RSD01

THE RADAR STATION, DIRLETON, EAST LOTHIAN: BUILDING SURVEY

by Dr T G Holden

October 2001

Client: Mr Howard Wallace

BACKGROUND

The site is located 0.8 km to the north of the village of Dirleton (NGR NT517 848 NMRS no. NT58SW 72) and comprises a number of standing buildings constructed in 1943 and the years immediately afterwards (Figure 1). The site was first used for Ground Control of Interception (GCI) in 1941 and was initially housed on lorries with the aerials on 'caravans'. These were replaced, firstly by wooden buildings in 1942, and later by the present brick-built operations block which was opened in October 1943. Further enhancements were made during 1945 but by the time the building was completed the war was largely over and the station was turned over to training. It worked closely with the night fighter units from Charterhall and Drem. Although the GCI closed down in 1946 the site was still used for training purposes until 1954 (Tully-Jackson & Brown 1996).

The present survey was undertaken on behalf of Mr H Wallace prior to the development of the site for housing and in part-fulfilment of an archaeological condition on Planning Consent. This condition was imposed by East Lothian Council on the advice of the City of Edinburgh Archaeology Service. At the time of the survey between 14th and 16th August 2001 five standing structures lay within the client's property boundary:

1) The main operations block
2) The generator house
3) The sewage/pump house
4) A Plan Position Indicator (PPI) – Type 14 Radar plinth
5) An Identification Friend or Foe (IFF) cubicle

Other features were also identified within the survey area and these are shown on Figures 1 and 2. They include the stance for the water tank, the stance for a Type 13 Height Finding Radar (Plate 32), a concrete foundations for the administration block and a guard dog enclosure. Prior to the commencement of the survey a guardhouse (Plate 28) is known to have been demolished.

Outwith the survey area but forming a part of the original complex, further structures associated with the station also survive (Figure 1). These include a second IFF cubicle in the field to the west (Plate 29), the subterranean control room and stance for a Type 7 radar aerial to the north (Plate 30) and a concrete Stanton air raid shelter to the north east (Plate 31).

At the time of the survey the condition of the buildings within the site boundary was variable. The sewage/pumphouse, IFF cubicle and PPI stance were essentially intact. The generator house has been substantially modified internally and externally and few original features remained. The southern end of the main block had been part-demolished and rebuilt and the interior had been gutted.

METHOD

The survey of the standing structures incorporated a combination of measured drawings, photography and written description. Only those features thought to be of

relevance to the use and operation of the station were recorded. Walls that had clearly been erected within the last few months were ignored for the purposes of the survey and, where appropriate, the original plan was recorded by plotting the position of wall scars surviving in the concrete floors. In view of the present poor condition of the main operations block and generator house full use was made of pre-development photographs provided by the client and J Tully-Jackson in order to reconstruct original elevations. A selection of the photographs are reproduced in Plates 1-32.

The results of the drawn survey was digitised and drawn in AutoCAD format. These are presented in Figures 3-9.

RESULTS

The main operations block (Figures 3-5, Plates 1-14)

Operations and associated rooms

The main brick-built operations block was originally constructed in 1943 in association with the new Type 7 Radar antenna. The subterranean control for this presently lies beneath ground some 200 m to the north (Figure 1, Plate 30).

At the time of the survey the main operations room (Room No. 40) was an open space with all partition walls and the first floor having been removed (Figures 3 & 5, & Plates 13 & 14). However, patterns of joist pockets in the S wall, wall scars in the floor and paint lines on the walls provided an indication of the original layout. The southern part of the space contained a two storey arrangement with a suspended timber floor. Beneath this floor a low and poorly illuminated room with painted brick walls probably housed a workshop or tool room. This area was directly fed by an opening to the ventilation room to the south.

Above the workshop would have been the heart of the operations set-up comprising a series of rooms including the controller's office and a series of interceptor, control and monitor rooms. The presence of regular dooks in the wall indicate that the walls were lined with lath and plaster. The layout here was designed to a standard Air Ministry Plan (Appdx 3:1 – taken from Bullers 1991).

In the northern part of this room both the paint lines on the walls and masonry scars on the floor and walls indicated a gantry running along the full length of the west wall. This together with additional viewing gantries on both the south and east, partly enclosed the area where the W.A.A.Fs would have plotted the changing positions of friendly and enemy planes (Appdx. 3:2 & 3:3). This area also conformed to the pattern observed at other sites (Appdx. 3:1). Access from the exterior to the operations floor area was via a large sliding door in the NE corner.

Other features that can be seen are a series of iron fitting and paint scars on the walls. It is clear that many of these related to the central heating and lighting systems but at the N end evidence for the location of the operations blackboard still survives.

A large part of the north end of the operations room was evidently painted black at some point during its ten or so years of use and there is evidence for the addition of a further viewing gantry along the north wall. On both the east and west walls a series of ducts encased in concrete can also be seen. These were used to carry cables to and from the outlying aerials.

Domestic/administration rooms

The southern half of the main block comprises a series of ancillary rooms. These were recorded in plan as part of the present project but few original standing walls or other features survived. The interpretation is therefore largely dependent of the photographic record of Jack Tully-Jackson and the notes of Ian Brown taken before the commencement of development work (Plates 9-12). An iron blast door had been removed from the area of the main (eastern) entrance just prior to the survey. On either side of the entrance was a cloakroom and beyond these it opened onto a series of corridors. To the north were the apparatus room (probably concerned with communications), the armoury, battery room and the air filtration plant. To the south a long central corridor running N-S was flanked on the east by a series of canteens, lavatories and messing facilities and on the west by restrooms, offices and a boiler room. Few original features survive but the stance for the boiler and base of the chimney flue can be seen as well as shower and WC bases.

Within the air filtration room, the stance for the ventilator machinery with vents both to the roof and through the west wall could be seen (Plate 11). This apparently also fed into the main operations room via an opening at ground level and at first floor level via a large square opening in the centre of the south wall (Plate 14). While the full function of this ventilation system is uncertain it is possible that it was designed to provide a slight positive pressure within the building in the event of a gas attack (Ian Brown, pers. comm.).

The generator house (Figure 6, Plates 15-20)

The generator house comprised a large single storey room with annex to the north and walled courtyard to the west. No features relating to the function of the building survive but earlier photos (Plates 15 & 16) indicate the form of the generator stance and the block and tackle in the ceiling for manoeuvring this into place.

The station would have been run from the national grid (Ian Brown, pers. comm.) the generator only being used in emergencies.

The sewage/pump-house (Figure 7, Plates 21-24)

This grey, harled structure comprised a circular filter bed with a large water tank and a brick pump-house running radially off this. To the east of and partly beneath the pump-house was what appeared to be a well from which the water for the filter bed was drawn. The pipes from this were still present in the pump house although the

pump itself had been removed. A second large tank of uncertain function was also visible at ground level to the southeast.

Access to the tanks and filter bed was by a series of abutting concrete slabs on the roof. The filter bed comprised a round chamber part-filled with coarse gravel. In the centre was a 'Blakes' distributor presumably designed to pass fluids onto the filter bed via a series of rotating radial arms, now missing. The way in which the series of interconnecting tanks worked is uncertain but it would seem unlikely that this unit acted both as a sewage processing unit and drinking water tank.

Identification Friend or Foe (IFF) cubicle (Figure 8, Plate 26)

On the northern part of the eastern site boundary was a red brick building with a flat concrete roof and a blast wall protecting the door. This was one of a pair of cubicles at the station, the other being located to the west of the site in the adjacent field (Figure 1, Plate 29). These structures were for the housing of Identification of Friend or Foe equipment. The aerials themselves would originally have been sited directly adjacent to the building as illustrated in Appdx. 3.5. These receivers were designed to pick up coded transmissions from incoming friendly aircraft so as to be able to distinguish these from hostile ones.

Surviving features include internal wooden benches and what appears to be a junction box on the north external wall that is very similar to that seen in Appdx. 3.5. A window in the north wall appears to have been blocked at some point soon after construction.

Plan, Position Indicator (PPI) – Type 14 radar plinth (Figure 9, Plate 25)

This structure comprised a small, square, concrete building close to the eastern perimeter of the site. On top of the structure were four concrete and iron attachment points for the fixing of the aerial base with a central shaft to accommodate the radar column leading to the interior. Inside were a series of ceramic ducts to the exterior, which would have acted as trunking for cables to the control building.

This is the plinth of an S band Type 14 Plan Position Indicator (PPI) radar (illustrated in Appdx. 3.4 top). This type of radar would have rotated up to eight revolutions per minute (Ian Brown, pers. comm.) and the building itself would have housed the motor, gearing and equipment to facilitate this.

Other minor features identified by the survey

Guard dog enclosure (Plate 27)

To the east of the main operations room the remains of a dog enclosure 7 m x 8.5 m was surveyed. This comprised a concrete slab around which were set concrete posts supporting the wire fence. Entry to the enclosure was via a set of double gates at the south end.

Water tank stance

A concrete stance was surveyed to the west of the domestic block. This was approximately square 3.4 m x 3.4 m with a small offshoot to the east (Figure 2) and within it were set four sawn-off metal attachment points. From a photograph taken in the 1940s and in the position of J Tully-Jackson this is known to represent the base that supported the legs of a metal water tank suspended some metres off the ground to provide a head of water for the domestic block.

Foundations of administrations block

At the south eastern corner of the main compound (Figure 2) the concrete stance of a building was surveyed. This appeared to be standing on the 1968 OS map of the site and was the remains of the administration block (I Brown pers. comm.).

DISCUSSION

The radar station at Dirleton is one of handful of Ground Control Radar complexes that have survived down to the present day. Its origins lie in the use of mobile control and aerial trailers in the early 1940s but with the continued incursion of night raiders more sophisticated equipment was required to direct friendly fighter aircraft to the enemy. The existing Home Chain radar network was designed to detect the incoming waves of enemy aircraft during daylight and direct the fighters to the point where they could make visual contact with the enemy (ie within a mile or so). The Ground Control of Interception stations, however, had to direct the fighters to within 100s of metres in order to engage the enemy in the hours of darkness. The sophisticated Type 7, Type 13 & Type 14 radars were instrumental in this.

The operations block was the hub of the complex and it was from here that underground cables ran to the various transmitters and receivers in the surrounding areas. These included height finding equipment, plan and position indicators and machinery for the identification of friend and foe signals sent by incoming aircraft. The information obtained was collated in the operations room and relayed to the fighter stations at Drem and training unit at Charterhall.

The whole complex would have been fenced with elements of security being provided, at least in the later stages, by dogs. A guardhouse was sited at the entrance to the complex and an armoury within the main operations block.

Although the staff were not billeted at the station it was largely self sufficient with its own water supply, sewage treatment plant, generator house and telephone exchange. Welfare facilities included canteens and showers and rest rooms. It is clear that in times of emergency the site could have carried on independently of the national grid and, with the blast doors closed and air filtration unit functioning, it could have survived all but the most direct of hits from enemy planes.

In its later life it passed over many of its main functions to other centres. However, it continued as a training venue until the 1950s and many of the noted modifications must have occurred during this time.

ACKNOWLEDGEMENTS

The author would like to acknowledge the generous help of Jack Tully-Jackson and Ian Brown. Several of their photographs and collected manuscripts have been incorporated into this report. The project was curated by John Lawson of the City of Edinburgh Archaeology Service. Original illustrations are by, Jenni Morrison, Laura Speed and Mike Middleton. Hamish Fulford assisted in the fieldwork.

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Ordnance Survey 1968 1:10560 Map Sheet. NT58SW

Tully-Jackson, J and Brown I 1996 *East Lothian at War*. East Lothian District Library.

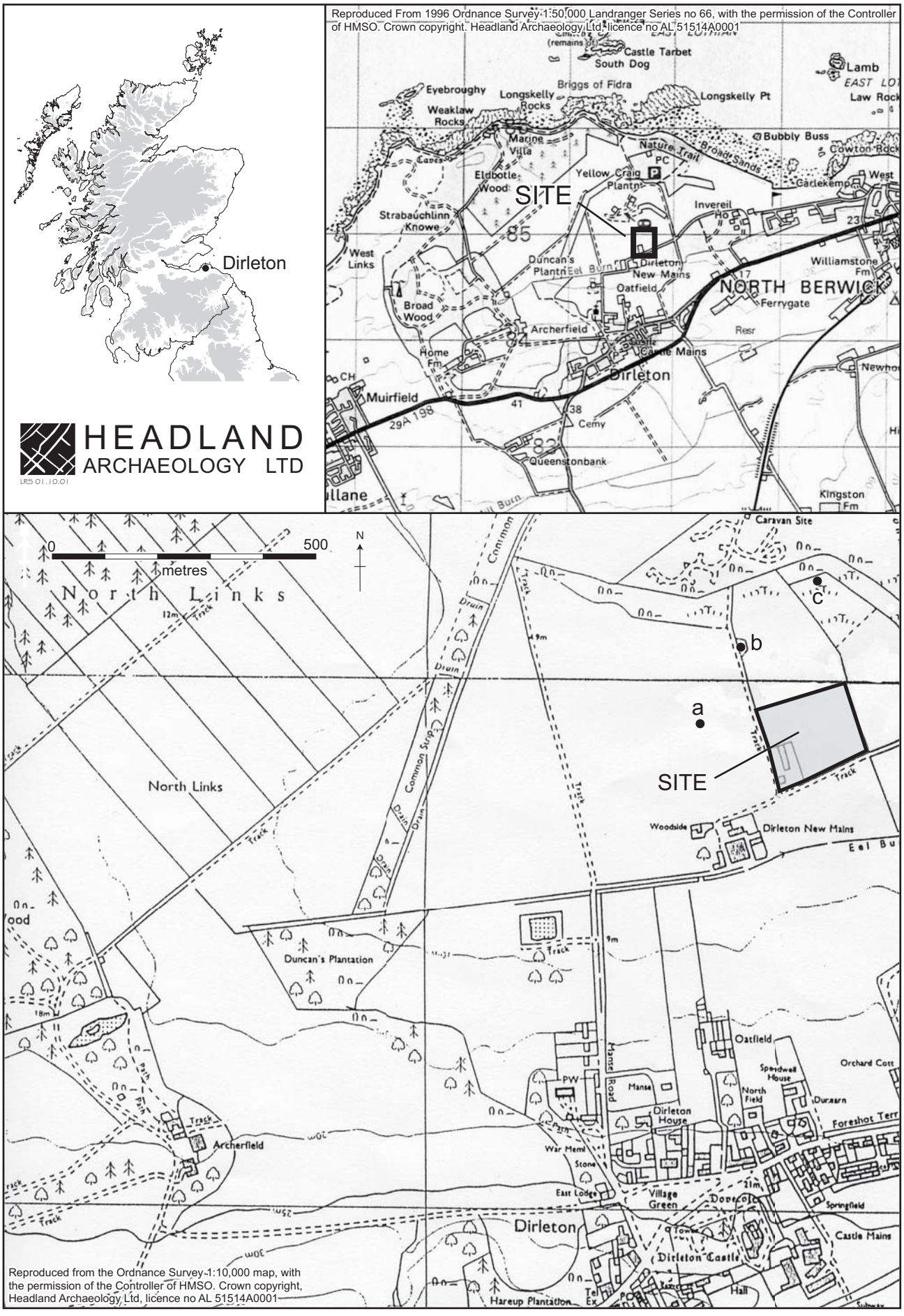


Figure 1. Radar Station, Dirleton: Site location showing approximate locations of outlying features; a: IFF cubicle, b: Type 7 Subterranean control room, c: Air raid shelter

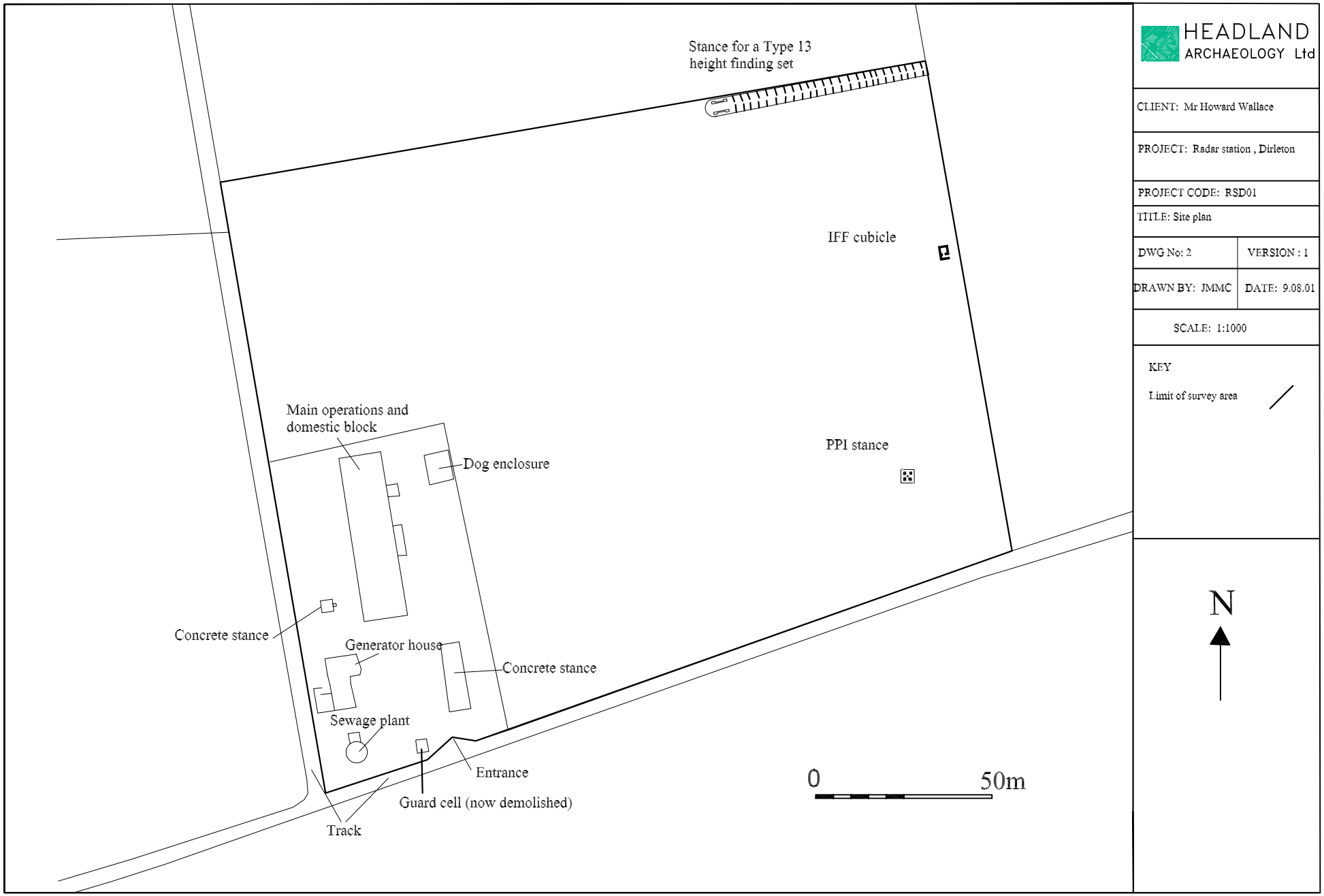
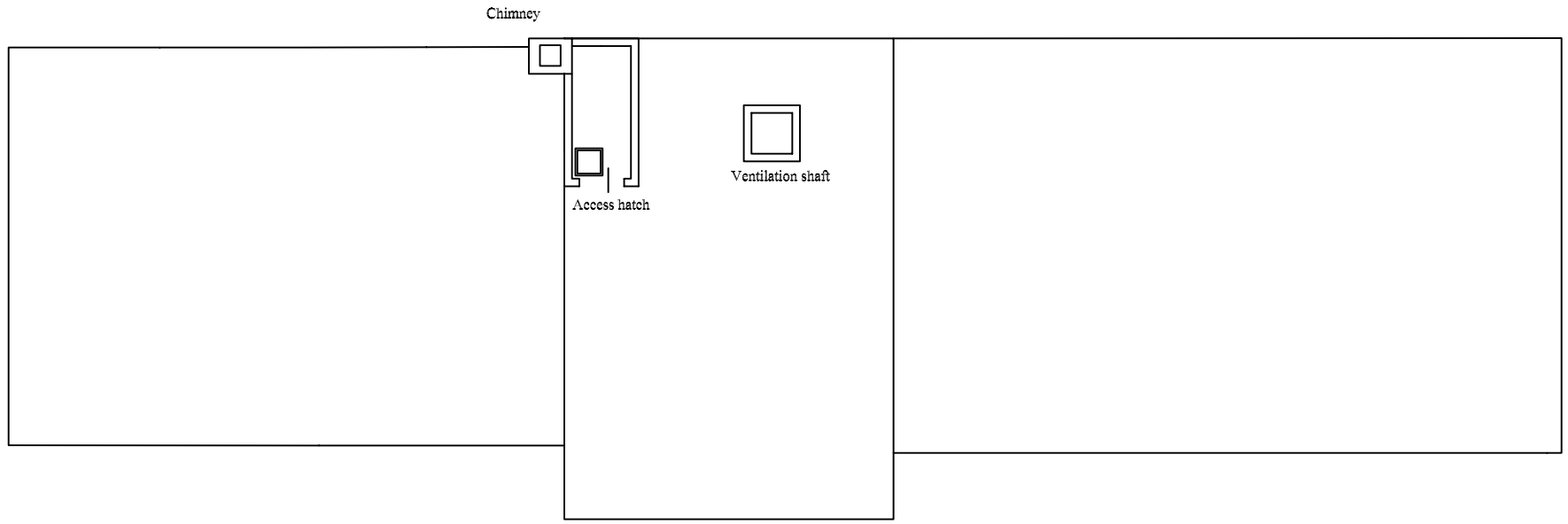
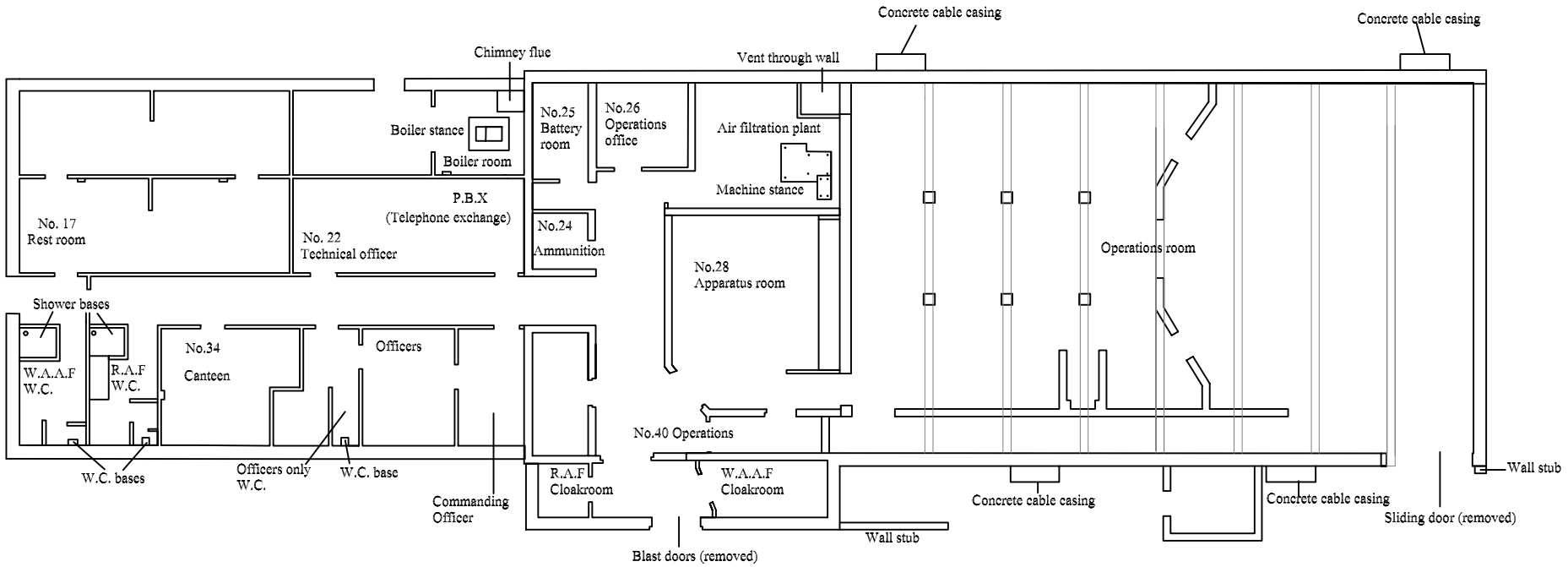


Figure 2-Site plan showing the location of surveyed features



Roof Plan



Floor Plan

0 10 m

HEADLAND ARCHAEOLOGY Ltd

CLIENT: Mr Howard Wallace

PROJECT: Radar Station, Dirleton

PROJECT CODE: RSD 01

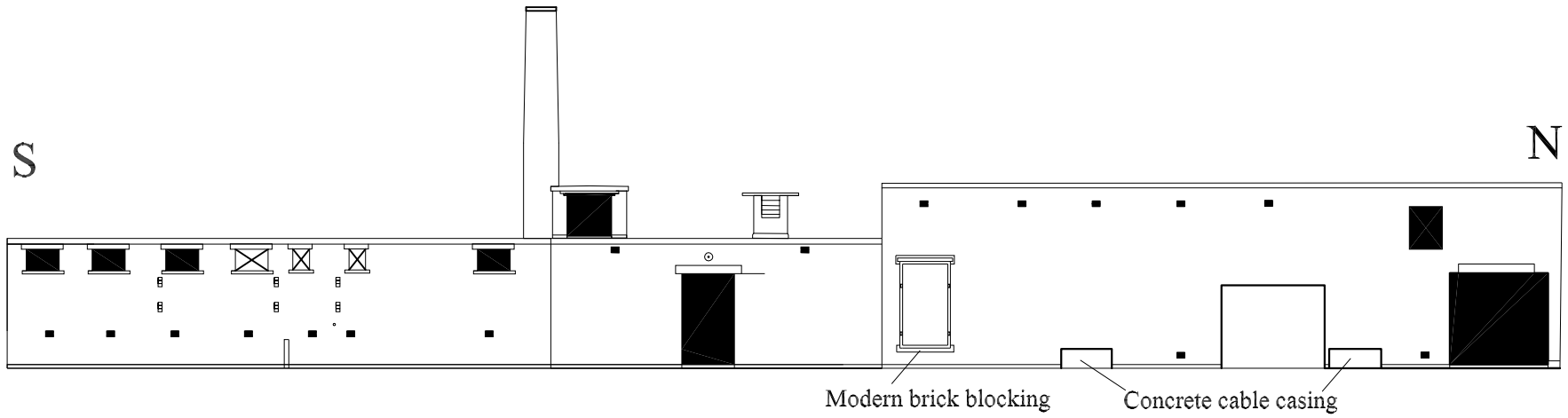
TITLE: Plan of main block

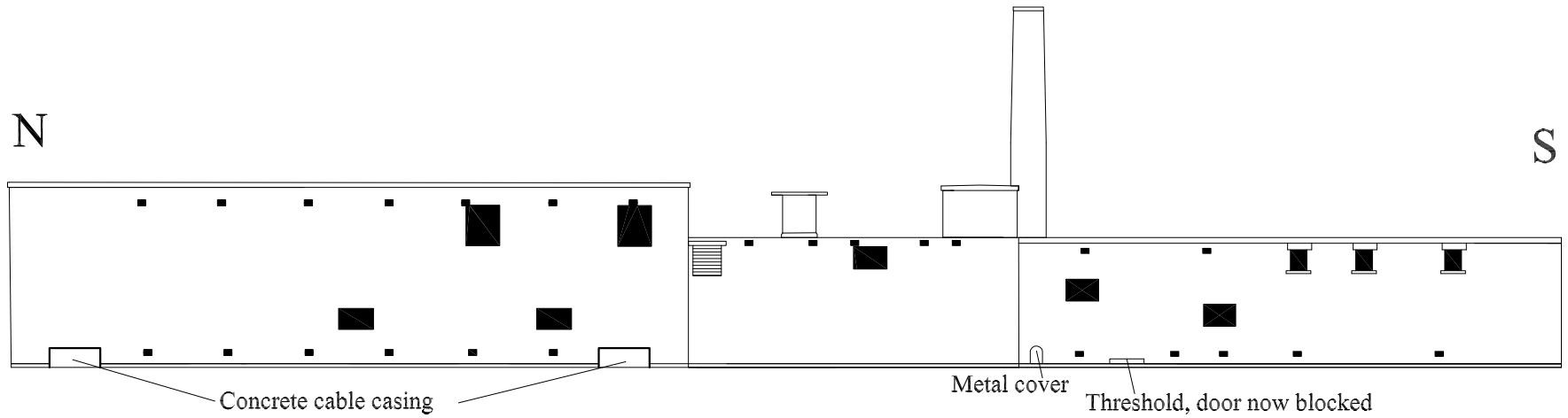
DWG No: 3	VERSION : 3
DRAWN BY: JMMC	DATE: 20.08.01

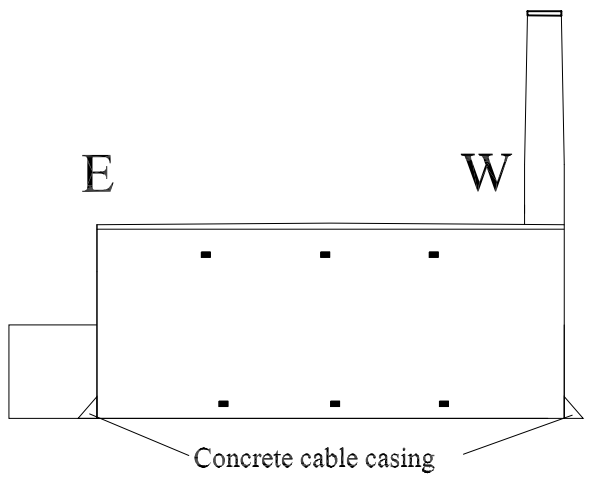
SCALE: 1:200

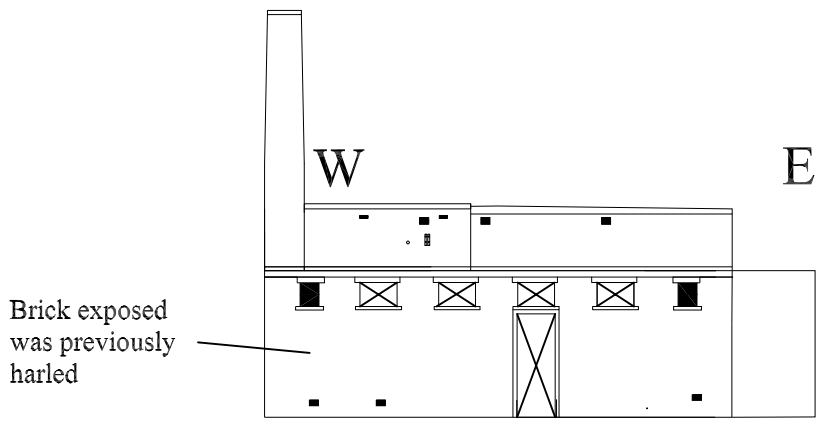
N

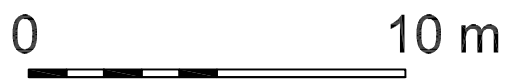
Figure 3-Plan of roof and ground floor of main operation and domestic accommodation











HEADLAND ARCHAEOLOGY Ltd

CLIENT: Mr Howard Wallace

PROJECT: Radar Station, Dirleton, East Lothian

PROJECT CODE: RSD 01

TITLE: External elevations of main block

DWG No: 4 | VERSION : 2

DRAWN BY: JMMC | DATE: 2.10.01

SCALE: 1: 200

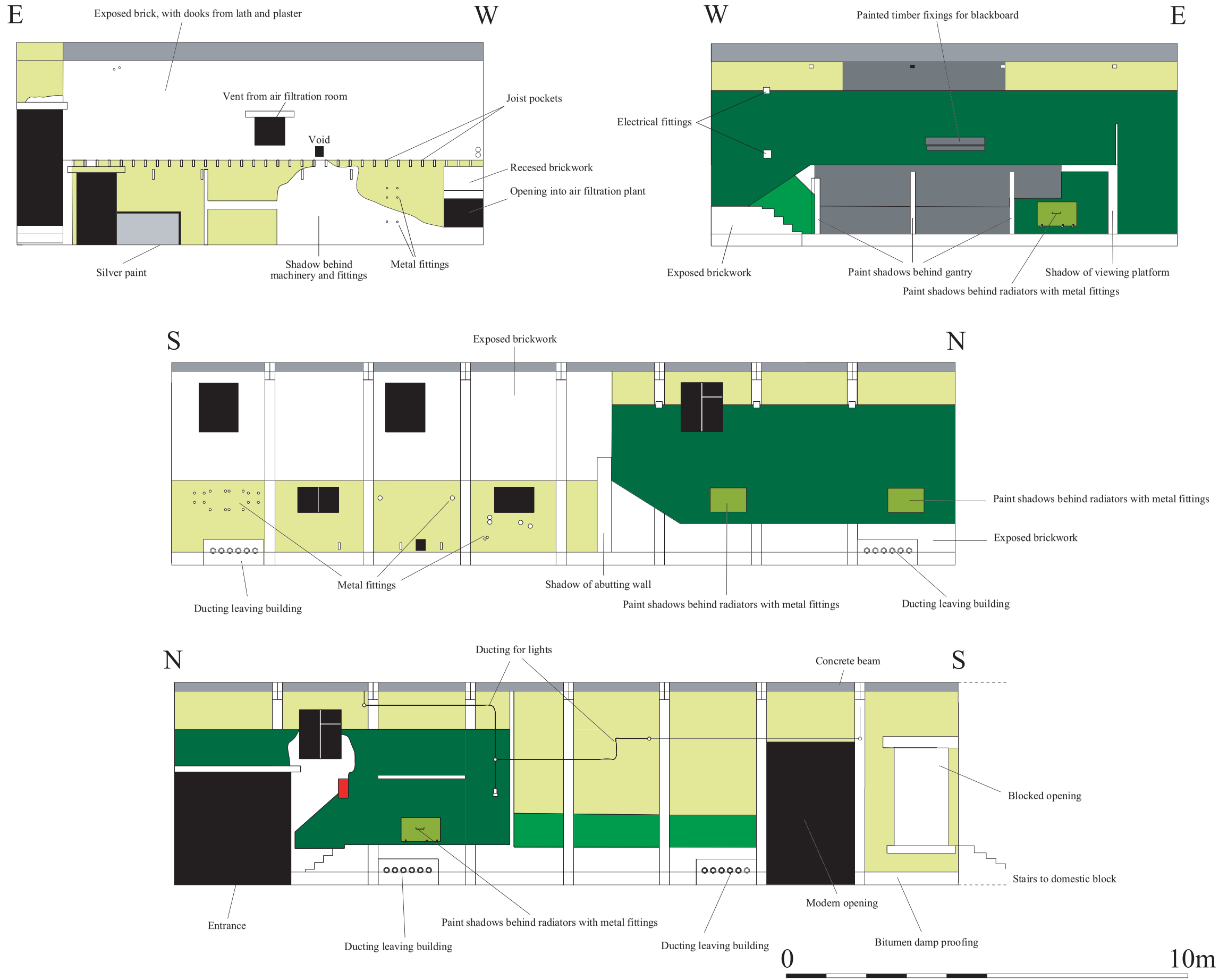
KEY

Demolished features located from photographs

Ceramic vents

Voids, ie windows and doors

Figure 4-External elevations of the operations and domestic block



HEADLAND ARCHAEOLOGY Ltd

CLIENT: Mr Howard Wallace

PROJECT: Radar station, Dirleton, East Lothian

PROJECT CODE: RSD 01

TITLE: Internal elevations, operations room

DWG No: 5	VERSION : 2
DRAWN BY: JMMC	DATE: 2.10.01

SCALE: 1:100

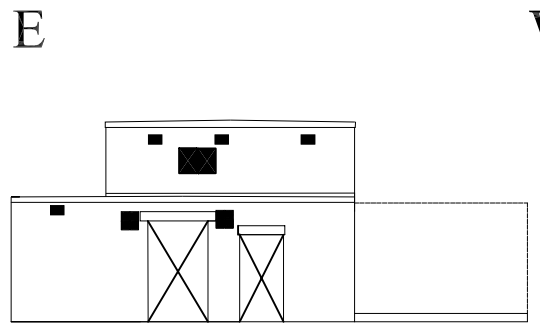
KEY

Colours represent different coloured paint work

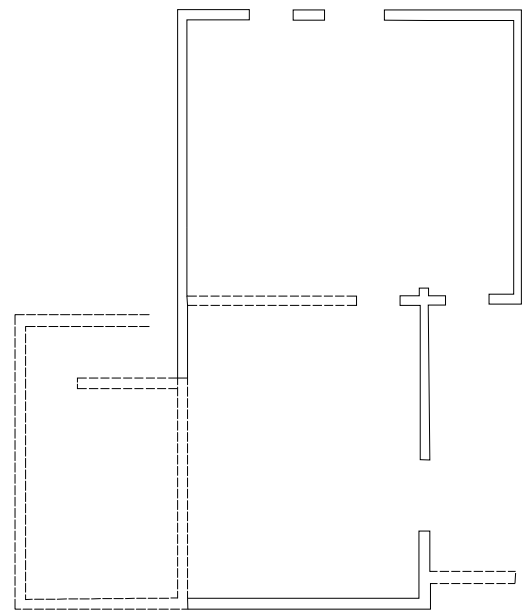
Black paint

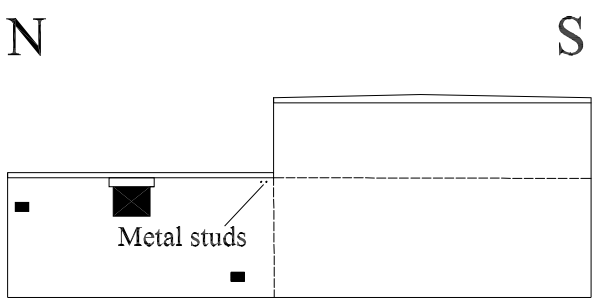
Blank areas represent exposed brickwork

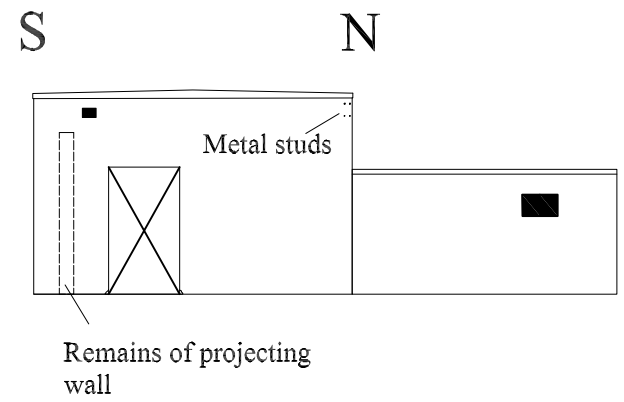
Figure 5-Internal elevations of the operations room

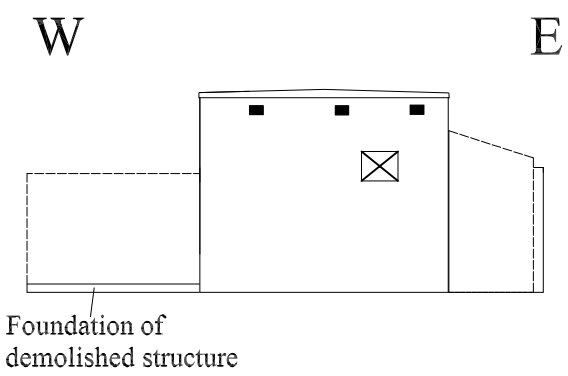


Plan









HEADLAND ARCHAEOLOGY Ltd

CLIENT: Mr Howard Wallace

PROJECT: Radar station, Dirleton, East Lothian

PROJECT CODE: RSD 01

TITLE: External elevations of generator house

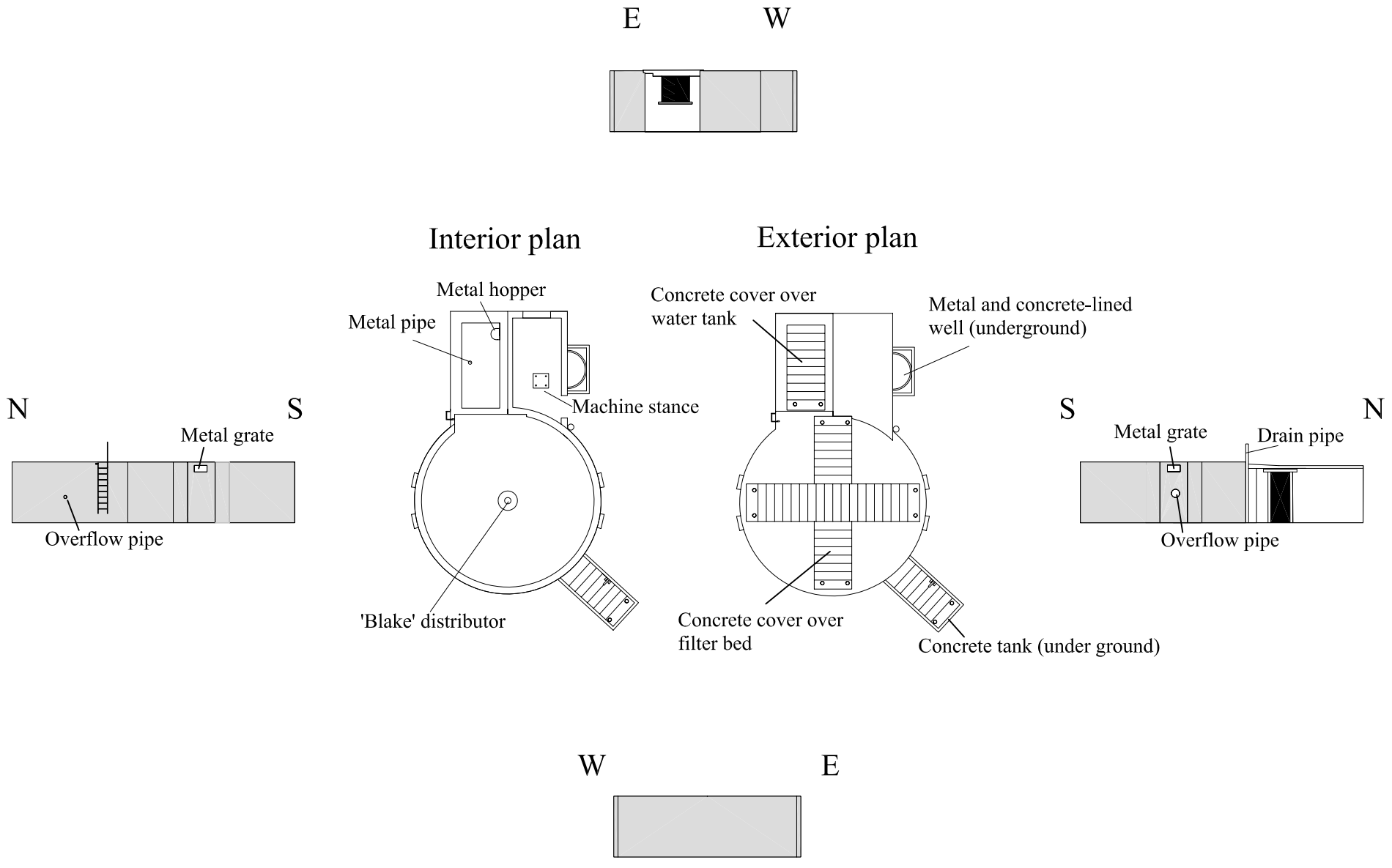
DWG No: 6	VERSION : 2
DRAWN BY: JMMC	DATE: 6.09.01

SCALE:1:200

KEY

- Ceramic vents
- Walls demolished before survey, based on architects drawings
- Features located using photographs
- Voids, ie windows and doors

Figure 6-Plan and external elevations of the generator house



HEADLAND ARCHAEOLOGY Ltd

CLIENT: Mr Howard Wallace

PROJECT: Radar Station, Dirleton, East Lothian

PROJECT CODE: RSD 01

TITLE: Septic Tank, Plan and exterior elevations

DWG No: 7	VERSION : 2
DRAWN BY: JMMC	DATE: 2.09.01

KEY

Render

SCALE:1:200

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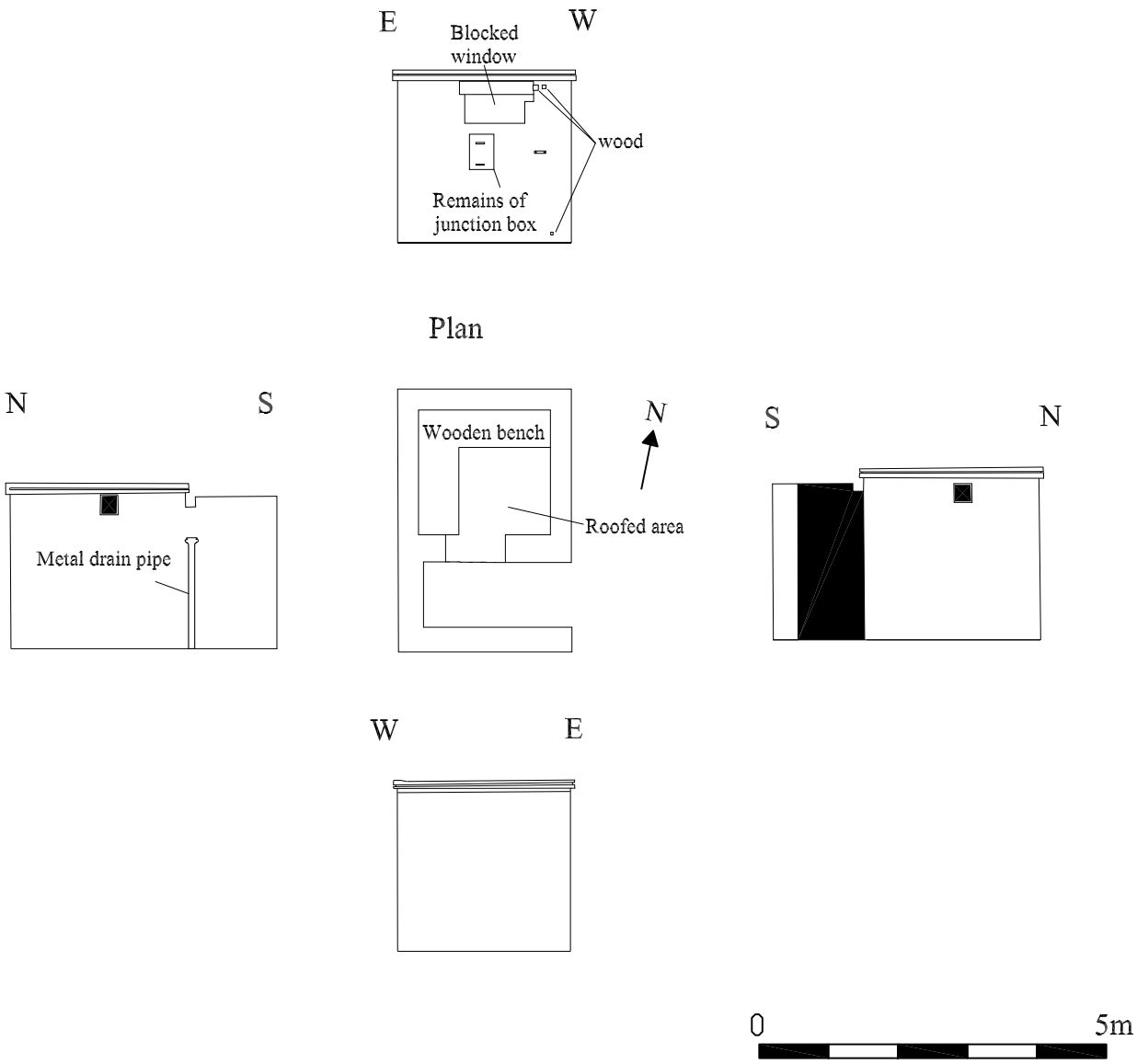
Figure 7-Plan and external elevations of the sewage / pumphouse



HEADLAND ARCHAEOLOGY Ltd

CLIENT: Mr Howard Wallace

PROJECT: Radar station, Dirleton, East Lothian

DWG No: 8

VERSION : 3

PROJECT CODE: RSD 01

TITLE:Plan and elevations of the IFF cubicle

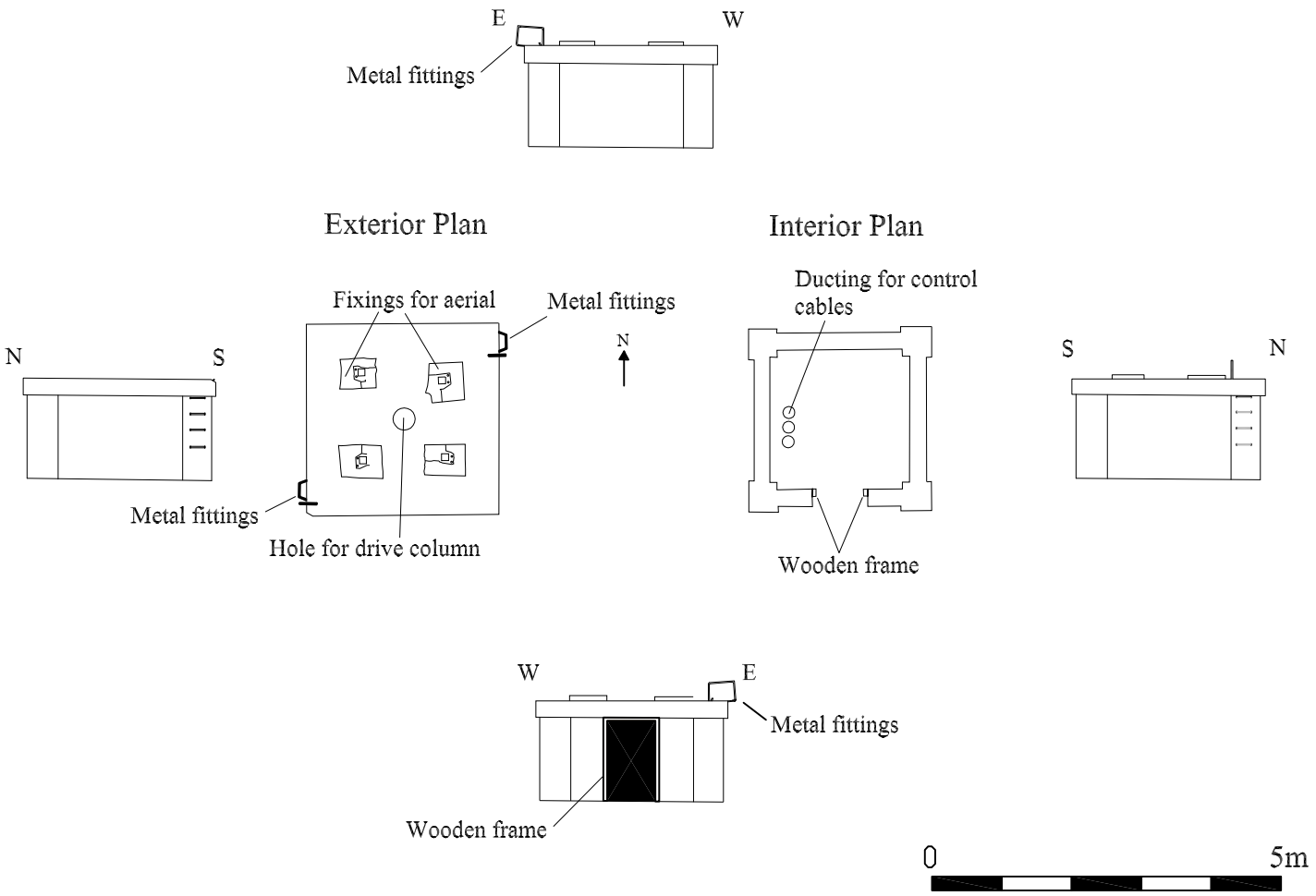
DRAWN BY: JMMC

DATE: 2.10.01

SCALE: 1:100

KEY

Figure 8-Plan and elevations of the IFF cubicle



HEADLAND ARCHAEOLOGY Ltd

CLIENT: Mr Howard Wallace

PROJECT: Radar station, Dirleton, East Lothian

DWG No: 9

VERSION : 3

PROJECT CODE: RSD 01

TITLE: Plan and elevations of PPI aerial stance

DRAWN BY: JMMC

DATE: 2.10.01

SCALE: 1:100

KEY

Figure 9-Plan and elevations of the PPI aerial stance

Plate 1 - The domestic accommodation from the south

Plate 2 - The domestic accommodation from the east

Plate 3 - The operations block from the northeast

Plate 4 - The operations block from the southeast

Plate 5 - The south end of the operations block from the west

Plate 6 - The operations block and domestic accommodation from the northwest

Plate 7 - The north end of the operations block from the west

Plate 8 - The north west corner of the operations block from the west

Plate 9 - The technical officer's room (TJ)

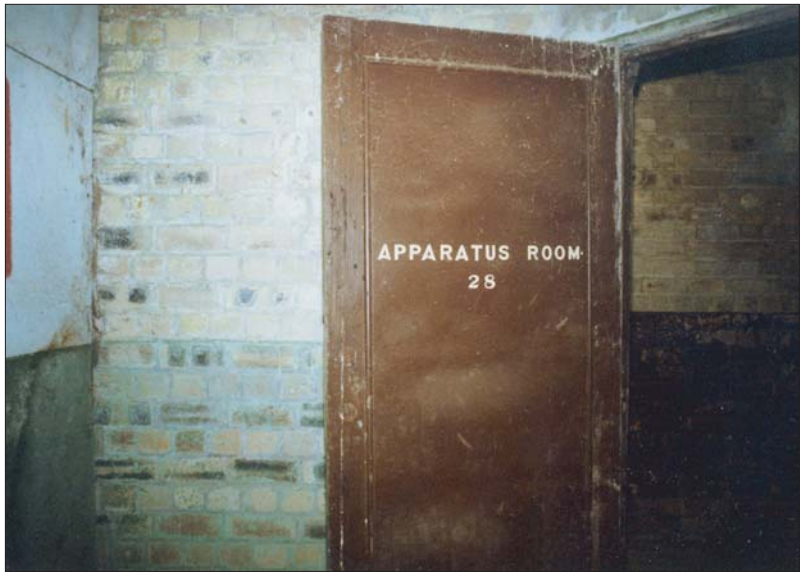


Plate 10 - The apparatus room (TJ)

Plate 11 - Part of the air filtration system (TJ)

Plate 12 - A rifle rack in the armoury (TJ)

Plate 13 - Northern wall of the operations room (TJ)

Plate 14 - Southern wall of the operations room

Plate 15 - The interior of the generator house (TJ)

Plate 16 - The interior of the generator house (TJ)

Plate 17 - The generator house from the east

Plate 18 - The generator house from the southeast

Plate 19 - The generator house from the west

Plate 20 - The generator house from the north

Plate 21 - The sewage plant / pump house from the northeast

Plate 22 - The sewage plant / pump house from the southeast

Plate 23 - The sewage plant / pump house from the northwest

Plate 24 - The sewage plant / pump house from the northwest

Plate 25 - The PPI aerial stance from the south

Plate 26 - The IFF cubicle from the northwest

Plate 27 - The guard dog enclosure from the southwest

Plate 28 - The guard house from the east (TJ)

Plate 29 - IFF cubicle in field to west of the main block from the east.

Plate 30 - Sub-ground control room for a Type 7 aerial from the west

Plate 31 - Air raid shelter from the west

Plate 32 - The stance of a Type 13 height finding radar set from the west

APPENDIX 1- Photographic register

Film:1

Film Type: Colour Print		
Shot no.	Direction Facing	Description
1	W	Front (E Facing) elevation of generator house
2	W	Front (E Facing) elevation of generator house
3	N	South elevation of generator house
4	N	South elevation of generator house
5	N	Footings of southern part generator house
6	W	Generator house – part of west facing elevation
7	N	Generator house - north facing elevation
8	N	Ceramic vent (Type 1) generator house, north elevation
9	NW	Generator house – interior
10	S	Generator house - cavity walling, now filled
11	SW	Generator house - interior
12	N	PPI stance - S facing elevation
13	W	PPI stance - E facing elevation
14	SW	PPI stance – concrete fixings for aerial
15	W	PPI stance - southern concrete fixing
16	W	PPI stance - circular shaft through roof
17	S	IFF cubicle
18	SE	IFF cubicle
19	W	IFF cubicle and PPI stance
20	W	Antenna Foundations
21	W	Concrete stance for water tank
22	W	Concrete stance for water tank – detail
23	W	Concrete stance for water tank – detail
24	W	Concrete stance for water tank – detail
25	S	Counterbalance for roof access hatch

Film:2

Film Type: Colour Slide		
Shot No.	Direction Facing	Description
1	W	Front (E Facing) elevation of generator house
2	W	Front (E Facing) elevation of generator house
3	N	South Elevation of generator house
4	N	South Elevation of generator house
5	N	Footings of southern part generator house
6	W	Generator house – part of west facing elevation
7	N	Generator house - north facing elevation
8	N	Ceramic vent - generator house, north elevation
9	NW	Generator house - interior
10	S	Generator house - cavity walling, now filled
11	SW	Generator house – interior
12	N	PPI stance - S facing elevation
13	W	PPI stance - E facing elevation
14	SW	PPI stance – concrete fixings for aerial
15	W	PPI stance - southern concrete fixing
16	W	PPI stance - Circular shaft through roof
17	S	IFF cubicle
18	SE	IFF cubicle
19	W	Gen. Shot IFF cubicle and PPI stance
20	W	Antenna Foundations
21	W	Concrete stance for water tank
22	W	Concrete stance for water tank – detail
23	W	Concrete stance for water tank – detail
24	W	Concrete stance for water tank – detail
25	S	Counterbalance for roof access hatch
26	E	Counterbalance for roof access hatch
27	W	Operations block – metal blast door
28	W	Operation Room - E facing elevation – modern opening
29	W	Operation Room - E facing elevation – N end
30	W	Operation Room - E facing elevation – N end
31	W	Operation Room - E facing elevation - N end
32	W	Operation Room - E facing elevation - N end with blocked original entrance
33	S	Operation Room - N facing elevation
34	E	Operation Room - W facing elevation – N end
35	E	Operation Room - W facing elevation – N end
36	NW	Operations building base of chimney
37	N	Operations block - concrete stance next to chimney
38	W	Operations block – base of chimney

Film:3

Film Type: Colour Print		
Shot no.	Direction Facing	Description
1	E	Counterbalance for roof access hatch
2	W	Operations block – metal blast door
3	W	Operation Room - E facing elevation – modern opening
4	W	Operation Room - E facing elevation – N end
5	W	Operation Room - E facing elevation – N end
6	W	Operation Room - E facing elevation - N end
7	W	Operation Room - E facing elevation - N end with blocked original entrance
8	S	Operation Room - N facing elevation
9	E	Operation Room - W facing elevation – N end
10	E	Operation Room - W facing elevation – N end
11	NW	Operations building base of chimney
12	N	Operations block - concrete stance next to chimney
13	W	Operations block – base of chimney
14	W	Operations block – base of chimney
15	N	Operations block – apparatus room
16	N	Operations block - lever of ventilation shaft
17	N	Operations block - Concrete stance for ventilation equipment
18	W	Operations block - ventilation flue
19	W	Operations block - ventilation flue
20	W	Operations block - ventilation flue
21	S	Operations block - rooms off main vestibule
22	W	Operations block - rooms off main vestibule
23	E	Operations block – stairs from apparatus room
24	W	Operations block – apparatus room - rectangular trough
25	N	Operations Room - S facing interior wall
26	N	Operations Room - S facing interior wall
27	E	Operations Room – W facing interior wall
28	E	Operations Room - W facing interior wall
29	E	Operations Room - W facing interior wall
30	S	Operations Room - N facing interior wall
31	W	Operations Room - E facing interior wall
32	W	Operations Room - E facing interior wall
33	W	Operations Room - E facing interior wall
34	NE	Guard dog enclosure
35	NE	Guard dog enclosure
36	NE	Guard dog enclosure
37	E	Guard dog enclosure

Film:4

Film Type: Colour Slide		
Shot no.	Direction Facing	Description
1	W	Operations block – base of chimney
2	W	Operations block – apparatus room
3	N	Operations block - Lever of ventilation shaft
4	N	Operations block - Concrete stance for ventilation equipment
5	N	Operations block - Ventilation flue
6	W	Operations block - Ventilation flue
7	W	Operations block - Ventilation flue
8	W	Operations block - Rooms off main vestibule
9	S	Operations block - Rooms off main vestibule
10	W	Operations block – Stairs from apparatus room
11	E	Operations block – apparatus room - rectangular trough
12	W	Operations Room - S facing interior wall
13	N	Operations Room - S facing interior wall
14	N	Operations Room – W facing interior wall
15	E	Operations Room - W facing interior wall
16	E	Operations Room - W facing interior wall
17	E	Operations Room - N facing interior wall
18	S	Operations Room - E facing interior wall
19	W	Operations Room - E facing interior wall
20	W	Operations Room - E facing interior wall
21	W	Guard dog enclosure
22	E	Guard dog enclosure
23	N	Guard dog enclosure
24	W	Guard dog enclosure
25	S	Sewage treatment - N facing elevation
26	S	Sewage treatment - from above
27	E	Sewage treatment - fuse box
28	E	Sewage treatment - fuse box
29	N	Sewage treatment - Gen. shot of pump room
30	W	Sewage treatment - filter bed
31	W	Sewage treatment - Close-up of filter bed distributor
32	N	Gen. Shot of dog enclosure
33	S	Gen. Shot of dog enclosure and building

Film:5

Film Type: Colour Print		
Shot no.	Direction Facing	Description
1	E	Sewage treatment - W facing elevation
2	N	Sewage treatment - S facing elevation
3	W	Sewage treatment - N facing elevation
4	S	Sewage treatment - from above
5	S	Sewage treatment - fuse box
6	E	Sewage treatment - fuse box
7	E	Sewage treatment - Gen. shot of pump room
8	N	Sewage treatment - filter bed
9	W	Sewage treatment - Close-up of filter bed distributor
10	W	Close up of Distributor
11	N	Dog enclosure
12	W	Dog enclosure
13	S	Dog enclosure and Building
14	W	Main compound
15	SE	Operations block
16	SE	Operations block
17	E	IFF cubicle and PPI stance
18	W	IFF cubicle
19		Gen. Shot
20	W	Operations block
21	NW	Operations block – Air filter room
22	N	Operations room – N wall
23	SE	Operations block – apparatus room
24	SE	Sewage treatment - exterior

Film 6

Film Type: Colour Print		
Shot no.	**Direction Facing**	**Description**
1	W	IFF cubicle in W field
2	N	Stanton Shelter (air raid) to N of site
3	E	Type 7 subterranean control room
4	E	Type 13 Height finding radar stance
5	S	IFF cubicle – with junction box
6	S	Sewage treatment plant
7	E	Type 7 subterranean control room
8	W	Sewage treatment plant – interior - Blake's distributor
9	S	Sewage treatment plant – pump house
10	S	Sewage treatment plant
11	W	IFF cubicle in W field
12	E	Type 7 subterranean control room
13	E	Stanton Shelter (air raid) to N of site
14	W	Type 13 Height finding radar stance

APPENDIX 2 – Drawing register

Drawing no.	Scale	Description
1	1:10	Elevation of S external face of vent in the air filtration room
2	1:10	Section through vent in the air filtration room
3	1:10	Elevation of S internal face of vent in the air filtration room
4	1:10	Elevation of S external face of vent in the air filtration room
5	1:10	Elevation of W internal face of vent in the air filtration room
6	1:10	Plan of water tank stance
7	1:20	Elevations of PPI stance
8	1:20	Internal plan of PPI stance
9	1:20	Roof plan of PPI stance
10	1:20	IFF cubicle – plan
11	1:20	IFF cubicle – N external elevation
12	1:20	IFF cubicle - E external elevation
13	1:20	IFF cubicle – W external elevation
14	1:20	IFF cubicle – S external elevation
15	1:20	IFF cubicle – W facing internal elevation
16	1:20	IFF cubicle – E facing internal elevation