  
Narrow footings up to 0.3m wide comprised large erratic cobbles and carstone rubble interrupted at intervals with padstones to take timber posts. Either clay-bonded or drystone walling. The frame was filled with clay lump.

Used in

**S36, 37, 38, 40, 48, 67****CT24****[18.04]**

Earth construction on contemporary ground surface  
Structure comprised of treated subsoil, usually mixed with an organic filler, with no discernible footings of other material.

Used in

**S46, 47****CT25****[18.04]**

Post resting on ground surface  
Flat-bottomed post resting directly upon the ground surface.

Used in ?

**S10****CT26****[18.05]**

Earthfast post set on flat stone  
Post set within a post pit and resting with a flat cut surface on a level stone; this can have side packing. Newstead and East Haddlesey, thought to be 13th century and later than CT 1. Chapelot and Fossier (1985) Type 2.

Used in

**S26****CT27****[18.05]**

Masonry footings and padstones in foundation trenches  
Substantial masonry footings up to c 0.40m wide and capable of carrying walling to at least one storey, with large post pads set at intervals to take the main elements of the timber framing. Walling is set in foundation trenches, with the padstone tops at least two courses above ground level.

Used in

**S29****CT28****[18.05]**

Masonry pier bases  
Substantial rectangular constructions of masonry designed to take large timbers or masonry columns.

Used in

**S17, 54**

**CT29****[18.05]****Masonry roof support holders****Masonry blocks hollowed out to take timber roof or ceiling supports, and resting on the floor surface.****Used in****S16, 19****CT30****[18.05]****Timber posts in walls****Timber posts let into the masonry, usually on the inside face, as part of the original construction. The posts may penetrate below the level of the footing.****Used in****S17, 54****CT31****[18.05]****Posts and wattle****Small, usually pointed, posts set in two alternating rows with stakeholes for wattle weaving in between.****Used in****S (probably 1, 2, 3, 4) 7, 90, 98, 99, 100****CT32****[18.06]****Raised gravel base for footings****Linear deposits of clean gravel beneath the wall line, levelling the surface to take a timber or dwarf stone wall footing.****Used in****S33, 36****CT33****[18.06]****Cellared structures****Buildings constructed over purpose-built voids, commonly known as sunken-floored buildings. These may have been floored over with planks, or activities may have taken place on the sunken floor/cellar. The superstructure comprises posts within or without the cellar, with wattle and daub walls.****Used in****S1, 2, 3, 4, 5****CT34****[18.06]****Earth construction within a construction trench****Buildings constructed of clay subsoil, usually mixed with an organic filler. The walls are raised in blocks or within shutters, the base of the walls being built into a construction trench.****Used in****S14**

**CT35****[18.06]****Padstones in dished setting****Circular pits with raised centres, perhaps to take padstones or saddles. The outer ring may have worked as a drip gully.****Used in****S107****CT36****[18.06]****Pilaster buttresses****Padstones jutting outward from the wall line to take timber or stone pilasters.****Used in****S28, 29****CT37****[18.06]****Semi-celled structures****Buildings which are wholly cut into the ground leaving a shallow but sharply-defined hollow.****Used in****S81****CT38****[18.06]****Scaffolding poles****Posts as CT1, but removed on completion of the building or alterations.****Used in****S16, 17****Repair Techniques 1-11****RT1****[18.07]****Underpinning with pitched tile****Shallow trenches dug partly under masonry footings and filled with pitched tile as underpinning.****Used in****S35, 36****RT2****[18.07]****Underpinning with masonry****Shallow trenches dug partly under masonry footings and filled with stone rubble as underpinning.****Used in****S35****RT3****[18.07]****Replacement posts****Sequences of one or more posts replacing earthfast posts.****Used in****S7, 18**



**RT4****[18.07]****Masonry buttressing/cladding****The addition of masonry against the inside or external surface of an existing wall in order to give additional support.****Used in****S16, 17, 23, 35, 36, 51****RT5****[18.07]****Masonry 'splicing'****Rebuilding sections of walling while the structure remains standing.****Used in****S19, 35****RT6****[18.07]****Replacement posts in walling****Removal of rotten timbers by enlarging voids within walling and patching with rubble.****Used in****S35****RT7****[18.07]****Masonry bracing****Construction of diagonal walling within the corner angle of two walls in order to tie the structure together.****Used at****Elstow Abbey****RT8****[18.07]****Timber support****Construction of timber post support for collapsing jetties.****Used at****Elstow Abbey****RT9****[18.07]****Timber buttressing in masonry****Timbers cut into the wall footing and into the ground surface to give added support, usually on the exterior of buildings.****Used in****S35, 38, 44****RT10****[18.07]****Timber buttressing****Timbers set into the ground alongside structures to give additional support.****Used in****S35**

**RT11**

**[18.07]**

**Repair of ground beam**

The partial excavation of a timber slot with a replacement slot inserted within its length.

Used in

**S13**

## Construction terms

### Bonding agents used in masonry constructions

**[19-28]**

**BA1** None apparent: drystone walling

**BA2** Clean clay

**BA3** Clay loam mix

**BA4** Clay loam with a little mortar

**BA5** Sandy yellow mortar

**BA6** Hard white mortar

### Floor materials used within buildings

**[37]**

**FM1** Stone flagging, carstone

**FM2** Stone flagging, limestone

**FM3** Close coarse cobbling with erratics and carstone

**FM4** Pebble and cobble

**FM5** Gravel

**FM6** Mixed gravel and pebble

**FM6<sup>1</sup>** Earth

**FM7** Compacted clay

**FM8** Timber on floor joists

**FM9** Mortar

**FM10** Plaster or gypsum

**FM11** Sand mixed with loam

**FM12** Paviments

**FM13** Ceramic floor tiles

**FM14** Brick

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<sup>1</sup> Editor's note: two FM6s have been defined

## Outside buildings: yard surfaces

[16]

**YS1** Cobble packing

**YS2** Areas of close packed cobbles and erratics to form hard standing

**YS3** Gravel spreads

**YS4** Pebbles

## Building materials (walling)

[37]

**BM1** Carstone blocks

**BM2** Carstone rubble

**BM3** Totternhoe Clunch (dressings)

**BM4** Limestone slabs

**BM5** Cob/clay lump

**BM6** Timber

**BM7** Wattle and daub

**BM8** Erratics and carstone

## Roofing materials

[37]

**RM1** Organic: shingles, thatch, turf, or furze

**RM2** Stone slates (Colleyweston and others)

**RM3** Plain clay tiles

**RM4** Glazed clay tiles

**RM5** Gutter tiles

**RM6** Roof furniture (chimneys, ventilator, ridge tiles)

**RM7** Lead or copper sheeting or flashing, nails

## Construction terms: building types (BT1-7 after Brunskill 1994)

[19-28]

**BT1** Aisled building

Building with aisles along one or both sides; normally a row of posts separates the main space from the aisles.

**BT2** Fully aisled

Buildings with aisles on both sides.

**BT3** Semi-aisled

Aisles on one side only.

**BT4** Quasi-aisled

Buildings with no row of posts between the central space and aisles.

**BT5** Quasi-semi-aisled

Buildings without posts between the main space and its single aisled extension.

**BT6** Base crucks

Pairs of naturally curved timbers rising from, at, or near ground level, and with the curved parts inclining inwards to terminate at a heavy collar.

**BT7 Bay**

The unit division comprising the space between two sets of principal posts. (The width may vary considerably but was often fairly uniform in a given building type in a particular place at one period, (Brunskill 1994, 96)).

**BT8 Raised building**

Building supported on four or more posts or pillars set on padstones or staddle stones.

**BT9 Cellared**

Buildings with a cellar or gap beneath the floor.

**BT10 Single span building**

E = Early L = Late

WB = Watching Brief conditions

S no	Function or type	Duration		Out of use by	Trench	Area	Sector
1	Sunken floor building	3.1	3.1	3.2	8	4	4
2	Sunken floor building	3.1	3.1	3.2	33	12	4
3	Sunken floor building	3.1	3.1	3.2	33	12	4
4	Sunken floor building	3.1	3.1	3.2	30	8	2
5	Sunken floor building	3.1	3.2	3.2	2	5	3
6	Hall (under 87)	3.1	3.1	3.2	2	5	3
98	?domestic slots & pits	3.1	3.2	end 3.2	30	11	1
99	Pens? posts & stakes	3.1	3.2	end 3.2	30	10	4
100	Pens? Posts & stakes	3.1	3.2	end 3.2	30	10	4
101	Pens? Posts & stakes	3.1	3.2	end 3.2	8	4	4
105	Pens? Posts & stakes	3.1	3.2	end 3.2	13	11	1
67	Agricultural, near 1	3.2	3.2	3.2	30	9	2
87	Domestic (over 6)	3.2	3.2	3.2?	2	5	3
89	Sunken floor building	3.2	3.2	3.2?	8	4	4
90	Sunken floor building	3.2	3.2	3.2?	8	4	4
91	Sunken floor building(s)? (under 24)	3.2	3.2	4.1	3	3	5
8	Hall (under 88)	4.1?	4.2	4.3	13	11	2
10	Agricultural	4.1?	5.1L?	5.1L	30	8	2
14	Domestic, hall (under 18)	4.1?	4.3	5.1	23	10	1
15	Service, bridge (under 21)	4.1?	5.1E	5.1L	13	11	1
82	?Agricultural SW of 8	4.1?	4.2	4.3	13	11	2
83	?Agricultural SE of 8	4.1?	4.2	4.3	13	11	2
84	?Agricultural E of 83	4.1?	4.2	4.3	13	11	2
97	?domestic slots & posts	4.1?	4.2	end 4.2	1	11	1
9	Domestic/service (building + fence)	4.1L?	5.1L	5.1L	30	9	2
7	Hall/kitchen + partial rebuild	4.2?	5.1L?	5.2	13	11	2
11	Domestic? Hall (under bank 4)	4.2?	5.1L?	5.1L	13	11	2
12	Domestic? Hall (under 13)	4.2?	4.2	4.3	1	11	1
88	Domestic (over 8)	4.2?	4.3	4.3	13	11	2
13	Domestic, hall (over 12, under 19)	4.3?	5.1L	5.2	6,13,23	11	1
69	Agricultural? outlier	4?	?	5.2?	WB	12	5
70	Agricultural? outlier	4?	?	5.2?	WB	12	5
71	Agricultural? outlier	4?	?	5.2?	WB	12	5
72	Agricultural? outlier	4?	?	5.2?	WB	3	5
73	Agricultural? outlier	4?	?	5.2?	22	12	5
74	Agricultural? outlier	4?	?	5.2?	22	12	5
75	Agricultural? outlier	4?	?	5.2?	WB	12	5
16	Domestic, chamber Ecclesiastic, chapel Domestic	5.1E 5.3E 6.1	5.3E 5.5L 6.1		7,13	11	2
18	Domestic/agricultural Service, workshop (over 14, under 86)	6.2 5.1E	6.2 5.1L	7.1 5.1L	23	10	1

S no	Function or type	Duration		Out of use by	Trench	Area	Sector
24	Agricultural (over 91 under 35)	5.1?	5.2L	5.3	2-5,16	5	3
25	Agricultural (under 35)	5.1?	5.2L	5.3	2-5	5	3
86	Service/industrial (over 18 under 23)	5.1	5.1	5.2	23	10	1
107	?Hay loft	5.1	5.2	5.2L	8	4	4
17	Great Hall under 63	5.1L	5.6L	6.1	13	11	2
19	Prior's Chamber (over 13)	5.2E	5.6	6.1	1,6	1	1
20	Service (under 29)	5.2E	5.2L	5.3	13	11	1
21	Service Under 28)	5.2E	5.2L?	5.3	13	11	1
106	Hitching rail	5.2	5.2	5.3	13	11	1
23	Service, kitchens & smokehouse A (over 86)	5.2	5.3		23	11	1
	Service, kitchens & smokehouse B	5.3	5.4				
	Service, kitchens	5.4	5.6	6.1			
26	Service, bridge (under 53)	5.2	5.3?	5.4	13	11	1
76	Gate & wall E of 19	5.2	5.6	6.1	1,30	11	1
95	Bridge across CF29 Route Z	5.2?	?5.2	5.3	30	6	2
96	Service	5.2	?5.2	end 5.2	13	11	1
103	?Agricultural	?5.2	?	?	WB	12	4
106	Hitching rail	5.2	?5.3	end 5.3			
22	Domestic, hall latrine	5.2L	5.3	5.4	7,13	11	1
51	Agricultural, pigeoncote	5.2L?	5.6L?	6.1	18	7	5
28	Service, kitchens (over 21)	5.2 end	6.1L?	6.2	13	11	1
30	Service?	5.3E	5.4		13	11	1
	Service? Gatehouse with 53	5.4	5.6				
	Domestic + gatehouse with 53	6.1	6.1	6.2			
31	Service, gatehouse with 30	5.3E	5.6L	6.1	13	11	1
32	Service, bridge with 19 + 27 (under 58)	5.3E	5.4	5.4	6	11	1
33	Service, gatehouse E of 31	5.3E	5.4L	5.5	13,30	6,8,11	1
34	Service, gatehouse E of 33 (under 62, over 77, CF29)	5.3E	5.4?	5.5	30	6	2
35	Agricultural (over 24, 25)	5.3E	6.1E?	6.2	2-5,16	5	3
36	Agricultural	5.3E	5.4		30	6	1
	Agricultural, storage N of 37	5.4	5.5				
	Agricultural, workshop/granary	5.5	5.6	6.1			
37	Agricultural, gatehouse?	5.3E	6.1?	6.2L	30	6	2
38	Agricultural, byre + bridge R	5.3E	5.5		30	6	2
	Agricultural, storage + bridge R	5.5	5.5				
	Agricultural, storage/workshop	5.6	6.1				
	Agricultural, storage, granary	6.1	6.2?				
	Agricultural, storage/workshop	6.2	7.0	7.0			
40	Agricultural, barn & paddock (over 10)	5.3E	5.4		30	8	2
	Agricultural, barn (part under 41)	5.4	5.6L	6.1			
43	Service, kitchens	5.3E	5.6L?	6.1	30	9	2
45	Agricultural NW of 40	5.3E	5.3L	5.4	30	9	2
46	Agricultural N of 45	5.3E	5.3L	5.4	30	9	2
47	Agricultural N of 46	5.3E	5.6	6.1	30	9	2
49	Agricultural W of 34, E of 33	5.3E	5.3L?	5.4	30	6	2
52	Agricultural N of 36	5.3E	5.6?	6.1	30	6	3
77	Service, drainage system E of 16	5.3E	5.5E?	5.5L	30	6,11	1
76	Service E of 19 (under 79)	5.3?	5.3L	5.4	1,30	11	1
27	Service, latrine block	5.3	5.5L?	5.6	13,23	11	1
29	Guest house (over 20)	5.3	5.6	6.1	13	11	1
39	Service? E of 16	5.3	5.5E?	5.6	6,30	6,11	1
44	Agricultural, dam SE of 43	5.3	5.6L	6.1	28	1	2
48?	Agricultural W of 47	5.3	5.4	5.5	30	9	2
50	Service, wellhouse S of 30	5.3	5.5		30	9	2
	Service, well	5.5	5.6	6.1			
78	?Chamber S of 76, (under 54)	5.3	5.3L	5.4	1	11	1
81	Domestic ?dormitory SE of 16	5.3	5.6	6.1	7,13	11	1
93	Bridge across CF29 Route L	5.3	5.5	5.6	30	10	2
94	Bridge across CF29 Route R	5.3	6.1	6.2	30	6	6
108	?Store	5.3	5.4	5.5	30	6	
109	?Store	?5.3	5.4	?5.5	30	6	

<sup>2</sup> Editor's note: Section 23 text and plans indicate this is P5.2 only, not P5.3 or 5.4.

S no	Function or type	Duration		Out of use by	Trench	Area	Sector
53	Service, bridge W of 30	5.4E	5.6L?	6.1	13	11	1
41	Agricultural byre & domestic (over part 40)	5.4E	5.4		30	6	2
42	Domestic Agricultural SE of 43	5.5 5.4E	5.6 5.5	6.1 6.1	30	9	2
55	Domestic	5.5	5.6				
56	Domestic + garden + curtilage	5.4E	5.6L	6.1	30	8	2
79	Wall remnant	5.4E	5.6L?	6.1	30	9	2
80	Service, gate E of 19 (over 76)	5.4E	6.1	6.2			
	Service? N of 16 (over 77)	5.4E	5.6L	6.1	1,30	11	1
		5.4E	5.5	6.1	30	11	
85	?Chamber NE of 54	5.4	5.6	6.1	30	11	1
54	Later prior's lodgings, chamber N wing	5.4	5.6L		7,13	11	1
	Service, cross wing	5.4	5.6L				
	Domestic, S wing	5.4	5.5	6.1			
58	Service, bridge (over 32)	5.5E	5.6L	6.1	13,23	11	1
59	Service A	5.5E	5.6		30	9	2
	Service B (dairy?)	5.6	6.1E	6.2			
57	Service, kitchen	5.5	5.5L	5.6	23	10	1
60	Service, store NW of 19	5.6E	6.1	6.1L	23	10	1
62	Service, gatehouse	5.6E	6.1L	6.2	30	6	2
61	Service	5.6	5.6	6.1	23	10	1
66	Agricultural N of 41	5.6	6.1L	6.2	30	6	2
102	hayrick?	5.6	5.6	6.1	8	4	4
63	Manor house, domestic and service over 17	6.1E	6.1L	6.2	1,13	11	1
64	Service, gatehouse over 31	6.1E	6.1L	6.2	13	11	1
65	Service workshop E of 16	6.1E	6.1L	6.2	7,13	11	1
68	Agricultural? over part 35	6.1E	6.1L	6.2	2-5	5	3
104	road/gate	6.1	6.1	6.2	30	11	2
92	Bridge across CF27 Route P	6.2	6.2	7	5	6	2

**18.09 Structures in construction date order, by function, duration and location**

4.1	4.2	4.3	5.1	5.2	5.3	5.4	5.5	5.6	6.2	7.0				
7 13		1									1			
			1								1			
			16		1	2	3	4	5	6	7	8		
				17	1		2						2	
				19				1	2	3				3
				23			1	2		3				3
				33			1	2						2
						51			1					1
						30				1		2		2
						35		1		2	3			3
						36		1		2				2
						37		1	2	3	4			4
						38				1	2	3	4	5
						40		1						1
						43		1		2				2
							27			1				1
							28	1		2		3		3
							29	1			2			2
							41		1	2				2
							42			1				1
								54	1				1	
							59		1			1		
0	0	1	1	2	4	17	14	6	4	3	52			

18.10 Chart showing Structures with modifications in date order; the tone line shows the life of structures, with modification numbers according to phase

Structure	Probable Function	Present phasing	Earliest possible	Latest possible	Out of use	Trench	Area
69	Agricultural outlier		3.2-4.1	5.1	5.2?	WB	12
70	Agricultural outlier		3.2-4.1	5.1	5.2?	WB	12
71	Agricultural outlier		3.2-4.1	5.1	5.2?	WB	12
72	Agricultural outlier		3.2-4.1	5.1	5.2?	WB	3
73	Agricultural outlier		3.2-4.1	5.1	5.2?	WB	12
74	Agricultural outlier		3.2-4.1	5.1	5.2?	20	12
75	Agricultural outlier		3.2-4.1	5.1	5.2?	WB	12
<b> </b>							
4	SFB	3.1	3.2-4.1	3.2-4.1		30	8
7	Hall	4.1	3.2-4.1	4.1		13	11
8	Hall	4.1	3.2-4.1	4.1		13	11
9	?Service building	4.1	3.2-4.1	4.1	5.1	30	9
10	Major hall or barn	4.1	3.2-4.1	4.1?	5.1	30	8
11	Hall under Bank 4	4.1	3.2-4.1	4.2?	5.1	13	11
12	?Hall under S13	4.1	3.2-4.1	4.2?	4.3	1	11
13	Major hall	4.3?	3.2-4.1	4.1		6, 13, 23	11
14	Major hall	4.1	3.2-4.1	4.1?	5.1	23	10
15	Bridge	4.1	3.2-4.1			13	11
18	Kitchen or workshop	4.3	3.2-4.1			23	10
24	Barn?	4.3/5.1	3.2-4.1 <sup>3</sup>			2-5	3
25	Barn?	4.3/5.1	3.2-4.1			2-5	3
88	Hall	4.1/4.2	3.2-4.1	4.2		13	11
97	?Hall	4.1/4.2	3.2-4.1			1	11
CF29	Ditch	4.1	3.2-4.1	4.1			
CF34	Ditch	4.1	3.2-4.1	4.1			4
CF70	Ditch	?4.1	2	4.1			12

18.11 Table suggesting alternative dates for some outlying structures

<sup>3</sup> Editor's note: this would contradict the stratigraphic evidence presented in the detailed descriptions given in Section 21.