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YORK



ARCHAEOLOGICAL
TRUST

**YORK CITY WALLS,
CHAINAGE 3000-3100**

**REPORT ON AN
ARCHAEOLOGICAL
WATCHING BRIEF**



**1998 FIELD REPORT
NUMBER 45**

YORK CITY WALLS CHAINAGE 3000-3100

A REPORT ON AN ARCHAEOLOGICAL WATCHING BRIEF

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1.0 Introduction

Beginning on the 22nd August 1997, York Archaeological Trust carried out an archaeological watching brief on the work undertaken during the refurbishment of a 100m section of York City walls located between chainage 3000 - 3100, (National Grid Reference SE 6100 5132) (Fig.1).

The archaeological watching brief was undertaken by D.T. Evans and R. Marwood on behalf of the York Archaeological Trust, to a specification supplied by the City of York Council. All records of the watching brief are stored under the Yorkshire Museum accession code YORYM: 1997.91

2.0 Methodology

The object of the watching brief was to undertake a general survey of the section of wall under refurbishment. This work consisted of general re-pointing work along the external and internal faces of the rampart wall.

3.0 Historical Background

In 1345 Thomas de Staunton was awarded a contract to erect the stretch of wall between Fishergate Bar and the River Foss but it is also recorded that he was given an option on the future building of walls towards Walmgate. If this option had been taken up it would suggest that the City Wall in this area was originally constructed in the 14th century. The wall between Tower 37 and Fishergate Bar is faced with smaller blocks than the stretch between Walmgate Bar which may indicate that it was built or rebuilt separately. It is not known whether the isolated group of three buttresses on the section of wall are original or part of a repair or rebuild. Little else is known about this part of the walls although it was, no doubt, extensively repaired and renovated in the 19th century and will have been subject to periodic repair and maintenance during this century.

The Tower, together with the whole section of wall undergoing refurbishment stands on an earth rampart. This part of the rampart was cut back towards the end of the 19th century, when cattle pens were installed outside the rampart over the moat ditch. These were recorded on the 1891 Ordnance Survey (Fig.2) and before this they appear on Bellerby's Map of York, produced in 1847 but not on Baines' 1822 plan (Fig.3).

Before this, neither of John Speed's (1610) (Fig.4) or Drake's (1736) maps of York shows any obvious moat water outside the wall. It is possible that there was no wet defence on the outside of the wall, rather a formidable dry ditch.

4.0 Archaeological Background

The current program of repairs and restoration to the walls and bars has allowed a more detailed and comprehensive survey of the stonework of the city walls to be undertaken which supplements the work of the Royal Commission. With this present work the entire external face of the wall between Walmgate Bar and Fishergate Bar, together with parts of the bars, has been recently examined in some detail. Results from these previous archaeological observations can be found under the Yorkshire Museum's accession numbers YORYM: 1996.404 and YORYM: 1997.90.

5.0 Observations

All work recorded on this section of wall has been noted on drawing numbers 5-12 with a key for the drawings in Fig. 5. The drawings have been produced from original photogrammetry drawings received from the City of York Council, although the position of the chainage points may be slightly distorted due to the reduction process.

5.1 Tower 37

Part of Tower 37 is located within the observed area, but no restoration work was undertaken. Repairs to the tower were observed in earlier archaeological watching briefs. The tower itself is not bonded to the rampart wall and the wall plinth appears to continue behind it.

5.2 The Rampart wall

The blockwork of the rampart wall is set in regular courses of irregular sized blocks. No obvious change in build along the section of wall was observed, although the block size was more regular and slightly smaller between Tower 37 and the buttress at chainage 3030.

Although the vast majority of the stone seen in the wall was magnesian limestone, a number of blocks of sandstone and millstone grit were noted within the structure of the wall. These were fairly evenly distributed but there was a slight concentration between chainage 3000, and the buttress at chainage 3030. Along the internal face of the parapet wall gritstone blocks were, perhaps, slightly less common than in the external face. Blocks of oolitic limestone were noted in both faces of the wall. No other types of stone were recorded within this section of wall and no brick or tile patching was present.

The bedding planes of many blocks were observed and it would appear that the method of laying these vertical has been strictly adhered to. There appears to be moderate weathering over both wall faces but the majority of the badly weathered stone seems to be around the crenellations on both the external and internal faces and on the sides. Also, it was noted that many of the blocks with prominent bedding planes were on the small side, with many between chainage 3100 - 3096 only 0.06m thick. These had

chamfered sides and were held in place by fragments of limestone wedged in behind them.

Many of the block faces were cracked probably through weathering and faults within the stone. These cracks were recorded along all the length of wall examined but seemed less frequent in the area of the three buttresses west of Tower 37. Circular and oval pitting was also noted and this certainly seemed more common on the external face than the internal face where a number of linear slots or grooves in the stonework were recorded. It could be that part of this pitting was caused through lead and stone shot being fired against the walls in the Parliamentary siege of the City during 1644.

Four buttresses were observed, irregularly spaced along the section of wall, located at chainages 3013, 3020, 3030.20 and 3090.50. After close inspection of the smallest buttress at chainage 3090.50, it seems that it has been constructed at a later date than the rampart wall, as evidenced by the wall plinth being cut away to accommodate the buttress. It is bonded together with a fine, white lime mortar with an exposed aggregate finish which has been weathered away at the beds to a maximum of 0.10m in certain places. There are occasional patches of badly worn pointing, mainly around its base. It has chamfered offsets with bedding planes in both horizontal and vertical alignments.

The second buttress at chainage 3030.20 was located on a slight change of alignment of the wall. The blocks are all magnesian limestone bonded with a hard, off white, lime mortar and seem to have suffered little in the way of weathering. The mortar beds were initially flush finished but have weathered back a few centimetres in certain places. There is occasional pitting around the base of the buttress and an occasional patch of concrete pointing. It was not possible to relate the buttress to the rampart wall as the joints had been raked out before the buttress was inspected.

The third buttress at chainage 3020 was also located on a slight change of alignment of the wall. It had chamfered offsets and was bonded with a hard, cream coloured lime mortar. It was slightly paler on the south-east and north-east facing sides possibly due to the effects of weathering. Here, the mortar was initially flush finished but had weathered back up to 0.20m in places. There was also limited signs of pitting on the upper courses, especially on the north-east face and on the south-east face, what could have been a musket ball scar. The plinth of the rampart wall was visible behind the west facing side of the buttress, suggesting that this buttress may have been added to the wall at a later date or it may be the position of an earlier buttress which has been later enlarged by encasing an earlier one.

The final buttress at chainage 3013 had chamfered offsets and was made up of large magnesian limestone blocks. The upper courses were badly pitted and weathering had damaged the upper chamfered courses. The very light grey, hard lime mortar had 90% flush finishes and the whole structure seemed solid. Indeed, the mortar used in this buttress was much harder than that used in the other three. There was no evidence to suggest its date of erection but it appeared to have been initially keyed in to the rampart wall.

The wall plinth appeared to finish at Chainage 3035.80, starting again at Chainage 3053.20 and continuing up to the buttress at 3090. It then stepped down to a lower level and continued through to the end of the section observed. There were no openings in the section of wall recorded and the inspection failed to find any masons marks. The mortar bedding and state of preservation varied slightly along the length of rampart wall. The plinth was re-pointed with a fine, exposed aggregate, lime mortar and brush finished.

On the external face and beginning at chainage 3100, the two courses of blockwork above the plinth seemed to be bedded with a light grey lime mortar, which, showed signs of being initially flush finished. Approximately 50% had weathered badly and many beds were loose or absent. Several fragments of tile seem to have been wedged in as makeshift repairs. This form of bedding became restricted to the one course at chainage 3095 and with several repairs of flush cement mortar seemed to disappear at chainage 3078.

The remainder of the mortar beds from chainage 3100 - c.3090 mainly consisted of fine, compact, dark grey lime mortar tamped into the beds on top of a cream coloured lime mortar. The crenellations around chainage 3097-3094 did have many voids and cement repairs had weathered and become loose. Cement mortar was also present under the crenellation at chainage 3098.50 and 3097. An area of mortar shrinkage also occurred under the crenellation at chainage 3094 - 3093.75.

The next obvious change in mortar was noticed at chainage 3078. Here, and running back to chainage c.3090, the bedding consisted of a soft mid grey, fine lime mortar with several patches of large pebbles visible in the mix which seemed to have a brushed finish. There was the very occasional patch of cement repair but the main body of the wall seemed to be fairly solid with no signs of movement or excessive weathering on the mortar.

The remainder of the wall between chainage 3078 - 3063 consisted of a fine, compact lime mortar made with a fine off white pale sand. Approximately 20% of the bedding is repaired with concrete which is in poor condition.

From chainage 3063 - c.3042 the mortar used consisted of a white, flush finished, fine lime mortar with fewer, but much larger exposed aggregates. The majority of vertical joints being weathered back to between 0.05 and 0.15m. At chainage 3052 the joints became much more substantial with little weathering. There was a slight shrinkage on the beds of the upper, smaller sized blocks, which revealed a fine aggregate.

The crenellations between chainage 3056 - 3052 seemed to have been extensively repaired and the beds were more or less evenly weathered back but in some places the concrete mortar still remained.

A 3m length of bedding along the top of the plinth between chainage 3053 - 3050 consisted of a very weak, powdery mortar with inclusion of tile fragments.

The bedding around the crenellations between chainage 3040 - 3035 was made up of at least 75% concrete patching, the rest being a fine white lime mortar which included large white pebbles. This had weathered to a dark grey colour along the bottom two courses of block work.

The remainder of the bedding up to chainage 3000 consisted of a light grey mortar with a hard exposed aggregate, with a flush finish. This appears to have only weathered after the stone face had crumbled back although there were a few isolated patches of deep weathering, nearly 0.20m deep. There was no evidence of shrinkage or movement.

The wall did seem to be fairly vertical along the observed length, especially between Tower 37 and the buttress at chainage 3020. The base of the wall did come forward slightly between chainage 3050 - 3035, but the main change in alignment came between chainage 3072 - 3067 where the top of the wall bowed out substantially.

The mortar on the inside of the rampart wall was mainly of a similar nature all along the entire length of the observations. The bottom course of blockwork was bedded with a modern repair of cement mortar between chainage 3000 - 3040. This was probably undertaken during paving/re-paving of the wallwalk.

The bedding for the coping stones was found to be in a poor state. Indeed around chainage 3046 - 3050, it was almost non-existent whilst the remainder was so loose that it fell away when touched, this was especially the case around chainage 3094 - 3097.

It would appear that pointing repairs had been undertaken along the top three courses of blockwork from chainage c. 3044 - 3090. This consisted of a light grey mortar with a hard exposed aggregate, with a flush finish which has weathered back in several beds up to c.0.10m. Those areas which had not been repaired consisted of an equal proportions mix of off white fine lime mortar and a mid/dark grey mortar with an exposed aggregate. It had deteriorated badly and some patches of it were loose or missing.

Several crenellations showed shrinkage around their joints and those around chainages 3005, 3010, 3028 and 3084 were seen to be the worst with large voids around the blocks.

6.0 List Of Sources

R.D. Waterman (City Engineer & Surveyor). The Bars and Walls, A Survey. (1980).

Royal Commission on Historical Monuments. City Of York, Volume II, The Defences. (1972).

Drake, F. Eboracum: History and Antiquities of the City of York. (1736).

York Archaeological Trust Archives: **Various Historical Maps.**

7.0 List of Contributors

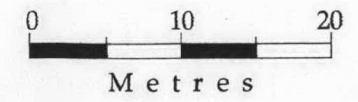
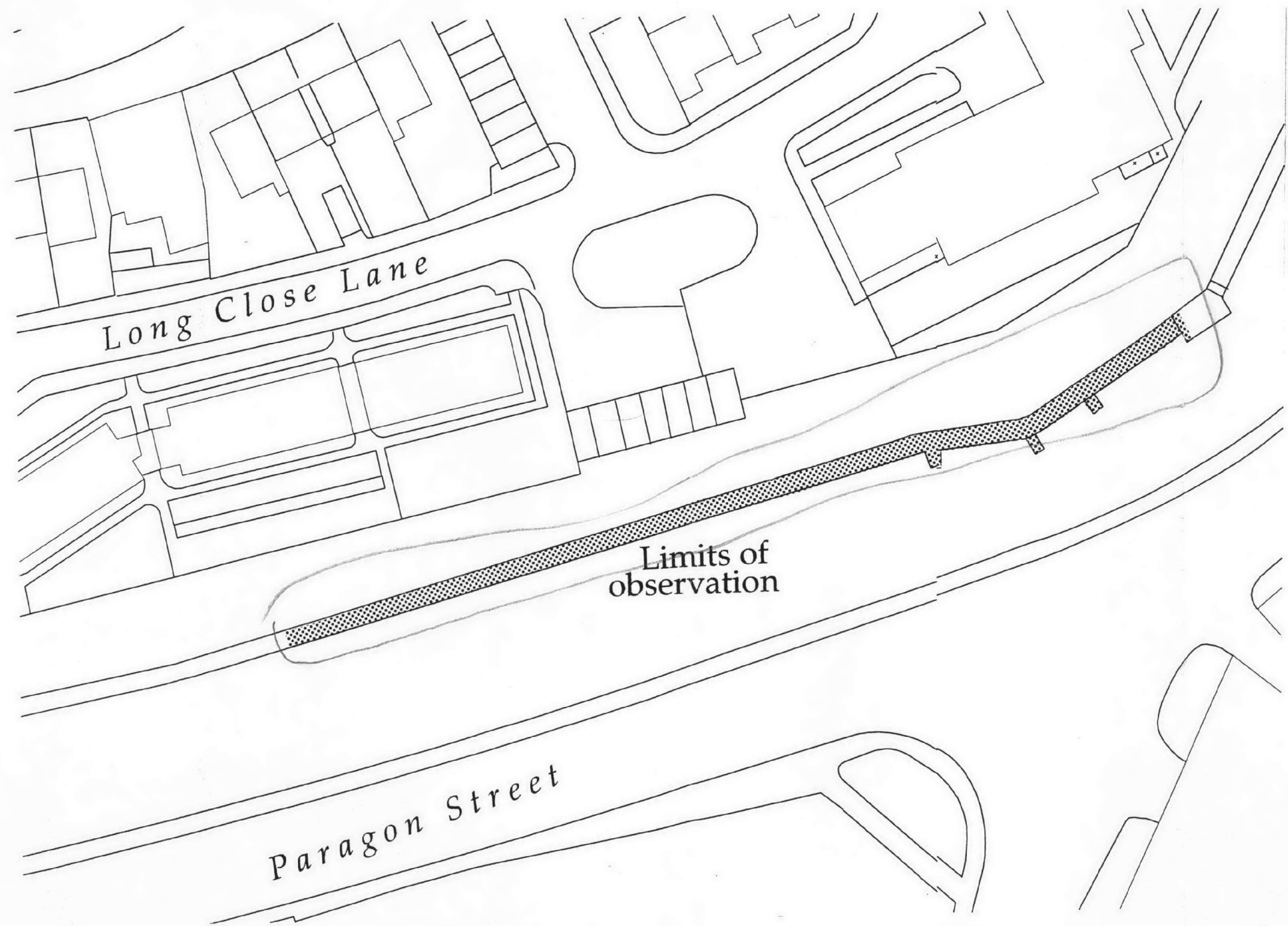
Watching brief: Russell Marwood & David T Evans

Report production: Russell Marwood

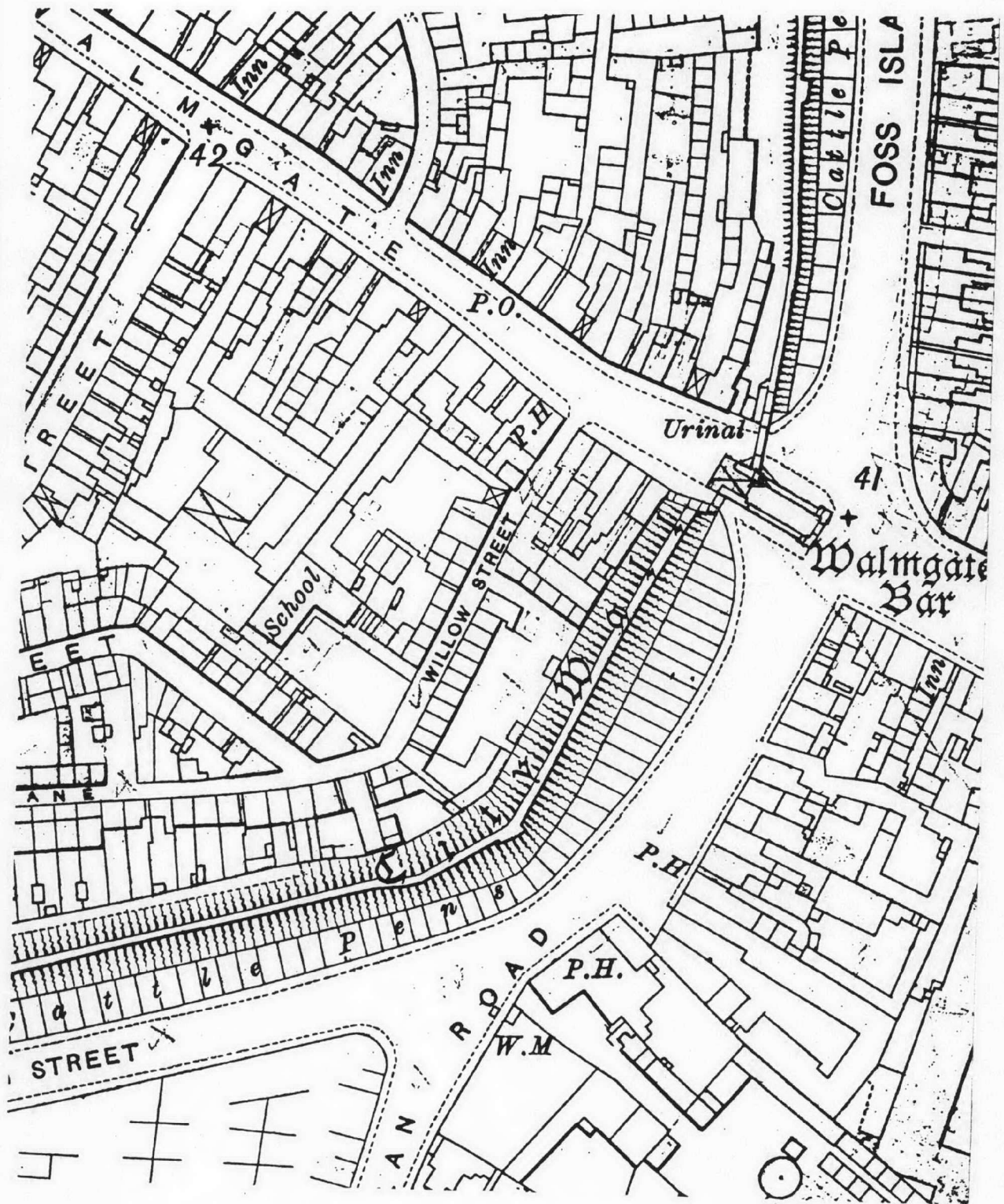
Archive: Christine Kyriacou

Editor: Martin Stockwell

SHOWING LOCATION OF OBSERVATIONS



Part of the 1891 Ordnance Survey Map of York.



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YORK CITY WALLS CHAINAGE 3000-3100

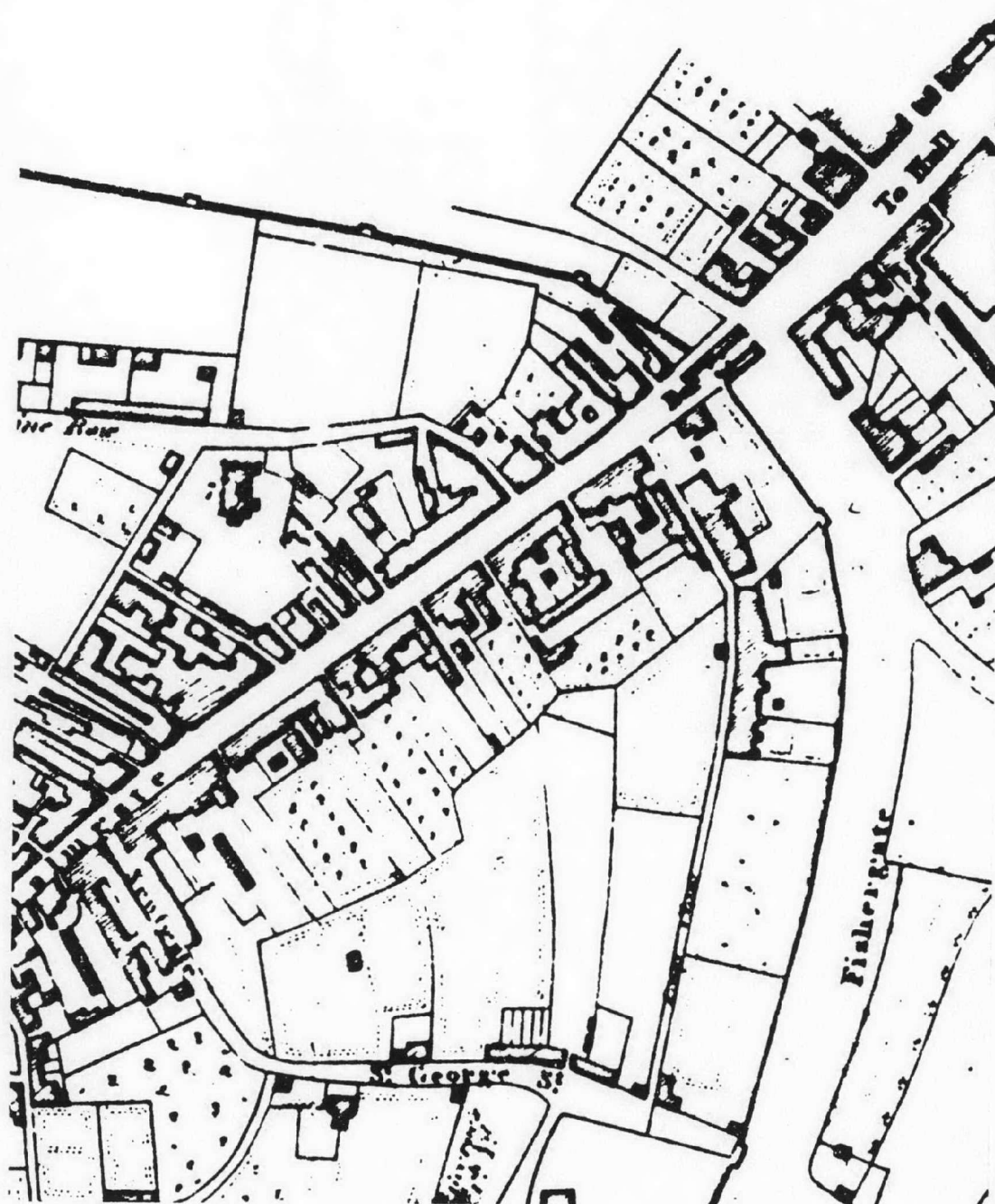
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N.G.R. SE 6100-5132

not to scale

Fig.2

Part of Baines' 1822 Plan of York.



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YORK CITY WALLS CHAINAGE 3000-3100

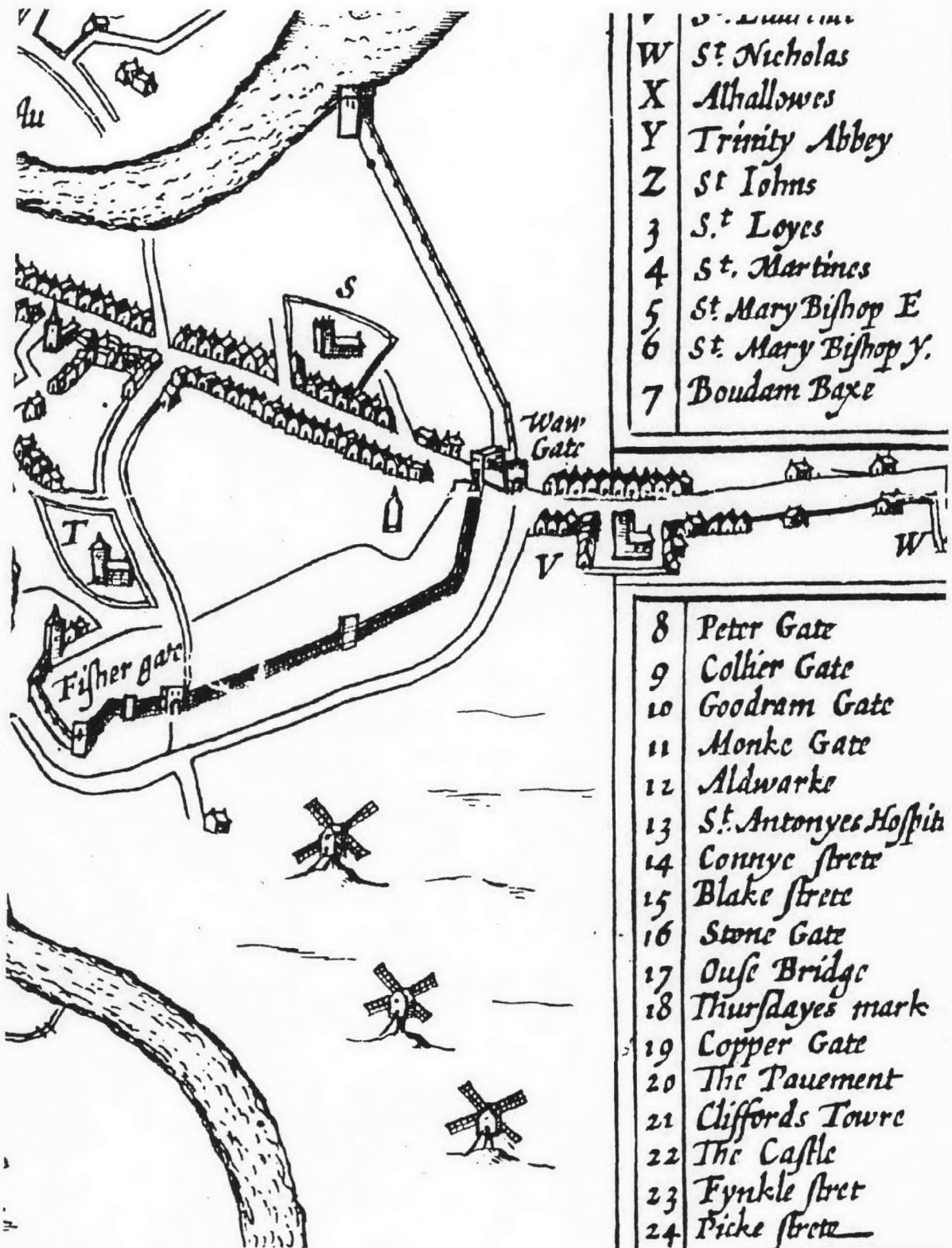
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not to scale

Fig.3

Part of John Speed's 1610 Plan of York.



1	St. Nicholas
2	Alhallowes
3	Trinity Abbey
4	St. Johns
5	St. Loyes
6	St. Martin's
7	St. Mary Bishop E
8	St. Mary Bishop Y.
9	Boudam Baye

10	Peter Gate
11	Collier Gate
12	Goodram Gate
13	Monke Gate
14	Aldwarke
15	St. Antonyes Hospit
16	Connye strete
17	Blake strete
18	Stone Gate
19	Ouse Bridge
20	Thursdaies mark
21	Copper Gate
22	The Pauement
23	Cliffords Towre
24	The Castle
25	Fynkle stret
26	Picke strete



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YORK CITY WALLS CHAINAGE 3000-3100

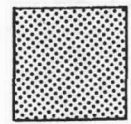
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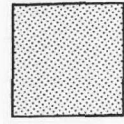
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Fig.4

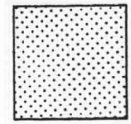
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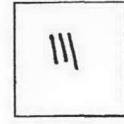
Gritstone



Oolitic limestone

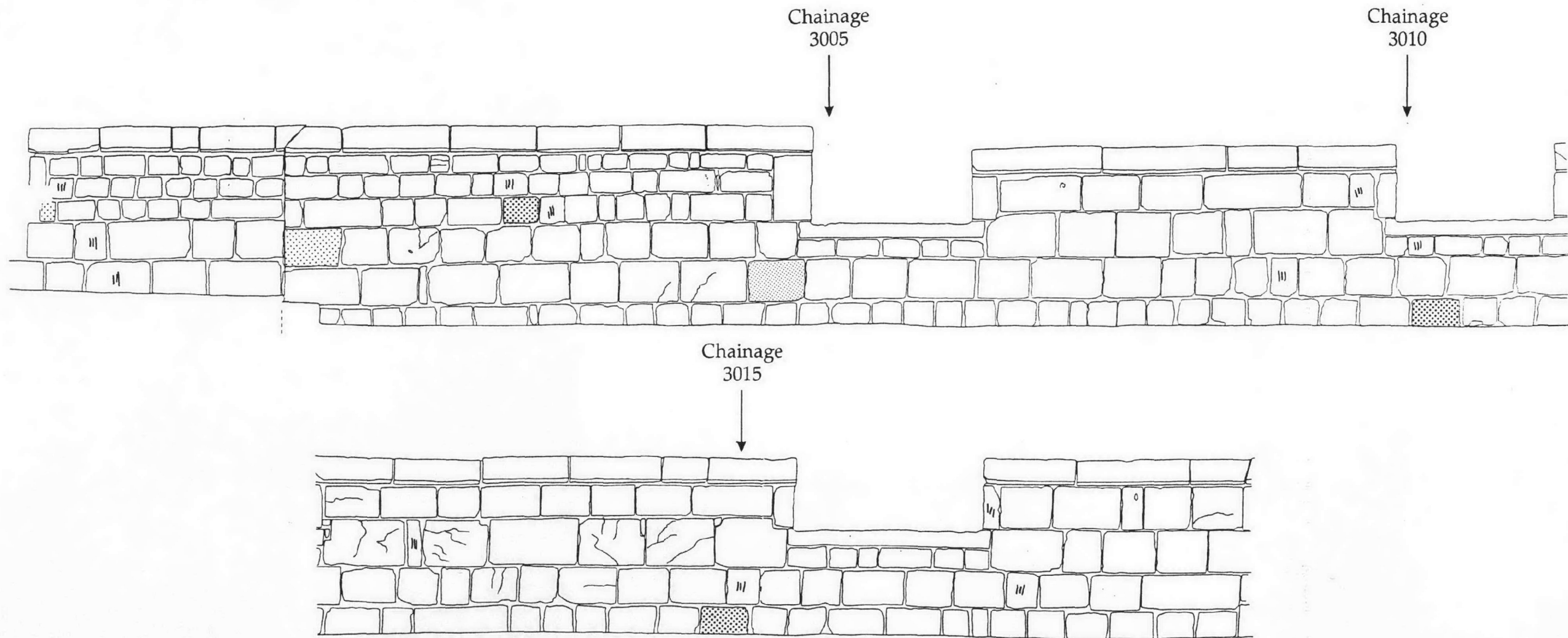


Sandstone

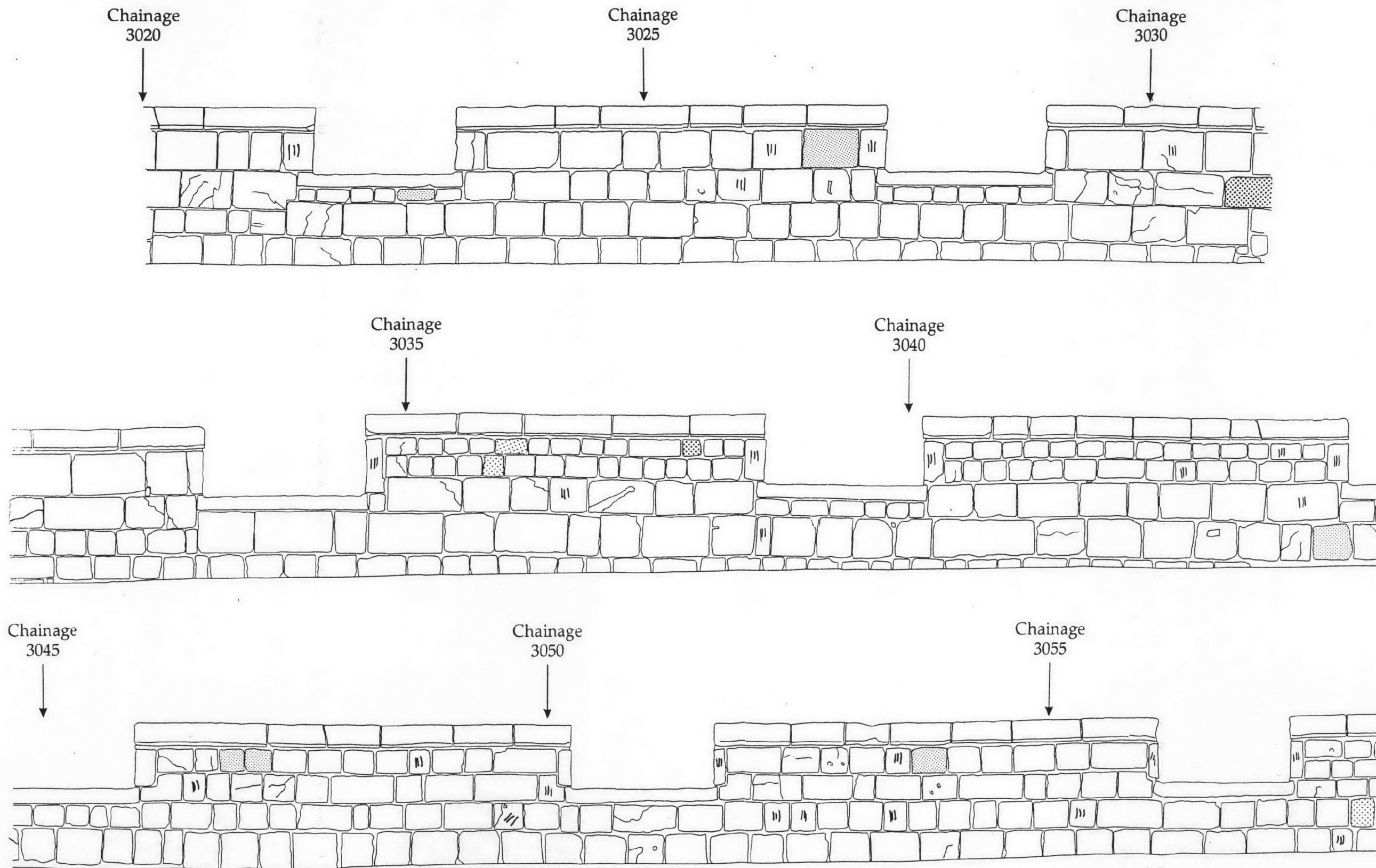


Alignment of bedding planes

INTERNAL ELEVATIONS (Chainage 3000-3019.40)



INTERNAL ELEVATIONS (Chainage 3020-3058.25)

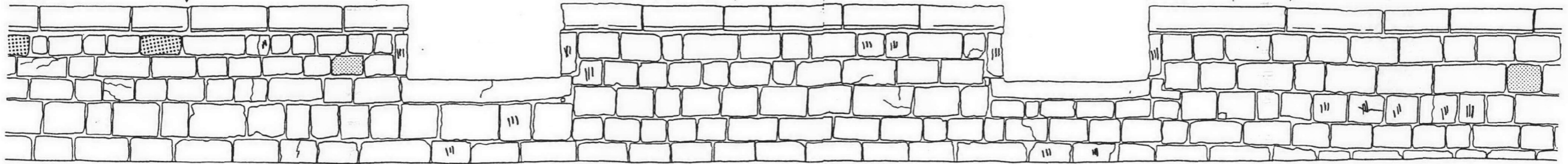


INTERNAL ELEVATIONS (Chainage 3058.25-3100)

Chainage
3060

Chainage
3065

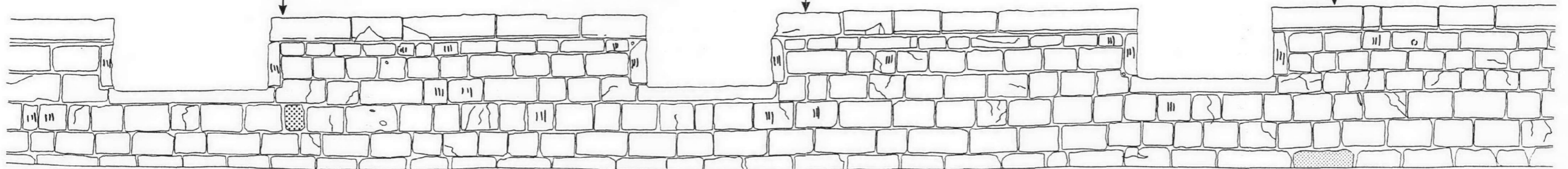
Chainage
3070



Chainage
3075

Chainage
3080

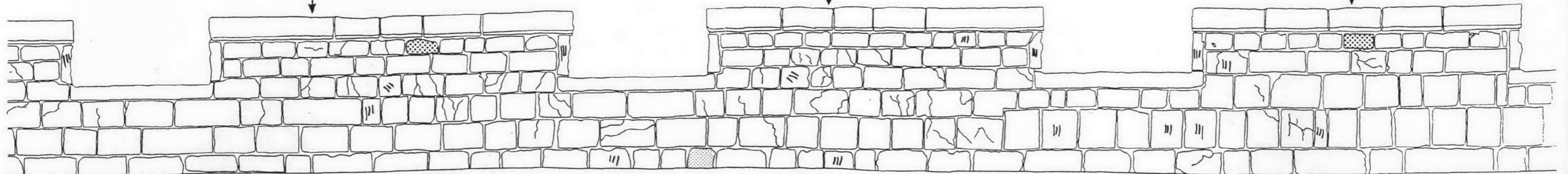
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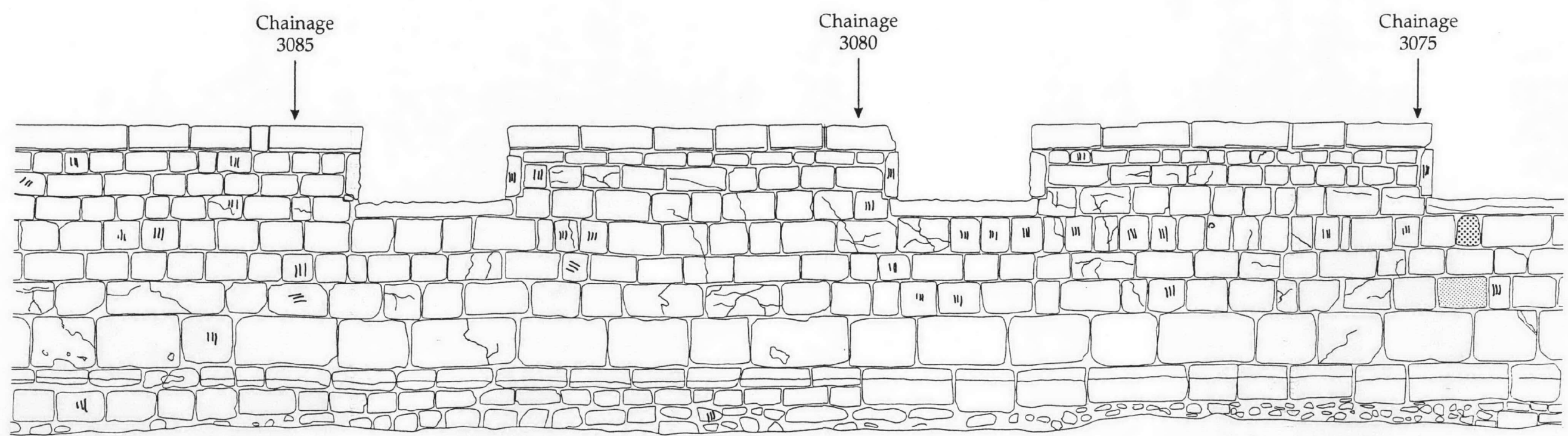
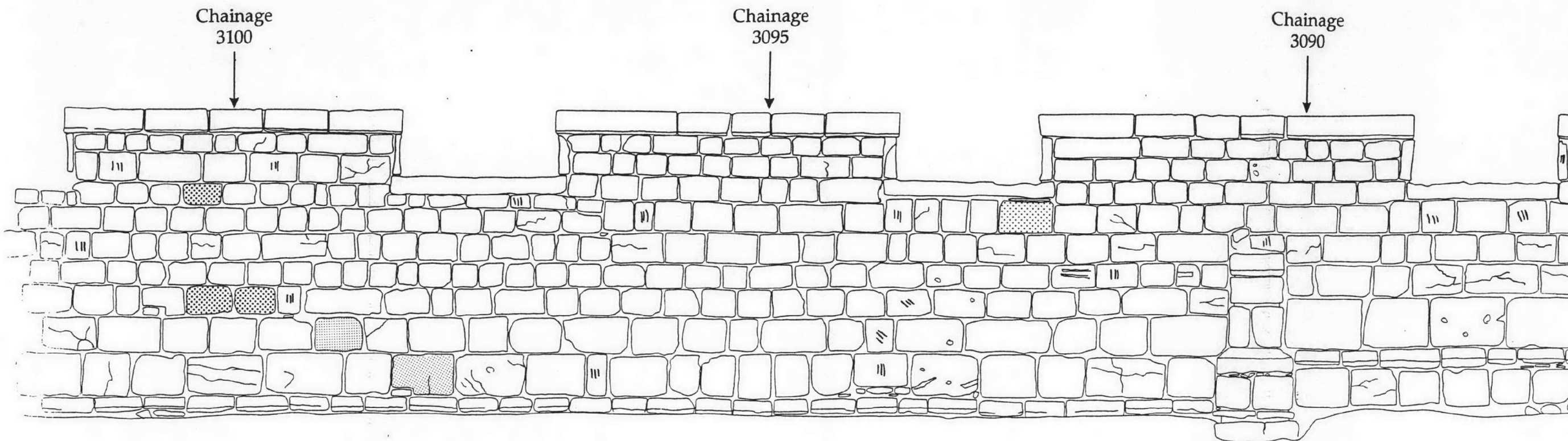
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3090

Chainage
3095

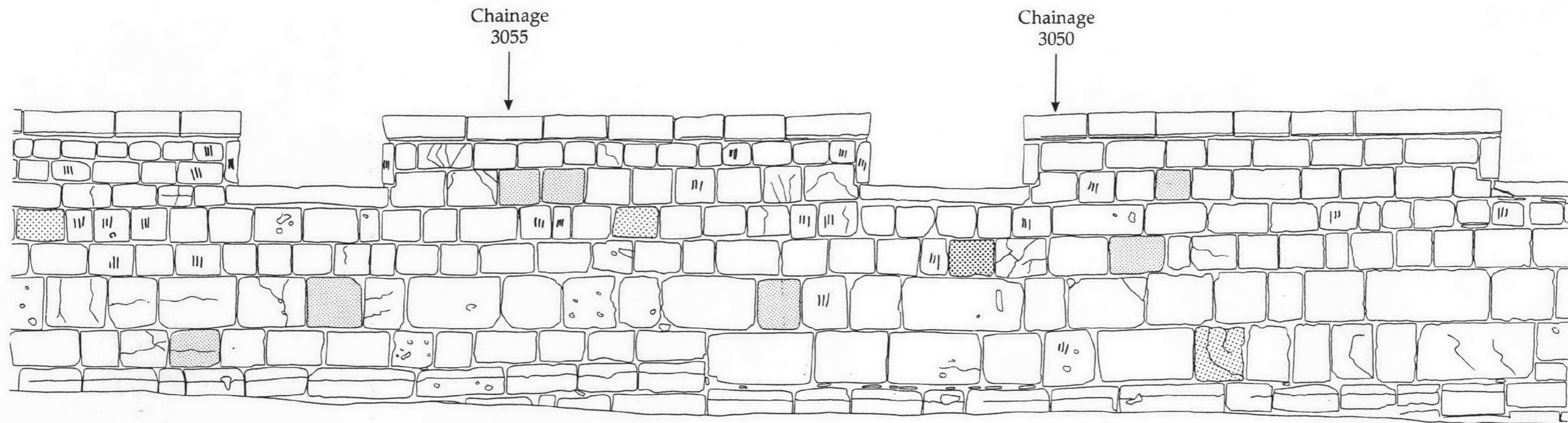
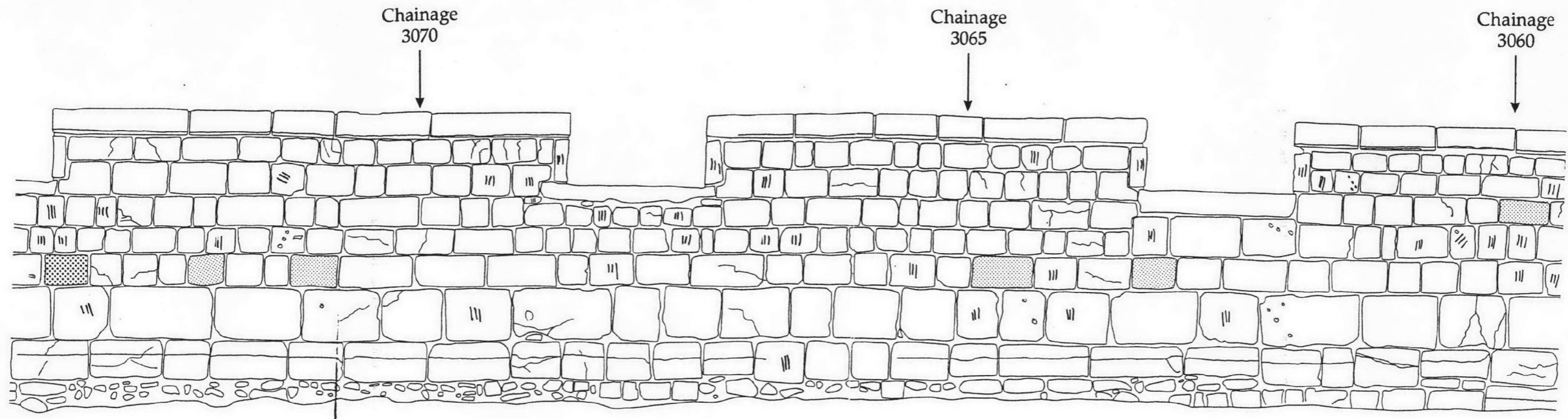
Chainage
3100



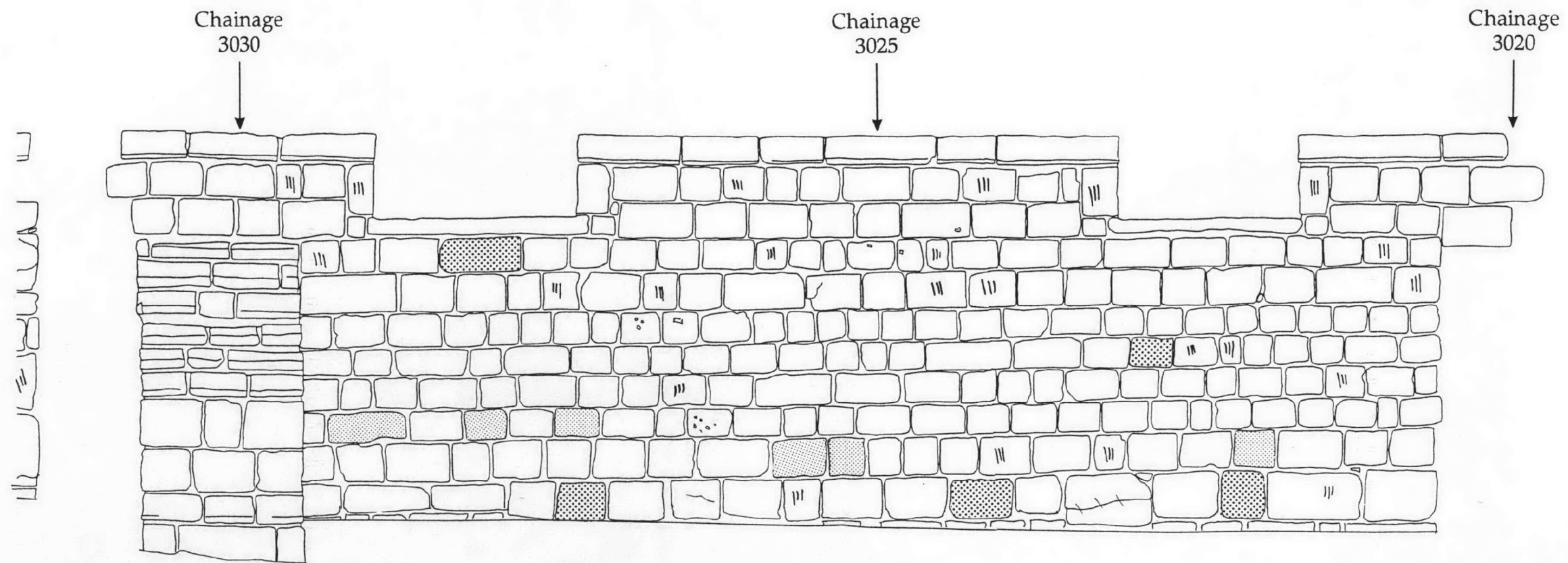
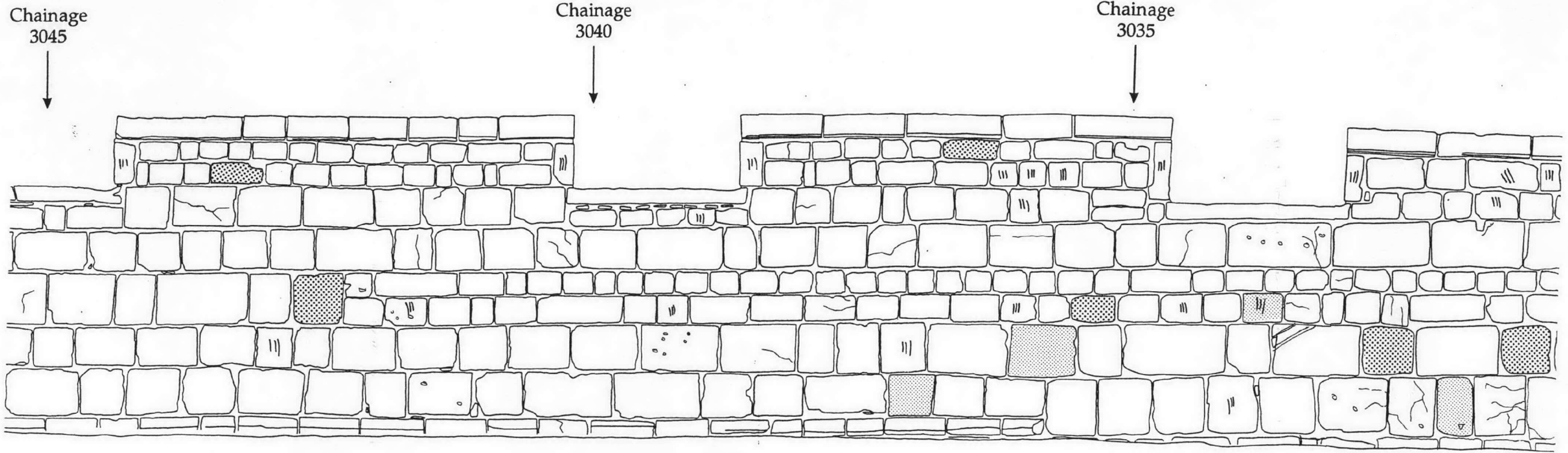
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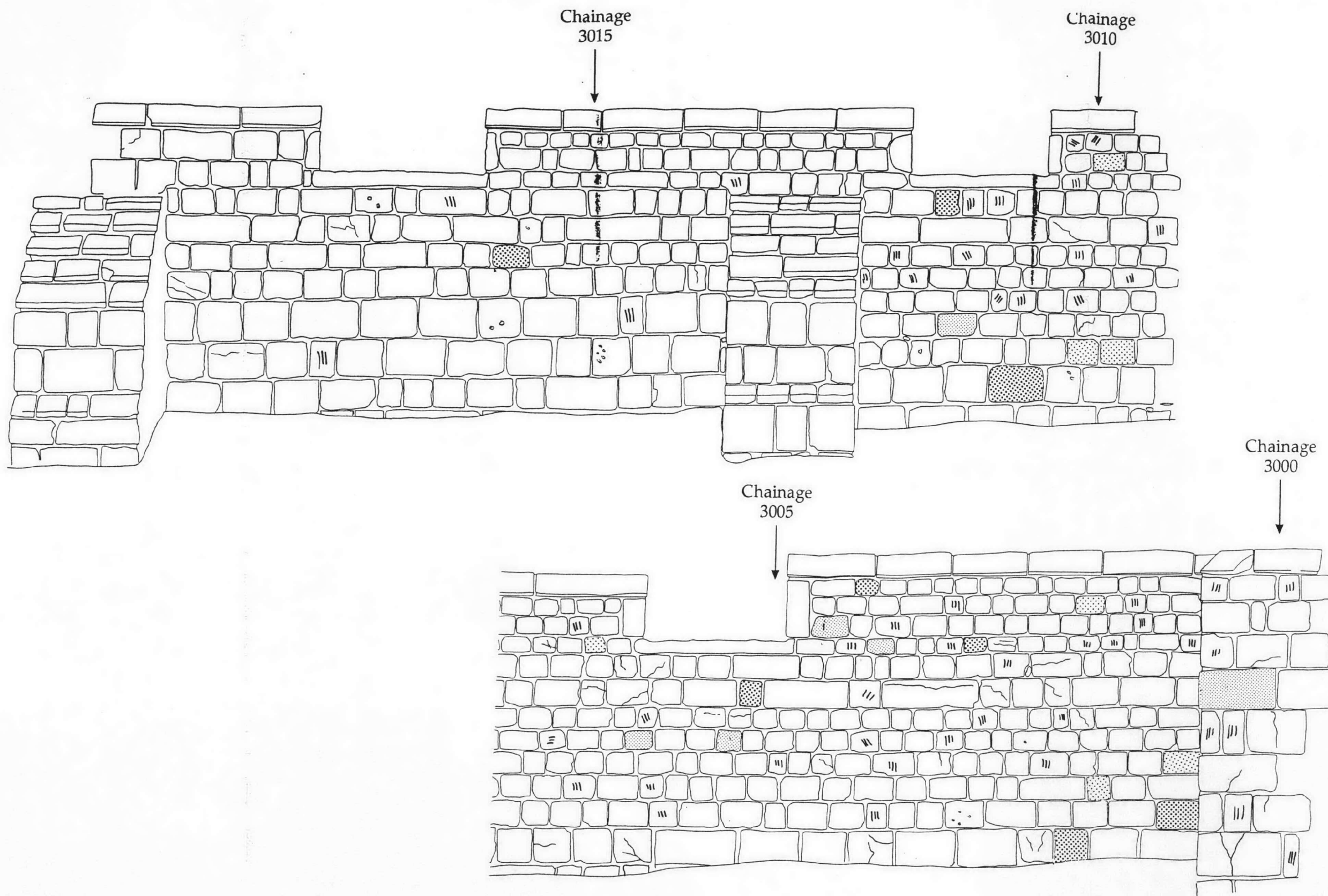
EXTERNAL ELEVATIONS (Chainage 3073.76-3045.36)



EXTERNAL ELEVATIONS (Chainage 3045.36-3020)

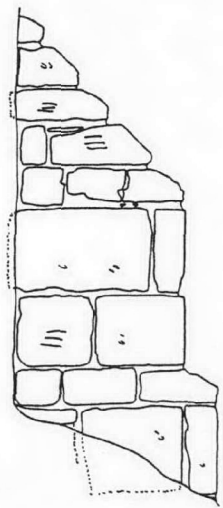


EXTERNAL ELEVATIONS (Chainage 3020-3000)

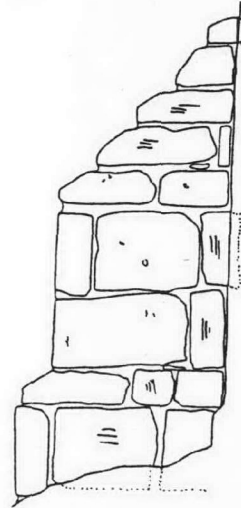


BUTTRESS RETURNS

Chainage 3013

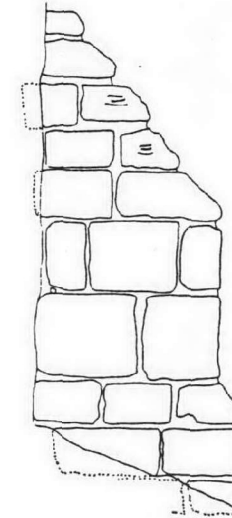


South west face

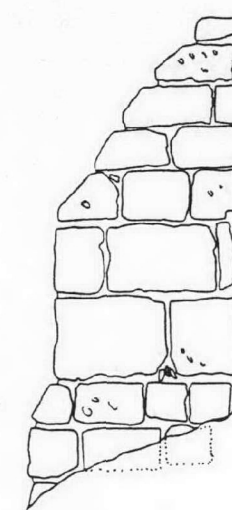


North east face

Chainage 3020

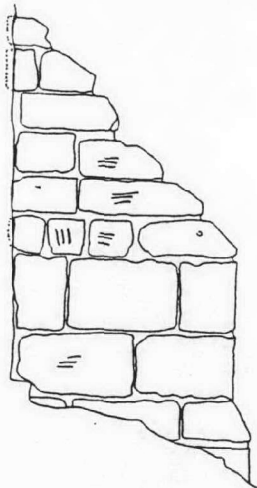


West face

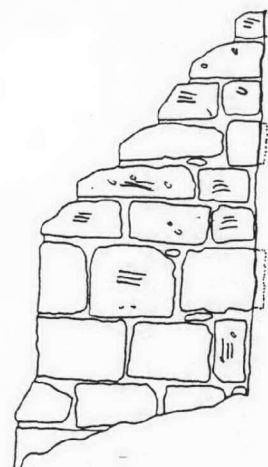


North east face

Chainage 3030.20

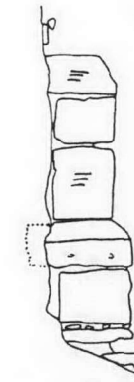


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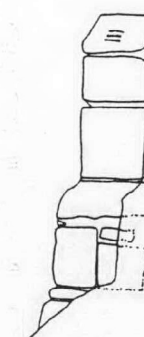


East face

Chainage 3090.50



South west face



North east face

