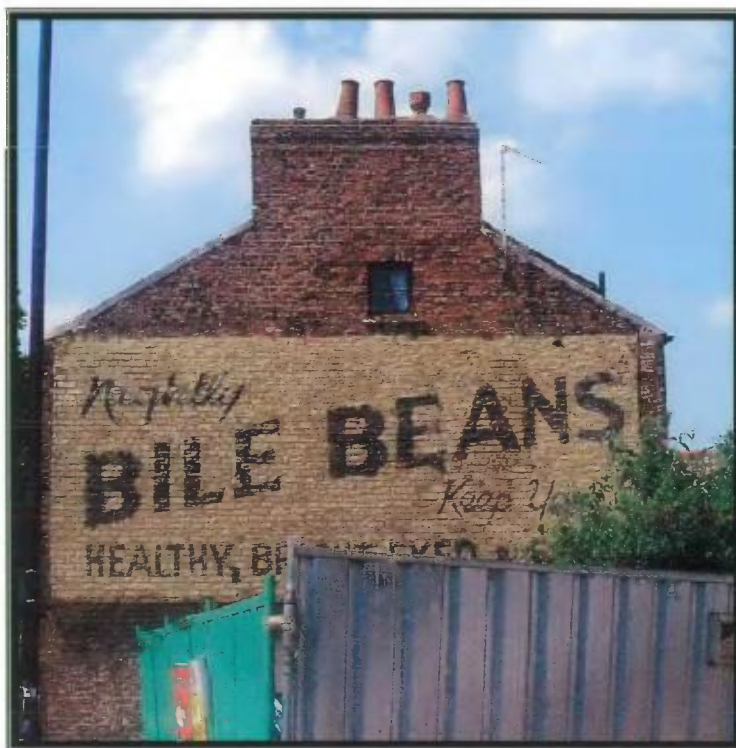

LORD MAYOR'S WALK, YORK.

REPORT ON AN ARCHAEOLOGICAL WATCHING BRIEF.
OSA REPORT No: OSA04WB35.

JULY 2005.



OSA

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Report Summary.

REPORT NO: OSA04WB05**SITE NAME:** Lord Mayors Walk**COUNTY:** North Yorkshire**NATIONAL GRID REFERENCE:** SE 6060 5240**ON BEHALF OF:** Wrigley Developments Ltd
The Old Rectory
Bolton Percy
York**TEXT:** Tim Robinson**GRAPHICS:** Marie-Claire Ferguson**FIELDWORK:** Tim Robinson**TIMING:** Fieldwork 24th and 25th of January 2005
Post excavation & report preparation 10 June 2005**ENQUIRIES TO:** Nick Pearson
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Table of Contents.

1.0 Abstract	3
2.0 Site Location, Geology, Topography and Land Use	5
3.0 Archaeological Background	6
4.0 Methodology	7
5.0 Results	8
6.0 Conclusions	9
7.0 Appendix 1 ~ List of Contexts	9
8.0 Appendix 2 ~ Archive Index	9
9.0 Appendix 3 ~ Pottery Assessment Report	10
10.0 Appendix 4 ~ Osteological Assessment Report	11
11.0 Appendix 5 ~ The Plates	18

List of Figures.

Figure 1. Site Location (NGR SE 6060 5240)	4
Figure 2. Trench location plan. (Scale 1:2000)	5
Figure 3. Location of skeleton (2000) within trench. (Scale 1:1000)	7
Figure 4. Post excavation plan of skeleton (2000). (Scale 1:10)	8

List of Plates.

Plate 1. General shot of trench	18
Plate 2. Post excavation shot of skeleton (1004)	18

1.0 Abstract.

An archaeological watching brief was carried by On Site Archaeology at Lord Mayors Walk. An application to convert the site of former public toilets to residential use had been approved by the City of York Council. An archaeological condition was imposed and Wrigley’s construction appointed On Site Archaeology to conduct the necessary works as outlined by the City of York principle archaeologist.

The excavation of the footprint of the new houses was monitored in order that any exposed archaeological deposits or features could be appropriately addressed. There was a heavy disturbance from the toilet block and a series of brick planters running across the site, but, in the deepest areas archaeology was encountered. This included a fragment of sandstone wall and a single decapitation burial.



Figure 1. Site Location (NGR SE 6060 5240).

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2.0 Site Location, Geology, Topography and Land Use.

The site is located on Lord Mayors Walk on the raised grassy knoll on the corner with Monkgate. The site is situated just 20m from the city walls and 30m from Monk bar itself. The development area is bounded by a car park to the north, a school to the northeast and roads to the south and west. The land uses comprises of mainly commercial properties.

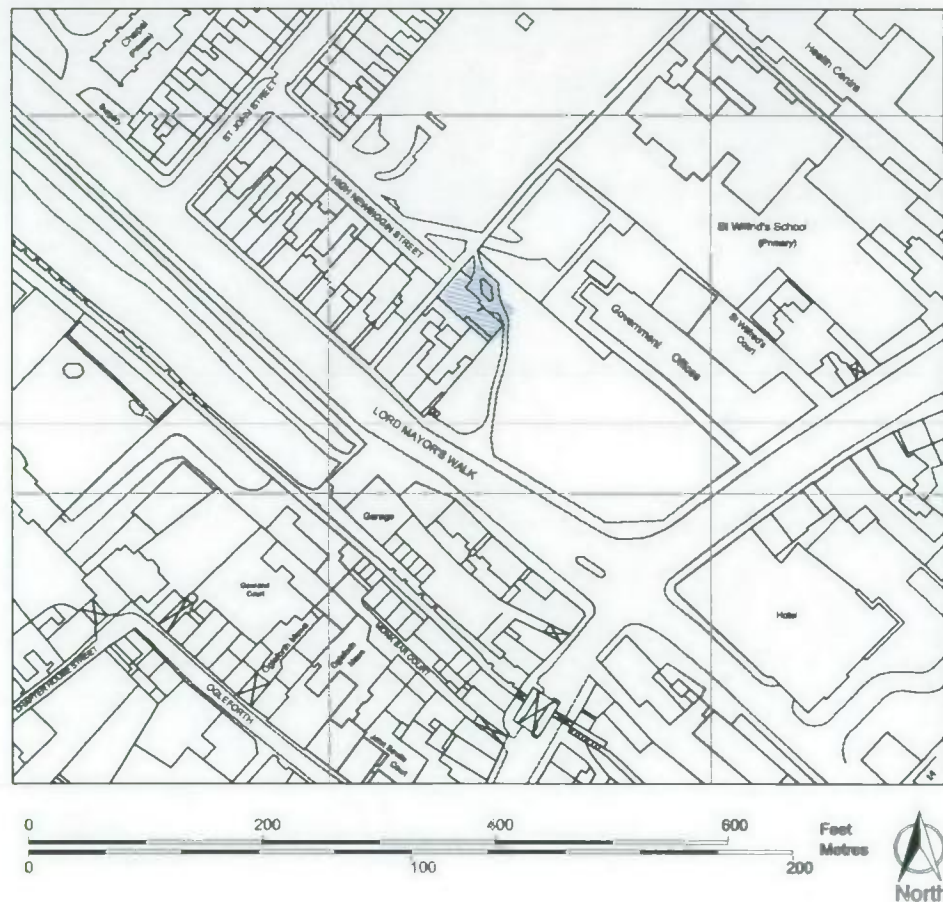


Figure 2. Trench location plan. (Scale 1:2000).

3.0 Archaeological Background.

The site is situated close to the extant city walls in an area of known Romano British burials. The area of the development lies close to the site of St. Maurice's church, in an area of known archaeological importance.

The site lies within an area known to have been in use since the Roman period. In 1911 a fragment of tessellated pavement was discovered in St Maurice's Road, but the exact location is unknown.

Excavations by the Y.A.T in 1992 at St Maurice's Road revealed a Romano British timber lined gully and ditches. Additionally a fragment of cobbles surface was discovered, interpreted as a possible yard or road surface. Recovered pottery provided a 3rd century date for these features.

The first record of a church on the site occurs in a document dated between 1195 – 1210. The most recent church on the site was completed in 1878, but this was demolished partly to improve the road at this busy junction.

4.0 Methodology.

The overburden was removed by a 360° tracked excavator fitted with a toothless bucket down to the level of the first visible archaeological horizon. The exposed surfaces were then cleaned by hand in order to detect any archaeological features revealed through textural or colour changes in the deposits. Once this had been completed, sections were hand excavated through the archaeological features that had been identified.

Standard *On-Site Archaeology* techniques were followed throughout the excavation. This involved the completion of a context sheet for each deposit or cut encountered, along with plans and/or sections drawn to scale. Heights above Ordnance Datum (AOD) were calculated by taking levels from a Temporary Benchmark (TBM) which was then tied in with an existing Ordnance Survey benchmark. A photographic record of the deposits and features was also maintained.

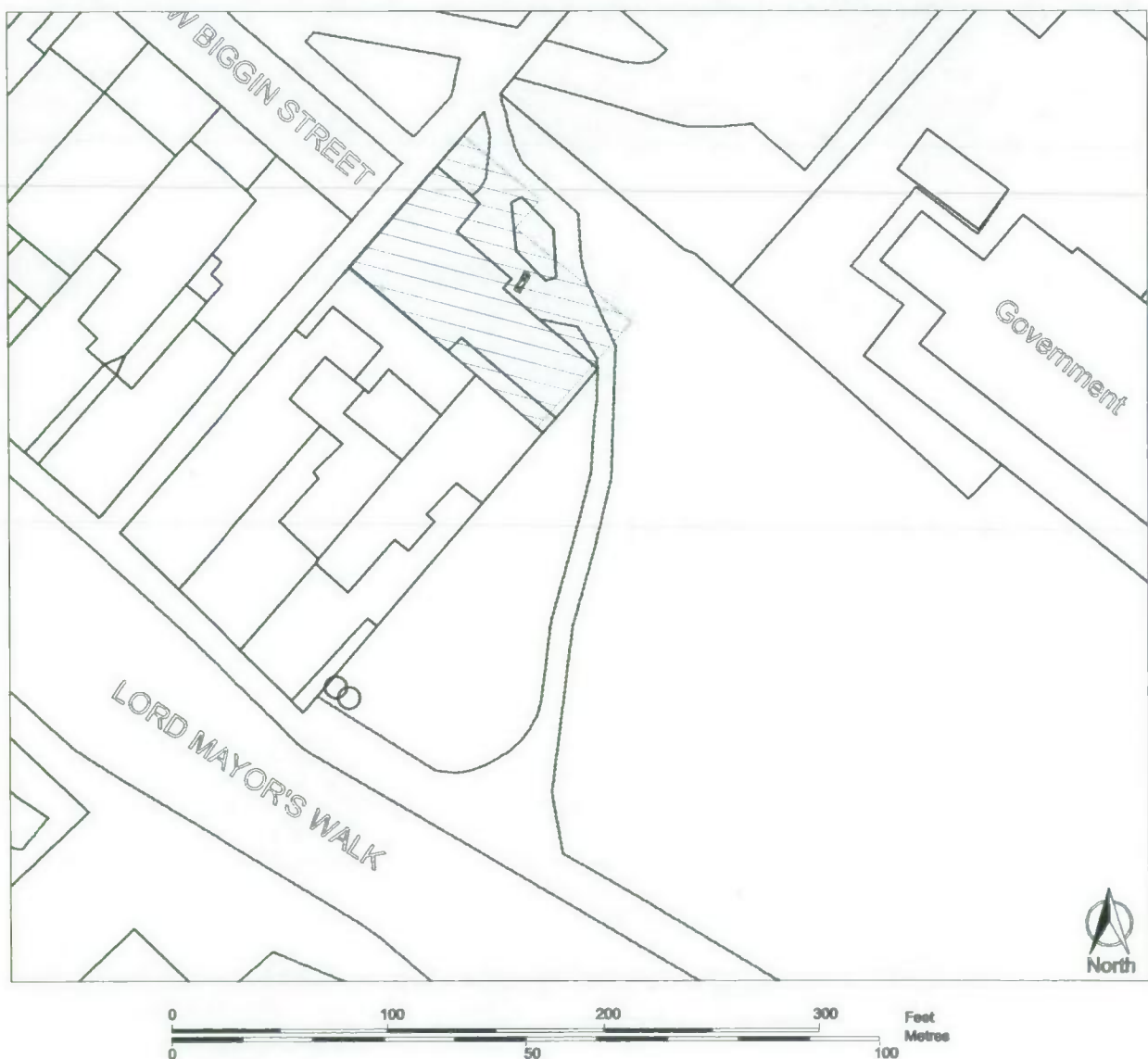


Figure 3. Location of skeleton (2000) within trench. (Scale 1:1000).

5.0 Results.

The building footprint comprised of a single rectangular plot, overall measuring 17.50m by 12.50m. The original design had called for two plots to be excavated, but this was abandoned in favour of a single, larger trench. The overall average depth was 1m below existing ground level, with a single larger intrusion along the northern limit of excavation to allow for the insertion of drainage.

There was a high level of truncation present within the area of enquiry, not only from the toilet block but also from a number of red brick planters, particularly in the north and east areas of the trench. Natural deposits were not encountered within the excavation area.

The base of the trench comprised of an interface between two broad deposits. In the main the bottom comprised of an organic loose mid greyish brown sandy loam (1006). This was visible in patches throughout the base of the trench, and represents a Romano British horizon. Cut into this material was a single extended decapitated inhumation (1004) within a steep sided grave cut [1005] backfilled with an organic soft dark grey brown silty loam (1003).

Above this was up to a metre of a dark grey loose organic loam (1002) which had the appearance of an orchard soil. The Y.A.T trenching on the opposite side of the road also encountered this material, with a depth up to 1.20m.

Sealing this material was 0.30m of dark grey loamy topsoil (1001).

A 40m long trench was excavated for the provision of electrical supply. This ran from the corner of the new build to the Lord Mayors Walk edge of site.

This service trench did not penetrate deeper than garden soil (1001) and as such no archaeological deposits or features were encountered. It did however; further illustrate the level of intrusion on the site, with 6” ceramic drains, steel water and electrical ducts, fibre optic cables, BT cables and CCTV electrical feeds.

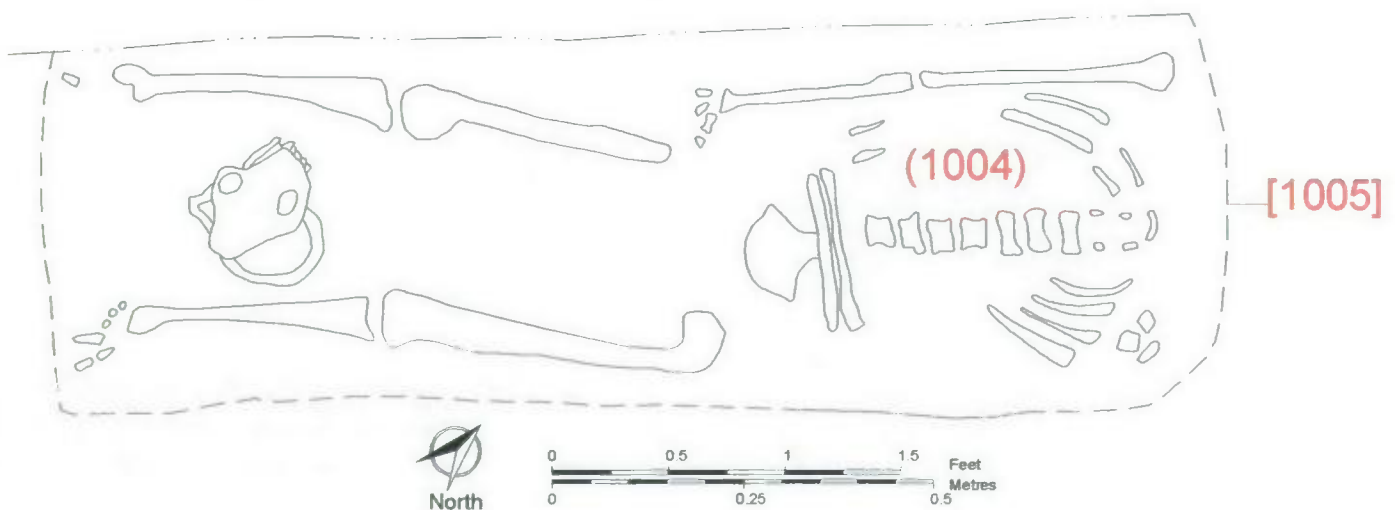


Figure 4. Post excavation plan of skeleton (1004). (Scale 1:10).

6.0 Conclusions.

For the most part the development did not cause disturbance of the archaeological record. The area of the footprint was in an area of heavy truncation, but in patches a Romano British horizon was present. The presence of the Romano British burial illustrates a southward extension of the Roman cemetery. The general lack of pottery would perhaps suggest that the grave is located toward the edge of the burial ground. Alternatively the excavations may not have been deep enough to truly expose the Roman levels.

7.0 Appendix 1 ~ List of Contexts.

Context	Description	Depth	Extent
1000	Assigned for Un-stratified finds	N/A	N/A
1001	Dark grey loamy topsoil	Tr.	0.30
1002	Dark grey loose organic loam	Up to 1m	Tr.
1003	Organic soft dark grey brown silty loam grave fill		
1004	Romano – British decapitation inhumation		
1005	Grave cut		
1006	Organic loose mid greyish brown sandy loam		Un-ex

8.0 Appendix 2 ~ Archive Index.

8.1 *Drawing Register.*

Dwg No	Description	Scale	Date	Initials
1	Plan of inhumation (1004)	1:10	04/01/05	TPR

9.0 Appendix 3 ~ Pottery Assessment Report.

Alan Vince.

9.1 *Introduction.*

A small collection of pottery was recovered from the fill of a grave observed during an archaeological watching brief by *On-Site Archaeology Ltd.* The pottery dates to the late 1st or early 2nd century.

9.2 *Description.*

9.2.1 *Pottery.*

Roman.

Four sherds of pottery were recovered from context (1003), the fill of a grave. The sherds consists of Eboracum ware (Monaghan 1997 #113, E1); Local Greyware (G1) and two sherds of South Gaulish Samian ware (S1).

The Eboracum ware sherd comes from the turned base of a jar or flagon. The local greyware comes from a jar, used for cooking and having soot on the exterior. One of the Samian sherds comes from a bowl of form Dr 37.

The four sherds could all have been in contemporary use at the end of the 1st century AD or early in the 2nd century. All the sherds are fresh and therefore probably have not been exposed to weathering. The fragmentary nature of the pottery, and the fact that inhumation is an uncommon burial method in the late 1st to 2nd centuries suggests that the sherds were present in the soil through which the grave was dug and then included in the backfill.

9.3 *Assessment.*

The pottery requires no further study at present but should be retained for future study since it comes from a stratified context. No special storage requirements are needed.

10.0 Appendix 4 ~ Osteological Assessment Report.

10.1 Introduction.

During an archaeological watching brief undertaken by *On-site Archaeology* a single decapitated inhumation was unearthed during machine excavation. The individual lay supine, orientated north-east to south-west with its shoulders towards the north-eastern end. The skull lay on its left-hand side facing north-west between the legs at a level just below the knees. The lower left arm was laid across the body over the pelvis. Two pieces of pottery were found within the grave fill (2001) and indicate a 1st century AD date (pottery assessment).

10.2 Methodology.

Due to its level above the maximum construction depth, the skeleton was lifted in accordance to IFA (Brickley & McKinley 2004) and Government guidelines (ref). All skeletal elements were carefully washed and allowed to dry thoroughly prior to analysis.

Age and sex estimates are based on observations of long-bone fusion, dental eruption and dental wear as well as morphological variations as laid down by Bass (1995), Brothwell (1981), Buikstra & Uberlaker (1994) & Hillson (1996). Measurements were carried out to further the sex estimation and to obtain stature. Any pathological observations have been noted and interpreted with the aid of Aufenhider & Rodriques-Martin (1998) and Roberts & Manchester (1995).

10.3 Results.

10.3.1 Human Skeleton (1004).

Table 1 contains a list of all skeletal elements recovered. The remains are in a generally good condition with over 75% of the body complete. Most *in-situ* damage has come about through chemical weathering due to the interaction between the body and its burial environment. This has led to the more porous bone at the ends of the elements being damaged (Mays 1998).

10.3.2 Age.

All the bones present show signs of complete fusion indicating a fully developed individual at least over the age of 25 (Brothwell 1981). Dental wear indicates a possible age of over 35-45 years based on lower molar dentition (Hillson 1996). Dental wear rates vary from individual to individual based on factors from diet to occupation to the make-up of the teeth themselves so estimates of age are just that. In this individual a limited number of teeth are available for analysis and the nature of the dental wear is notable (see section x.4.5).

Degenerative changes in the skeleton can also be used to age an individual. Considerable bone growth was observed on both margins of the bodies of the lumbar vertebrae. This indicates a middle aged individual estimated to be over 35 years (Stewart 1958 as in Bass 1996: p.24). Such an age indicator is best taken as part of a multi-variant approach to age estimation.

Other methods are available for the estimation of age. Mineralization of the rib-ends where they articulate with the sternum and the change in form of the pubic symphysis are two such methods. Due to the preservation of this individual the required elements are not available for study.

10.3.3 Sex.

The sexing of this individual is based on observation of the skull and the right innominate. Both are fragmentary but over 75% complete.

On the skull several traits were observed. The supra-orbital ridges that run above the eye sockets are relatively robust and prominent. The mastoid processes located below the skull are large. In general the skull appears rather large with thick bone plates. All these are male traits (Bass 1995). In comparison the rounded nature of the chin shows no definite point and the zygomatic processes do not carry on past the external auditory meatus. Both of these traits are an expression of a possible female.

The pubic area of the pelvis was not recovered but estimation of sex was carried out on the available pelvic elements. The sciatic notch is wide and shallow and indicates a possible female. The pre-auricular sulcus is absent below the articulation between the ilium and the sacrum. The shape of the ilium is high and vertical. Muscle markings on the whole pelvis are marked and rugged. Taken together the observed morphological features indicate a probable male.

Metric analysis was also carried out on elements of the left femur. The femur was broken during excavation but across the mid-shaft in a single clean break so could be temporarily affixed and measured. The vertical diameter of the femoral head was measured at 49mm. The bicondylar width across the distal end of the femur was measured at 86mm. These figures are within the male range of metric variation.

10.3.4 Stature.

Stature has been estimated from the measurement of the femur and the tibia based on the tables provided by Bass (1995: p.27). Only the left femur and tibia were measured. From a femoral length of 459mm added to a tibial length of 363mm a total height of 1700-1710mm is obtained.

The robust nature of the bones and their muscle markings, especially those of the linea aspera on the dorsal aspect (back) of the femurs suggest a robust medium to heavy built individual.

10.35 Teeth.

Within the mandible both the right second incisor (I_2) and left second incisors (I_2) have been lost ante-mortem. Both sockets have healed over but a slight ridge in the bone is still visible. The left canine (C_1) has been lost post-mortem and the socket is broken. On all the teeth, except the right second and third molar (M_2 , M_3) and all the left molars (M_1 , M_2 , M_3), the enamel has been completely worn away from the occlusal surface exposing the dentin, the soft

inner layer underneath. On the left first molar (M_1) 50% of the dentin has been exposed on the mesial aspect of the tooth. Occlusal wear is much more excessive on the right side of the mandible especially from I_1 to M_1 and on the mesial/lingual aspects of each of the teeth.

Within the maxilla all the right molars (M^1 , M^2 , M^3) as well as all the left molars (M^1 , M^2 , M^3) and the second left premolar (PM^2) have been lost ante-mortem. Woven bone is still evident in the area of the sockets of the right M^3 and the left M^1 and M^2 . On the left both incisors (I^1 , I^2) the canine (C^1) and the first premolar (PM^1) have been lost post-mortem with only the lingual aspect of their respective sockets surviving. On the right only the first incisor (I^1) has been lost post-mortem with the lingual aspect of its socket surviving. Of the remaining teeth, the second incisor (I^2), the canine (C^1) and the two premolars (PM^1 , PM^2) all show severe dental wear similar to the teeth within the mandible. This occlusal wear is more excessive on the two right premolars (PM^1 , PM^2), towards their lingual aspects.

The removal of the molars and the heavy wear on the surviving teeth does make the use of dental wear as an age-at-death indicator problematic. An approximate age of xx years can be inferred through the wear on the front teeth alone () but due to the compensation through the loss of the rear teeth this may be an over estimate.

Minor calculus build up was observed on the lower left PM_1 and PM_2 (12% of the total observed). Intermediate build up was observed on the lower left M_1 (6%) and major build up on the lower left M_2 (6%); being 2mm thick, covering the lower labial surface 4mm down the exposed root.

10.3.6 Pathology.

All recovered thoracic vertebra show osteophyte formation on the anterior and inferior borders of the vertebral body. On T4, T6 and T7 this lipping is slight, being between 2-3mm in width, mainly on the anterior aspects. Bone growth is also observed on the articular surface of the transverse processes of T4 and T7 and on their superior and inferior demi-facets.

From the recovered ribs, 4 out of 6 right rib ends and 2 out of 2 left rib ends also show osteophyte formation on the articular surface where they join the vertebral bodies at the demi-facets. It is impossible due to the fragmentary nature of the ribs to clarify which articulated with which vertebra but it is possible to say that this osteophyte formation significantly affected the joints between the ribs and the vertebra along the whole thoracic spine.

The lower thoracic vertebra T11 shows slight lipping (2mm) on its superior border and moderate lipping (5mm) on its inferior border. Osteophyte formation has also been observed on both superior demi-facets. T12 shows severe bone formation on its right superior demi-facet

All lumbar vertebra show osteophyte formation on their vertebral bodies. On L1 the formation is moderate (5mm) on the inferior border. L2 shows slight lipping (2mm) on its superior border and the severest lipping of any vertebra on its lower border with a projection of 12mm. Moderate to severe bone formation (6-7mm) is seen on both the superior and inferior borders of

L3. Moderated bone formation (4mm) is seen on both the superior and inferior borders of L4. L5 also shows slight lipping (3mm) of the superior border of its vertebral body. In all cases the lipping of the inferior border of the vertebral body above corresponds with that of the superior border of the vertebral body below.

The right patella shows severe osteophyte formation on its anterior surface. Claw-like formations project superiorly by as much as 19mm. Moderate bone formation is also observed on the inferior border with projections of 9mm. The entire anterior surface has been remodelled, the posterior surface is unchanged.

The right calcaneus shows moderate osteophyte formation on its posterior surface. Similar claw-like formations, to those on the patella, project superiorly by 12mm.

A defined maxillary tori has also been observed on the surviving maxilla and is indicative of increased mechanical stress.

An additional anecdotal observation is that of a sternal foramina, 12mm long and 9mm wide located 21mm from the inferior border of the body of the sternum. McCormick (1981 as in Bass 1996 p.115) found the foramina in 30 out of 324 cadavers and states that they most often occur in males in the later stages of life.

10.3.7 *Trauma.*

Within the neck region only the first cervical (atlas) has survived, with the next present vertebra being either the fourth or fifth thoracic. Both these vertebra show no sign of injury nor do any of the elements of the scapula or mandible of the skull. No other trauma has been observed on any other element of the skeleton.

10.4 *Analysis & Discussion.*

The loss of the upper molars perhaps explains the severe nature of the wear patterns on the surviving front teeth within the mandible and maxilla and the low wear in the surviving rear teeth of the mandible. The removal of the upper molars meant that there was nothing for the lower molars to grind upon, resulting in the low wear patterns. The excessive wear in the front teeth is a result of compensation for this loss – all mastication (chewing) being afterwards performed by the front teeth. Such compensation would result in the maxillary tori identified, the bone being produced as a reaction to the change in mechanical stress on the jaw (Roberts & Manchester, 1995: p.54). There are no clear causes for this tooth loss. Calculus deposits are though evident on some of the surviving teeth, if this occurred on the lost teeth it may have lead to periodontal disease. If this was severe enough it would have lead to tooth loss or their removal to ease the pain.

The skull of this individual has clearly been removed prior to burial, the question is in the nature of that removal; was it brutal (single or multiple blows from a blade) or surgical (careful cutting through the muscle and bone with a blade or saw). If this removal was part of a religious act as suggested for other such burials in York (ref) then the individual would most

likely have died of other causes. If it is not religious, rather an act of punishment then decapitation is most likely to be the cause of death. This individual appears to have lived to an old age but seen a lot of stress throughout their life resulting in the bone growth on the legs and vertebra. There are no cut marks on either the mandible or the surviving elements of the scapula and clavicle. Despite this the head may have still been removed in a brutal fashion.

The bone formation observed on the superior and inferior borders of the vertebra are likely to be indicative of osteophytosis caused by advancing age and mechanical stress put on the spine – one of its functions is to carry the weight of the torso. The bone formations on the transverse process of the same vertebra though are likely to have been caused by osteoarthritis. Less stress is put on such bone elements so that any bone formation would have a non-mechanical cause.

The patella is the primary insertion point for the *quadriceps femoris* group of muscles whose action is to extend to leg at the knee (Tortora & Grabowski 2000). Two of the four muscles that make up the *quadriceps femoris* have their origins along the linea aspera which is also rugged and well marked in this individual. Muscles though work in antagonistic pairs and two of the corresponding muscles to the *quadriceps femoris*, the *gastrocnemius* and the *plantaris*, which flex the leg, have their insertions in the posterior aspect of the calcaneus. These two muscles and a third, the *soleus*, which also has its insertion in the calcaneus, are also responsible for plantar flexion (pointing) of the foot. Taken together these formations of bone indicate great stress around the knee and ankle, especially during extension of the leg around the knee and in plantar flexion of the foot.

10.5 Conclusion.

The burial unearthed at Lord Mayor’s Walk contained a single male over 35 years of age. He was a well built individual standing approximately 1710mm tall and was laid supine within the grave with his lower left arm over his pelvis. It appears that this individual suffered considerable stress on his lower back and legs which indicates a strenuous lifestyle.

No coffin remains or burial furniture were uncovered, but this does not mean that he was not buried within one, merely that it did not survive.

10.6 Archive.

The paper and electronic records pertaining the work described here are stored at the offices of *On-Site Archaeology*, York. The individual itself has been reburied.

10.7 *References.*

- Aufenhider, A. & Rodriguez-Martin, C. 1998. *The Cambridge Encyclopaedia of Human Pathology*. Cambridge University Press.
- Bass, W.M. 1995. *Human Osteology – A laboratory & field Manual*. 4th ed. Missouri Archaeological Society
- Brickley, M. & McKinley, J.I. (Editors). 2004. *Guidelines to the Standards for Recording Human Remains: IFA Paper No. 7*. University of Reading, Reading.
- Brothwell, D.R. 1981. *Digging up Bones* 3rd ed British Museum (Natural History) Cornell University Press. Ithaca, New York.
- Buikstra, J. & Uberlaker, M. 1994. *Standards for data collection from Human Skeletal Remains*. Arkansas Archaeological Survey Research Series No.44.
- Hillson, S. 1996. *Dental Anthropology*. Cambridge University Press, Cambridge.
- McCormick, W. F. 1981. Sternal Foramina in Man. *American Journal of Forensic Medicine of Pathology* 2: 249-252.
- Roberts, C. & Manchester, K. 1995. *The archaeology of disease*. 2nd ed. Allan Sutton Publishing, Stroud.
- Stewart, T. D. 1958. The Rate of Development of Vertebral Osteoarthritis in American Whites and its Significance in Skeletal Age Identification. *The Leech* 28: 144-151.
- Tortora, G. J. & Grabowski, S. R. 2000. *Principles of Anatomy and Physiology*. 9th ed. John Wiley & Sons Inc., New York.

Table 1. Elements - Skeleton (1004) – Lord Mayor's Walk, York.

Elements	Skeleton (1004)
cranium	Over 50% complete, most elements missing from the region of the face and the left side.
Mandible	Complete.
Teeth	Maxilla. Right I2, C, PM1, PM2 Mandible. Right I1, C1, PM1, PM2, M1, M2, M3; Left, I1, PM1, PM2, M1, M2, M3.
Cervical Verts.	Atlas (first cervical, C1), complete.
Thoracic Verts.	T4, T6, T7, T11, T12, all over 75% complete.
Lumbar Verts.	L1, L2, L3, L4, L5, all over 75% complete.
Scapula	Right, 50-75% complete. Left, under 25% complete.
Clavicle	Right, 25-50% complete. Left not recovered.
Sternum	25-50% complete.
Ribs	75% of all ribs recovered, fragmentary.
Humerus	Right, complete. Left, not recovered.
Radius	Right, over 75% complete. Left Complete.
Ulna	Right, complete. Left, over 75% complete.
Carpals	Left, lunate, triquetral, trapezoid, capitate, hamate.
Metacarpals	All recovered (10).
Hand phalanges	6 proximal, 1 middle
Pelvis	Right, ilium over 75%, ischium 50-75%. Left, ilium under 25%, ischium 50-75%, pubis under 25%.
Sacrum	50-75% complete.
Femur	Right, complete. Left, complete.
Patella	Right, complete.
Tibia	Right, complete. Left, complete.
Fibula	Right, complete, Left, complete.
Tarsals	Right, talus, calcaneus, cuboid. Left talus, calcaneus, 1 st cuneiform, cuboid.
Metatarsals	Right, 5. Left, 4.
Foot Phalanges	3, proximal.

11.0 Appendix 5 ~ The Plates.



Plate 1. General shot of trench.



Plate 2. Post excavation shot of skeleton (1004).