Evaluation of the plant remains in samples from Crossrail, Farringdon Station, eastern ticket hall (XSF10)

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ENV/BOT/ASS/14/11

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Human Environment
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Six environmental bulk samples were taken from Trenches 1, 2 and 3, during the field evaluation of the site. Samples [29]{5}, [28]{4} and [27]{1} (Tr 2) come from a series of waterlain horizons, thought to result from episodic flooding, sample [32]{7} (Tr 3) from the latest fill of ditch [55], and samples [58]{9} and [56]{8} from fills of an east-west ditch. All are thought to date from the late medieval or early post-medieval periods.

The samples were processed by flotation, and the flots (or sub-samples where large) assessed to determine the presence and nature of plant remains and any other biological material present. Very large, organic flots were generated from samples {1}, {4}, {5} and {7} and those from {8} and {9}, though very small, included quite large and diverse assemblage of waterlogged plant remains.

The two samples, {8} and {9} from Trench 1 contained similar assemblages, including many hairs/fibres, feather fragments and fly puparia as well as remains of wild plants. The majority of the latter appeared to be from waste land and other disturbed ground habitats.

Hair or fibres, feather fragments and fly puparia also dominated the much larger sample flot {7} from ditch [55], with the very numerous puparia suggesting that organic material was dumped and left to rot in the ditch. The majority of seeds from this sample came from wild plants of cultivated/disturbed ground and from grassland species.

Samples {4} and {5} from waterlain horizons [28] and [28] contained very different assemblages, with significant amounts of domestic waste in the form of fruit pips and stones, including grape (*Vitis vinifera*), fig (*Ficus carica*) and apple (*Malus domestica/sylvatica*), as well as cereal bran. Fishbone, eggshell, leather and textile remains were also each seen in one or both samples. In addition, sample {4} included seeds of pot marigold (*Calendula officinalis*), rose (*Rosa* sp.) and holly (*Ilex* sp.), all of which are potential garden plants. The flot from sample {1} from the overlying deposit [27] was composed largely of reed(?) stems, supporting the interpretation that a marsh had developed here. Apart from numerous seeds of celery-leaved crowfoot (*Ranunculus sceleratus*) little evidence was seen of wetland or aquatic plants, but this may be the result of the small sub-sample studied so far.

Potential:
All the evaluated samples contain large and diverse plant assemblages worthy of further analysis, and will provide potentially useful information on several aspects of the site.

Analysis of the wild plants from all samples, in conjunction with the insect remains from samples [29]{5}, [28]{4}, [27]{1} and [32]{7}, will provide information about the changing environment and plant cover both in the marshy area of Trench 2 and in other parts of the site. Information on the diet and status of the site's inhabitants will also be produced from study of the food remains, particularly in [29]{5} and [28]{4}.

The large amount of hair/fibres, feather fragments and fly puparia in samples [32]{7}, [56]{8} and [58]{9} could be waste from Smithfield Market, or from activities taking place on or close to the site. Analysis of these remains by appropriate specialists would shed light on the nature of the material and hence the activities taking place.

Estimate for botanical analysis

Scanning, id & recording of plants from 4 large, rich waterlogged samples:	4.0 days
Scanning, id & recording of plants from 2 small, rich samples:	0.5 day
Data entry, production & editing of tables:	1.0 days
Analysis of results, research and production of archive report:	6.0 days
Total:	**11.0 days**

Insect remains

Retained soil from samples [27]{1}, [28]{4}, [29]{5} and [32]{7} should be processed and submitted to an insect specialist for identification of the remains. Specialist rates vary, but assessment is likely to cost c. £150-200 and subsequent analysis between £80 and £360 per sample, depending on the level of detail required. Additional time will be required for MoLA to liaise with the specialist, package samples, and provide relevant information. Paraffin flotation by MoLA processors and/or retrieval of unprocessed soil from Camberwell will also be necessary.

Retrieval of 4 samples from Camberwell, paraffin flotation, packaging and dispatch:	1.0 day (@ JA rate)
Liaison with specialist:	0.25 day (@specialist rate)
Insect specialist time:	initially c. £150, then to be negotiated

Table 1: Summary of botanical assessment data

A: abundance, D: diversity (1 = occasional, 2 = moderate, 3 = abundant)

							chd grain	chd wood	wlg seed	wlg misc	
context	**sample**	**Bl**	**dating**	**proc vol(l)**	**flot vol(ml)**	**proc**	**A D**	**A D**	**A D**	**A D**	**Comments**
27	1	NM	1550-1650	30	1400	F		1 1	3 3	3 3	WET.MOSTLY ?REEDS, DIVERSE SEEDS
						W				1 1	+1 BAG WLG ?REED MATERIAL
28	4	NM	1550-1650	10	200	F	1 1	1 1	3 3	3 3	WET. DIVERSE FOODS, ?GARDEN & WILD PLANTS
29	5	NM		10	400	F		1 1	3 3	3 3	WET. DIVERSE FOODS & WILD PLANTS
						W				1 1	WOOD
32	7	D		30	600	F			3 3	1 1	WET. HAIR/FIBRE(TXTL), PUPAE, WLD PLANTS
						W				1 1	
56	8	D	late med/e p-med	20	5	F		1 1	3 3	1 1	DRY. HAIR, FEATHER, SEEDS OF WILD PLANTS
58	9	D	late med/e p-med	20	10	F	1 1	2 1	3 2	2 1	DRY.HAIR, FEATHER. SEEDS OF WILD PLANTS