2 INTRODUCTION

2.1 Route location, topography and geology

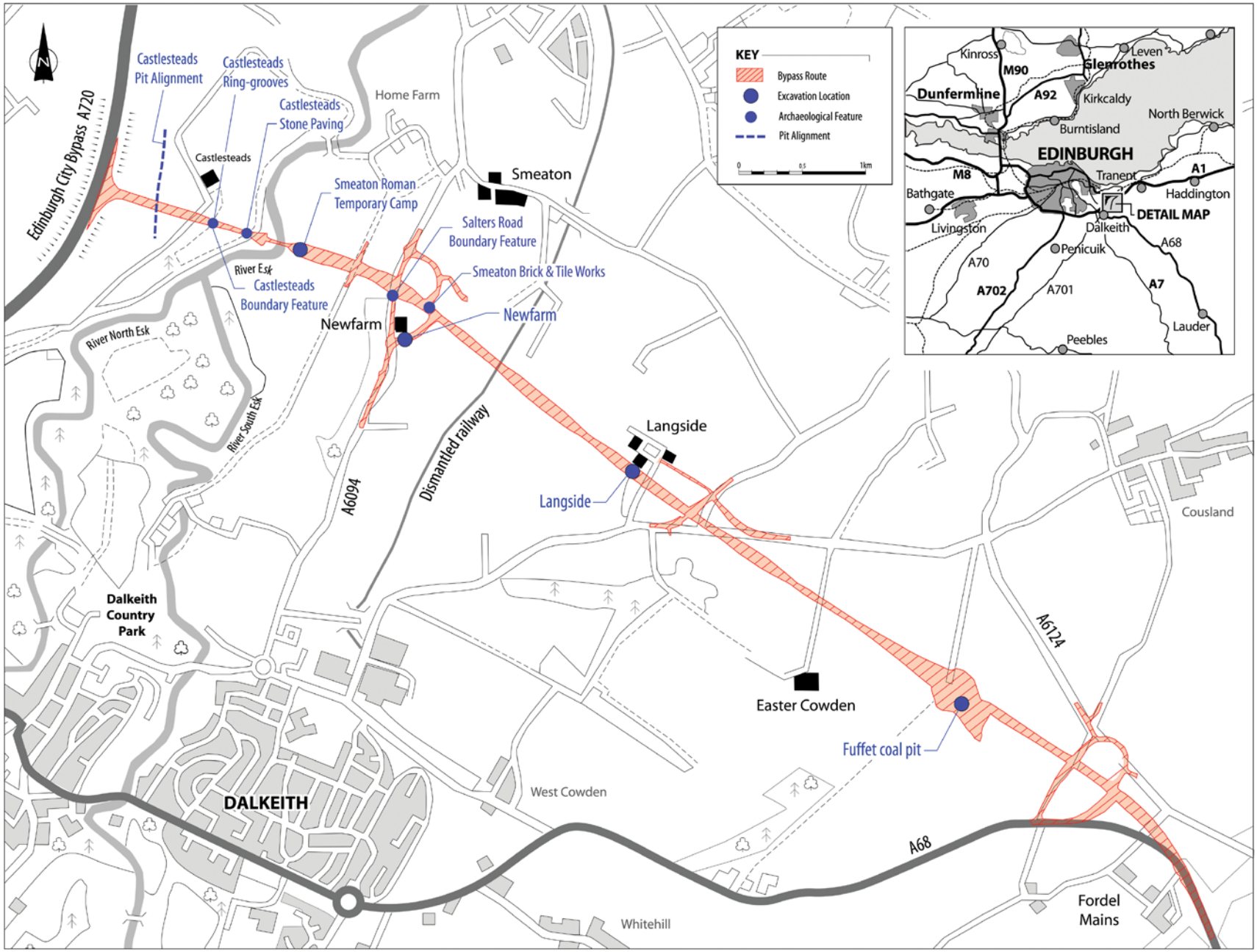
This report brings together the results of excavations on the route of the proposed A68 Dalkeith Northern Bypass. The bypass route, measuring *c* 5.5km in length (illus 2.1), runs approximately ESE from the A720 Edinburgh City Bypass (NGR: NT 335 695), to the road junction at Newfarm, where it turns south-eastwards to the junction of the B6414 and the road to Cousland. The route continues south-eastwards to a junction on the A6124 and joins the present A68 at Fordel Mains Farm (NGR: NT 378 667).

The west end of the route is at a high point of ground which slopes away gently on all sides, and the route itself follows the slope down to the sandy and gravelly terrace of the River Esk, crossing it at a slight meander within woodland close to Pickle Dirt. On the other side of the river, above a sheer cliff face, the ground along the route rises gently towards Newfarm. The slope beyond this to the south-east rises more steeply, reaching *c* 170m above OD at the point where the proposed route meets the A68.

Geologically, most of the route is underlain by sedimentary formations, primarily Coal Measures and limestones of Carboniferous age between Newton and Fordel Mains. With the exceptions of the immediate margins of the River Esk itself, all the land along the route has been classed by the Macaulay Land Use Research Institute as being of Class 1 or Class 2 (Soil Survey of Scotland 1973). The Soil Survey map identifies two soil associations along the bypass route. Brown forest soils overlying free-draining fluvioglacial sand and gravel, belonging to the Darvel Association, occur at the north-western end. Three series within the Rowanhill Association (of tills derived from Carboniferous deposits) characterise the remainder of the bypass route. Of these latter, that at the south-eastern end (Greenside series) is the best quality, being freely drained brown forest soil. The intermediate series (Macmerry; Winton),

Table 2.1 Sites known or identified along the proposed route

Area	Site	NMRS ref	Fieldwork	Report
Castlesteads	pit alignment	NT36NW 53	Excavation	Section 4.2
	ring-grooves	NT36NW 147	Excavation	Section 5
	stone paving and lithic scatter	NT36NW 165	Excavation	Section 6
	plantation boundary feature		Excavation	Section 9.5
	west wall of Dalkeith Park		Survey	Section 9.3
Smeaton	Roman temporary camp	NT36NW 33	Excavation	Section 7
	brick and tile works	NT36NW 109	Excavation	Section 10.3
Newfarm	cist cemetery	NT36NW 5	Not located	Section 3.3
	quarry pit and rig-and-furrow		Evaluation	Section 3.3
	ditches and stone features		Excavation	Section 8
	post-medieval building		Excavation	Section 8
	cropmark	NT36NW 146	Evaluation	Section 3.3
	ditch		Evaluation	Section 3.3
	county boundary (Pickle Dirt)		Excavation	Section 9.4
	SE wall of Dalkeith Park		Survey	Section 9.3
Langside	old gravel pit previously recorded as enclosure	NT36NE 67	None	Section 3.3
	modern pits		Evaluation	Section 3.3
	pit alignment		Excavation	Section 4.3
	railway trackbed		Evaluation	Section 3.3
Easter Cowden	field boundary		Evaluation	Section 3.3
	Fuffet coal pit engine house	NT36NE 92	Excavation	Section 10.4
Fordel Mains	ditch		Evaluation	Section 3.3



Illus 2.1 Location plan

gleyed and imperfectly drained soils, are nonetheless of very considerable agricultural value.

2.2 *Archaeological background*

The Esk Valley has a rich archaeological record, most notably in terms of cropmark evidence as recorded by aerial photography (eg Brown 2002). This is particularly true of the sand and gravel areas but less so to the south-east on the Rowanhill association soils.

A number of archaeological sites were known within or very close to the route corridor in advance of the evaluation. These were, from approximately west to east, a pit alignment at Castlesteads, a Roman temporary camp at Smeaton, the site of Smeaton brick and tile works and the site of a cist cemetery at Newfarm. The site of the engine house at Fuffet coal pit was the only other site identified during the project within the route corridor prior to the commencement of fieldwork. A possible enclosure site recorded previously at Langside was reinterpreted through desk-based assessment as an old gravel pit (see Section 3.3), and no archaeological work took place at that location. Table 2.1 lists these known sites and those discovered during the project.

2.3 *Investigation strategy and its evolution*

The results reported here are the outcome of more than one phase of archaeological work which took place over a period of almost 15 years, and which was made possible by the construction of the bypass being deferred. This allowed the strategy for archaeological investigations to evolve in response to developments in understanding of evaluation sampling strategies and, in one case, site-specific investigation strategies.

The initial fieldwork was carried out by the Centre for Field Archaeology (CFA), University of Edinburgh, between 1994 and 1995. This work was commissioned by Historic Scotland, on behalf of the Roads Directorate of the Scottish Office Industry Department (SOID), through a process of competitive tender. The objectives of this work, as defined by Historic Scotland, were to:

1) undertake appropriate field evaluation of the road construction corridor to identify, characterise and excavate archaeological features within the road corridor;
2) excavate an appropriate proportion of the known archaeological features, and substantial areas around them, in particular the cropmarks of a pit alignment at Castlesteads, a Roman temporary camp at Smeaton, and a brick and tile works at Smeaton;
3) obtain evidence of the nature, function and date of the features, taking due account of the recovery of environmental evidence relating not only to the features themselves but to the surrounding area.

CFA's Project Design contained strategies and methodologies to meet these objectives, and they are set out in the relevant sections of this report. Areas trenched as part of the field evaluation were selected on a judgemental basis, with those areas considered most likely to reveal archaeological remains examined preferentially, and others considered likely to have poor archaeological survival avoided. Topographical, geological and pedological factors were also taken into account in siting trenches.

Overall, the intrusive archaeological works in 1994–95 investigated in the order of 4% of the land within the compulsory purchase order areas, which defined the limits of the land available for archaeological investigation. In line with the selection strategy, the investigations were not evenly distributed. In two areas west of the River Esk, the investigations examined over 20% overall of the available land, due to the presence of identified archaeological sites requiring set-piece excavation. For most of the remaining arable areas the evaluation examined in the order of 2–5% of land parcels, although in some areas little or no evaluation work was carried out as a result of land access issues. The field evaluation led to the discovery of archaeological sites additional to those previously known, which were subsequently excavated, following the agreement of scopes of work with Historic Scotland – these included timber roundhouses and an area of stone paving at Castlesteads, and the Fuffet coal pit engine house.

In 1996 an archaeological watching brief undertaken during the diversion of a gas pipeline, which was necessary to accommodate the new bypass, led to the discovery and excavation of the Early Historic long cist cemetery and prehistoric structures and a pit alignment at Newfarm. As this investigation was undertaken through different contractual arrangements, it was reported upon and published separately from the investigations contained in this report (Rees 2002, who names the site as 'Thornybank'). A watching brief undertaken within Smeaton Roman temporary camp as part of the same pipeline diversion produced no archaeological findings (Rees 1997).

After the 1994–95 archaeological works had been completed, the construction of the bypass was deferred for several years. The results were prepared for publication, and were on the point of being published when the construction project was revived in 2005. At that time Historic Scotland commissioned CFA Archaeology (who had been spun out of the University of Edinburgh in 2000) to undertake a review of previous work and prepare a mitigation study for further advance archaeological works (Anderson 2005) with the aim of increasing the level of evaluation to 10% of all

areas of suitable land, as recommended by Hey & Lacy (2001, 43). The mitigation strategy report also recommended fuller investigation of the Roman temporary camp (since alternative investigation techniques for examining Roman camps had proved effective elsewhere since the initial work at the camp, especially at Dullatur (Lowe & Moloney 2000)); recording those parts of the Dalkeith park designed landscape that would be affected by the development; and the use of metal-detecting as a prospective technique (following a recommendation to that effect made by Midlothian Council's Archaeological Advisor at that time).

The mitigation strategy report formed the basis of a further programme of pre-construction archaeological investigations carried out along the bypass route between 2005 and 2008, commissioned by Historic Scotland on behalf of Transport Scotland, and awarded to CFA Archaeology through a process of competitive tender. In addition to the works specified above, a pit alignment at Langside and a series of features at Newfarm were excavated following their discovery during the additional field evaluation works and the agreement of a scope of works with Historic Scotland. Small-scale targeted watching briefs were conducted during road construction works to address specific issues that had not been resolved during the pre-construction works. Further details of these works can be found in unpublished documents lodged with the project archive at RCAHMS (Suddaby et al 2007; O'Connell & Suddaby 2008).