

REPORT ON THE
AIR RAID SHELTER
AT
THE SOUTH SCHOOL,
ASHFORD, KENT

Victor Smith
June, 1997

THE AIR RAID SHELTER AT THE SOUTH SCHOOL, ASHFORD, KENT

Historic Building Survey

INTRODUCTION

The writer was asked by the Heritage Conservation Group of Kent County Council to historically record an air raid shelter at the South School, Jemmett Road, Ashford (NGR TR 0014.4188). The site survey was undertaken on 9th and 12th June, 1997.

PROJECT BACKGROUND

The historic building recording work was carried out as a consequence of the discovery of the shelter by contractors undertaking groundworks for the building of a school extension.

The structure is one of a number of types of communal air raid shelter built during the Second World War for such groups as school children and staff, office and factory workers and street or neighbourhood communities. These structures can show variations in design and construction, an aspect of their history which is only now being studied.

The requirement of the Kent Heritage Conservation Group was to preserve by record, evidence of the construction, development and function of the air raid shelter visible in the structural fabric and remnants of fittings and to study and analyse such evidence. The resulting record was to be framed in a manner suitable for subsequent interpretation and incorporation into a consideration of other similar wartime structures and the broader defence heritage context of the region.

METHOD

The process of survey was challenging as, in parts, the shelter was up to 50cm deep in water, contained sunken and floating debris and all exposed surfaces were covered with a thick clayey water-logged deposit.

The recording work undertaken by the writer contained the following elements which are included in this report:

- * A measured survey to create a set of drawings
- * A photographic survey
- * A written survey

HISTORICAL BACKGROUND

This underground shelter formed part of an extensive tranche of national preparations made during the Second World War for the protection of the population and of military, industrial, infrastructural and commercial assets against the threat of German air bombardment. This included shelter-protection for educational institutions such as schools and colleges. The priority for shelter provision related to the degree of risk of air bombardment. There were three risk categories: 'A', 'B' and 'C', in descending order of priority. The categories related either to the actual presence of targets which would be likely to attract bombing or to the nearby existence of such targets which might result in outlying areas suffering the dropping of stray or 'missed' bombs from a raid. Ashford was one of the areas assigned the highest category 'A'. This must have been given because of the presence of the nearby important railway junction and yards and because Ashford was designated a Nodal Point for the defence of the country against a land invasion and, as such, could expect heavy air raids in the context of the 'Blitzkrieg' form of attack.

According to the Headteacher at the date of survey, the school now known as Ashford South had been planned in the 1920s but was not built until the 1930s. It is likely that the shelter was built within the first year of the Second World War.

Following the end of the Second World War, the underground shelters of schools were often sealed at their entrances and forgotten. This was the case at Ashford South School where the presence of the shelter was not suspected. It is not yet known when the shelter at the school was sealed. Although surface shelters, where existing, were sometimes demolished, many were retained and adapted for use as stores, toilets and even teaching areas. Brick surface shelters at the Ashford South School still exist to the north of the playground and have been re-used for a variety of purposes.

DESCRIPTION (see general plan, three sheets of drawings of aspects of the shelter and the photographic plates)

The shelter mainly underlies the tarmac playground on the west side of the school's main building. It is of a single corridor trench type with its six lengths of corridor on a zig-zag plan, and with its roof about 90 cm. below the ground level at the date of survey. There are three staircased entrances and a single vertical escape hatch at the northern extremity of the shelter. At the foot of each of the entrance staircases is a single toilet chamber.

The corridor is 1.43 m. wide and appeared to vary between 1.94 and 1.99 in height. Clayey deposits under the water and other debris constrained the obtaining of precise height measurements at all points. The shelter was formed of pre-cast concrete wall and ceiling panels with a poured concrete floor. Ceiling panels were not used at the

foot of the entrance staircases or at the angles of corridors where shuttered poured concrete appeared to have been employed. Before survey, water level had been almost as high as the ceiling panels and unidentified organic deposits were found on the wall where the water level had been. After pumping out by the contractor, the depth of water was 20 cm at the southern end of the shelter and 50 cm at its northern end. This implies a 30 cm slope over its 76 m length. There may be historical artefacts - other than benches - remaining under the water and the clay deposits.

Seating was provided for the occupants on moveable timber benches along the sides of the walls, with the central walking space kept clear. The benches were still present either below water or semi-floating. By touch below the water, an angled moulding defining the central walking space was found. This was also present at the shelter surveyed by the writer at Ashford North School in January and appears to have contained the feet of the benches. Also detected by touch below water were several metal tubes fixed to the base of walls. Their purpose is unknown.

About 80 cm above floor level are the remains of timber back-rest battens. Bakelite lamp fittings, complete with light bulbs, were found at intervals along the top of the wall as well as projecting steel bars for the hanging of emergency (hurricane lamp ?) lighting to be used in the event of an electrical failure. Clips for previously existing cable runs were found at the top of the walls and electrical fuse boxes were present on the wall at the foot of the steps of Entrance 1, where presumably the mains electrical supply entered the shelter.

The toilets - simple rectangular chambers - were fitted with tubular steel framing hung with large curtain rings for the fabric divisions between three cubicles containing Elsan chemical toilet buckets which still remained in situ. The 3 cm diameter of the tubular framing was encased by a considerable build-up of a sticky clayey water-logged deposit. A wicker work basket as used in school classrooms was found in one of the toilet chambers as well as several digging spades.

The three staircased entrances to the shelter were 1.23 m wide. Only the top of Entrance 1 was visible on the outside or accessible. Much of Entrance 1, through which the writer entered to undertake the survey, was exposed but there was deep water-logged clay at its foot. Handrails had been removed by the contractors and were deposited on a nearby tarmac surface. The corroded remnants of metal framed sump chamber and a hand-pump, originally provided to remove water seepage from the shelter, were visible. The other two entrances were largely buried by very thick water-logged clay and could not be inspected. Similarly, the emergency exit hatch could not be approached because of a barrier of clay, saturated by a standing 50 cm of water. However, some remains of the opening mechanism and counterweight were visible.

DISCUSSION

The extensive volume on Civil Defence within the official history of the British War effort (published 1953) has little to say about air raid precautions for schools.

However, from earlier research by the writer at the Public Record Office, the following approaches were adopted for schools:

1. Adaptation of suitable existing school premises to give air raid protection by strengthening basements to create shelters, making corridor refuges or strong lean-to structures against the outside of a building.
2. Trench shelters within school grounds or close by. This was the type of shelter examined.
3. Surface shelters made of brick and/or concrete. As already noted, this type of shelter was also present to the north of the school playground but was not surveyed.

The shelter examined appeared to be of a standard design and reflected guidance promulgated in the Civil Defence Acts of 1937 et seq which aimed to minimise the effects of bomb damage by distributing the occupants over an area, rather than in one or two large rooms.

The shelter had been constructed on a cut and cover principle. Its pre-cast concrete panel type of construction parallel the shelters surveyed by the writer at Ashford North and Aylesham schools. Removal of the identical panels by contractors at Ashford North School indicated that the wall panels were just 8-9 cm thick, with overlapping tongues along their sides so that they fitted together. They were grouted in cement. The ceiling panels were 10 cm thick and were similarly arranged to fit together and were slotted in place over the tops of the wall panels. The panels would have been supplied by a manufacturer who had a contract for the bulk supply of such castings to a variety of shelter sites. This was a lucrative work for some companies which vied with each other for this type of business.

The right angled turns and the corridor plan were a device to try to localise blast damage in the event of a bomb hit. By a Code of Practice for air raid shelter occupancy, each length of corridor was intended to accommodate no more than 50 persons, giving a theoretical total capacity for the six lengths of the shelter of 300. According to contemporary theory, bomb penetration of one length of corridor might kill everyone in that length and kill or injure some in the lengths at right angles to it but the design would save those in the remainder of the shelter. Although the example of the effective use of trench shelters by civilians in Holland during German air bombardment (albeit, without overhead protection) appeared to provide a reassurance, the design of such shelters did not go without criticism in Britain. There were discussions of the possibilities for introducing traverses within corridors of this type of design to further localise damage and casualties and for making vents which would release some of the force of the explosion of a bomb into the air outside.

The positioning of the entrances at a right angle to the corridor, was also intended to prevent any explosion outside from directly entering the shelter. The threat of gas attack was countered by provision for the entrances of the shelters to be closed by self-sealing doors, usually in two pairs separated by a space which formed a rudimentary air lock. The sloping slate-grey timber entrance frames appear to have been the preparations for this. In view of uncertainty about whether gas would be used by the

enemy, initial provision was commonly for the use of heavy tight-fitting fabrics as a barrier to gasses. Actual experience of gas warfare would have led to the mounting of proper self-sealing doors on the existing frames. Some tacks or large drawing pins were found in the outer entrance frame of entrance 1 which may have been part of the temporary provision. The sloped angle of the frames would also have given greater blast resistance to any doors, should it have been decided to mount them.

The concrete top of the entrance was recessed, implying that some kind of cover could have been set into this. Remembered evidence for the similar shelter at Dartford's West Hill School suggested that there had been some kind of raised and doored entrance structure. If so, no physical evidence for this remained, either there or at Ashford South, North or Aylesham schools.

It is unknown to the writer whether the shelter had any form of ventilation. No evidence of this could be seen. Ventilation would have been particularly important in a closed-down situation, when the temperatures would have risen uncomfortably, from body heat, even in cold weather.

It may be that the school log books for the Second World War still survive within the Centre for Kentish Studies and these may give information about the exact date of the construction of the shelter and instances of bombing and of its occupancy.* It is understood that the Headteacher is to place a request in the school magazine for recollections of shelter use by grandparents of the present pupils. This may well produce useful information.

It was not unusual for school lessons to be continued in shelters during air raids. Typically, these might involve singing, word and spelling games and minor handicrafts which could be undertaken on the lap. Some of this may be revealed in the evidence which the school hopes to collect.

It was also not unknown for school shelters to be shared with the occupants of nearby housing. This may have happened here.

The surface shelters at the school would justify survey if they ever become threatened by demolition. They were subject to the same regulation of occupancy as for underground shelters. As a constructional form, surface shelters appear to have been generally less well thought of by the layperson than the underground type. This was partly because faulty construction of many of the surface shelters built in Britain at the beginning of the War and examples of their failure to adequately resist blast during raids led to a reputation for a lack of strength.

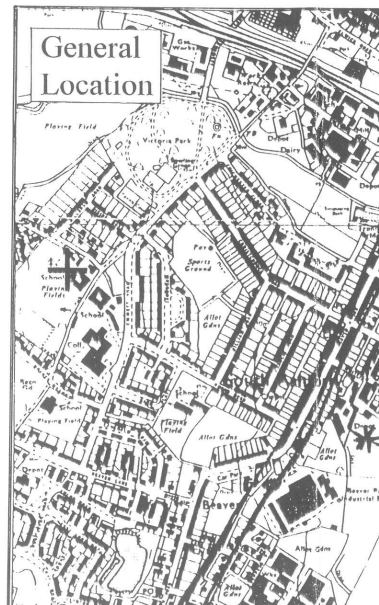
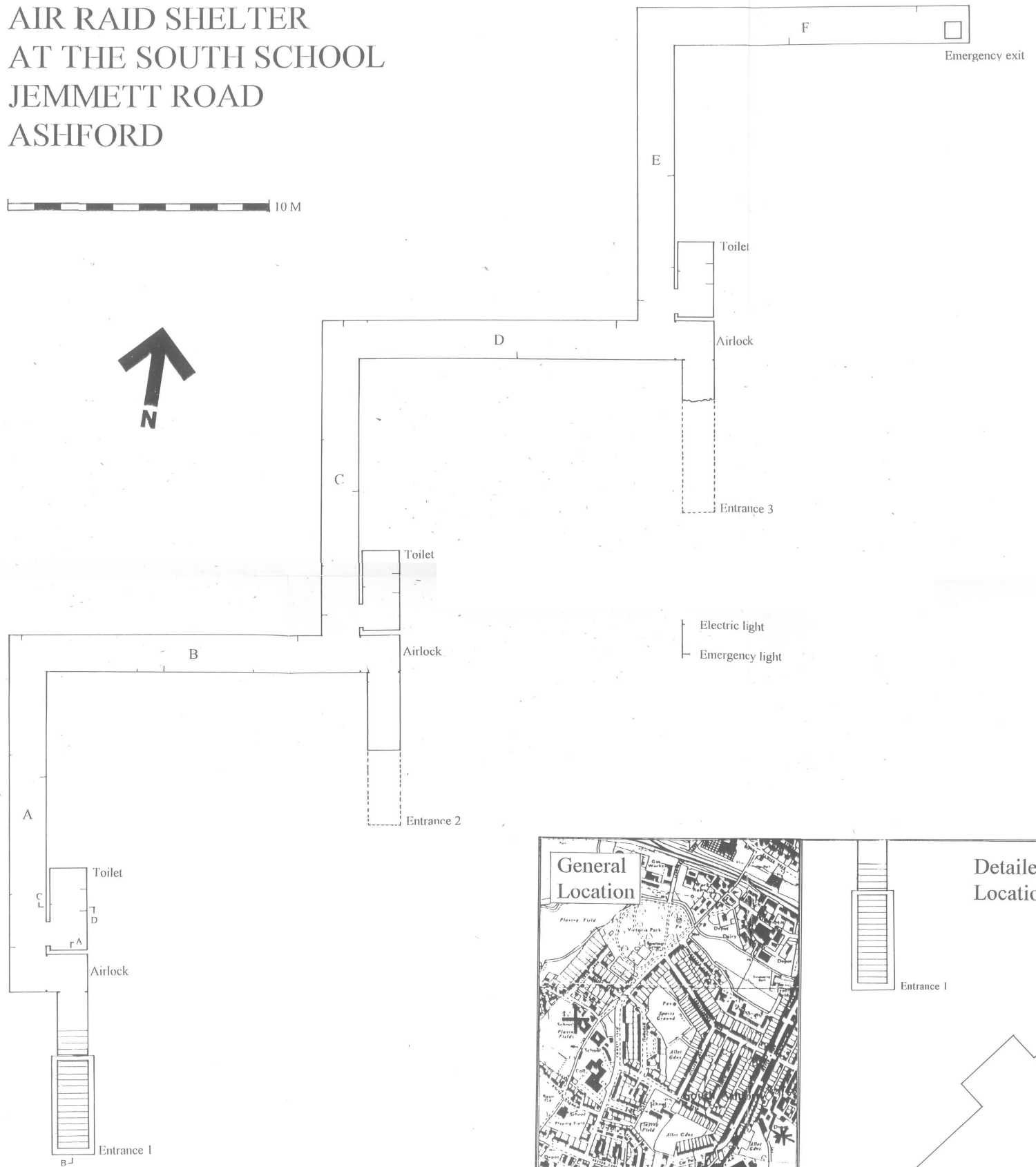
THANKS

The writer is grateful for the help and interest shown by the contractor and by the Head Teacher and staff of the Ashford South School during the survey.

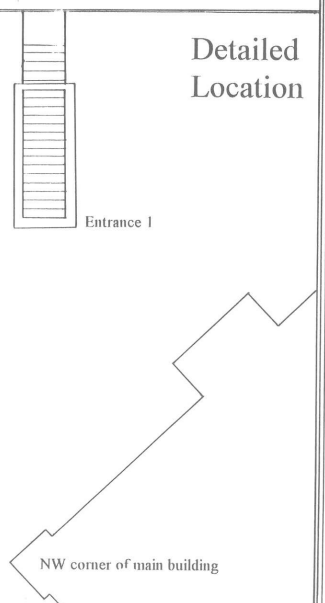
* The school logbook later found, mentions a trench shelter at the school for the first time in March, 1940.

Victor Smith
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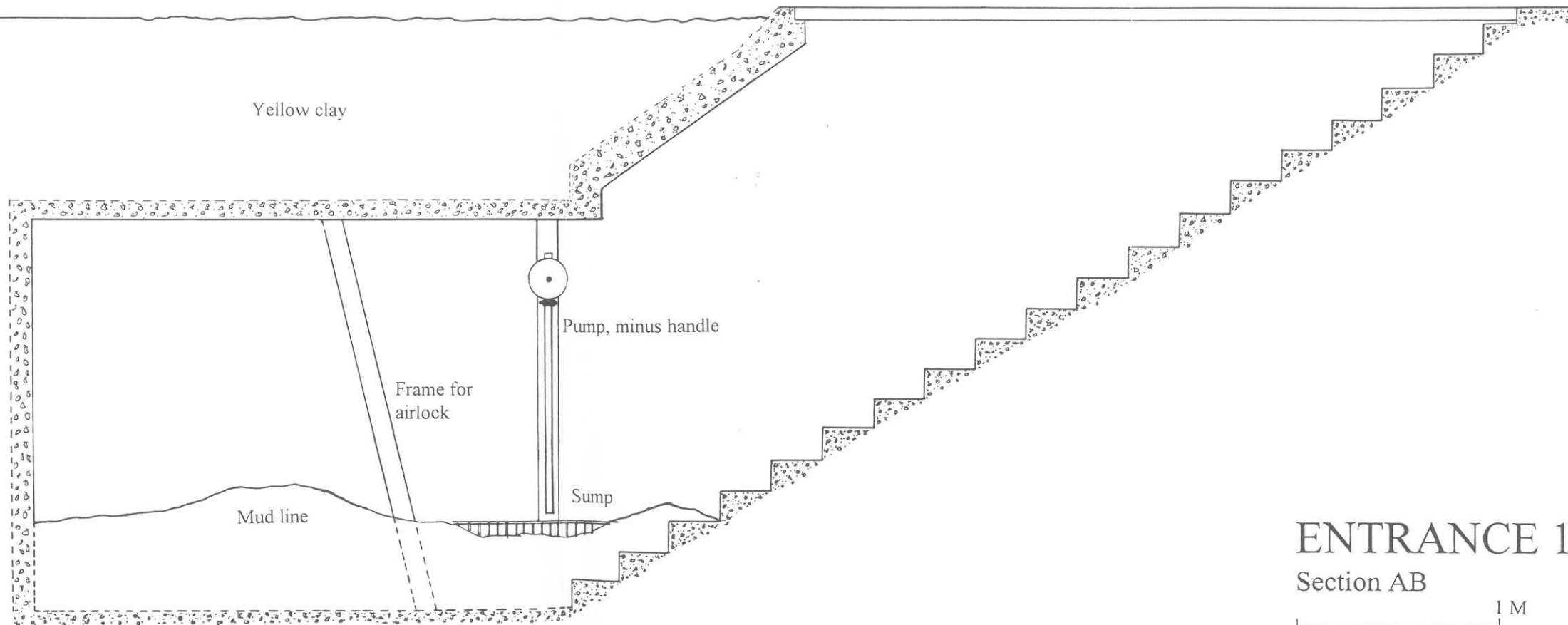
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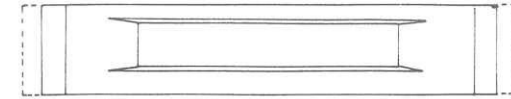
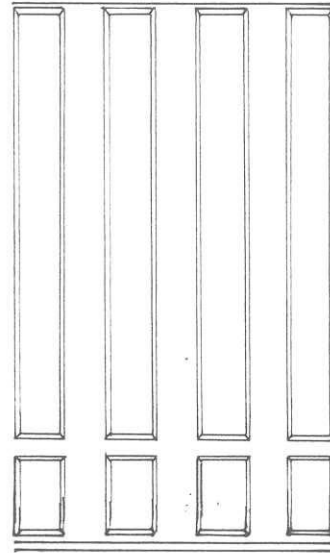
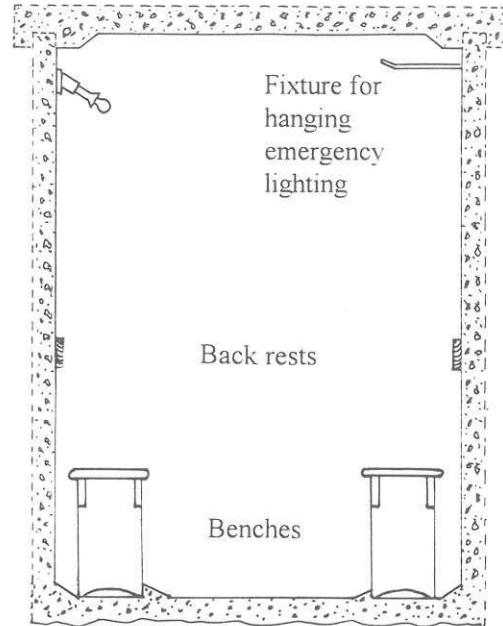


General
Location



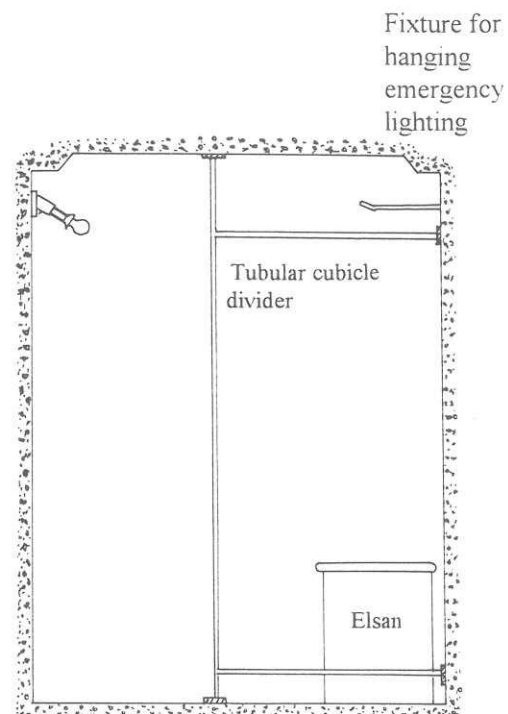
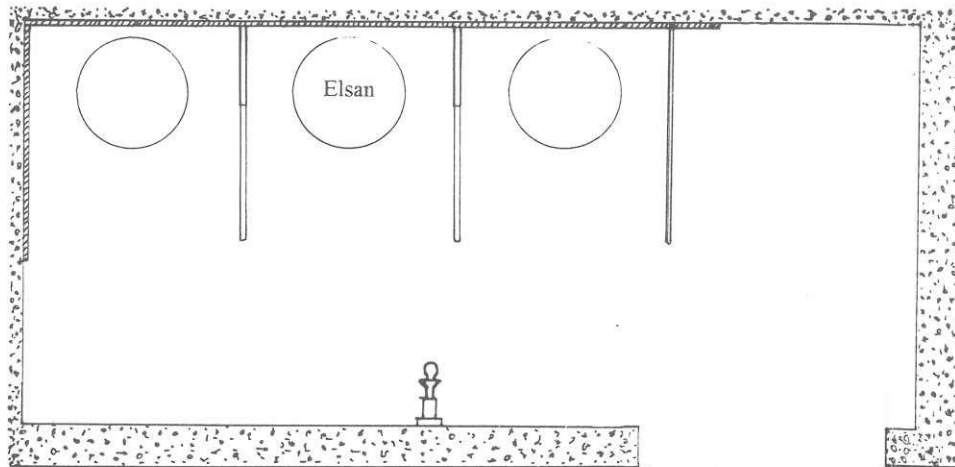
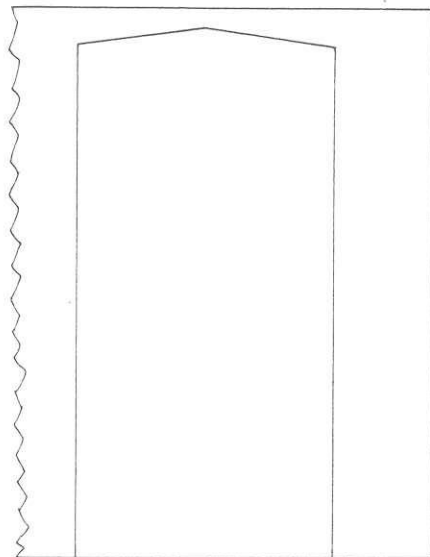
Detailed Location





TYPICAL SECTION
OF CORRIDOR,
ELEVATION OF
WALL PANELS AND
FACE OF CEILING
PANEL





TOILET

Elevation of entrance, plan and section CD



PLATES

LIST OF PLATES

1. General view of the site, looking north from the NW corner of the main building towards Entrance 1.
2. Entrance 1.
3. Staircase of Entrance 1.
4. Outer airlock frame in Entrance 1, with inner frame in background on the left and pump on the right.
5. Toilet at Entrance 1.
6. Tubular steel dividers for cubicles in toilet.
7. Corridor A, looking north.
8. Corridor B, looking west.
9. Electric lighting fitting in Corridor B.
10. Ceiling at corner of Corridors A and B.
11. Typical wall panels in Corridor B.
12. Inner and outer airlock frames at Entrance 3, with fuze boxes on the wall.
13. Toilet at Entrance 3, with dislocated pump.
14. Corridor F looking east towards emergency exit.
15. Emergency exit with steel ladder and counter-weight for exit hatch.
16. Handrails removed from the staircase of Entrance 1.
17. Surface shelter to the north of the playground.
18. Ditto.
19. Interior of one of the rooms of the surface shelter.
20. Ditto.





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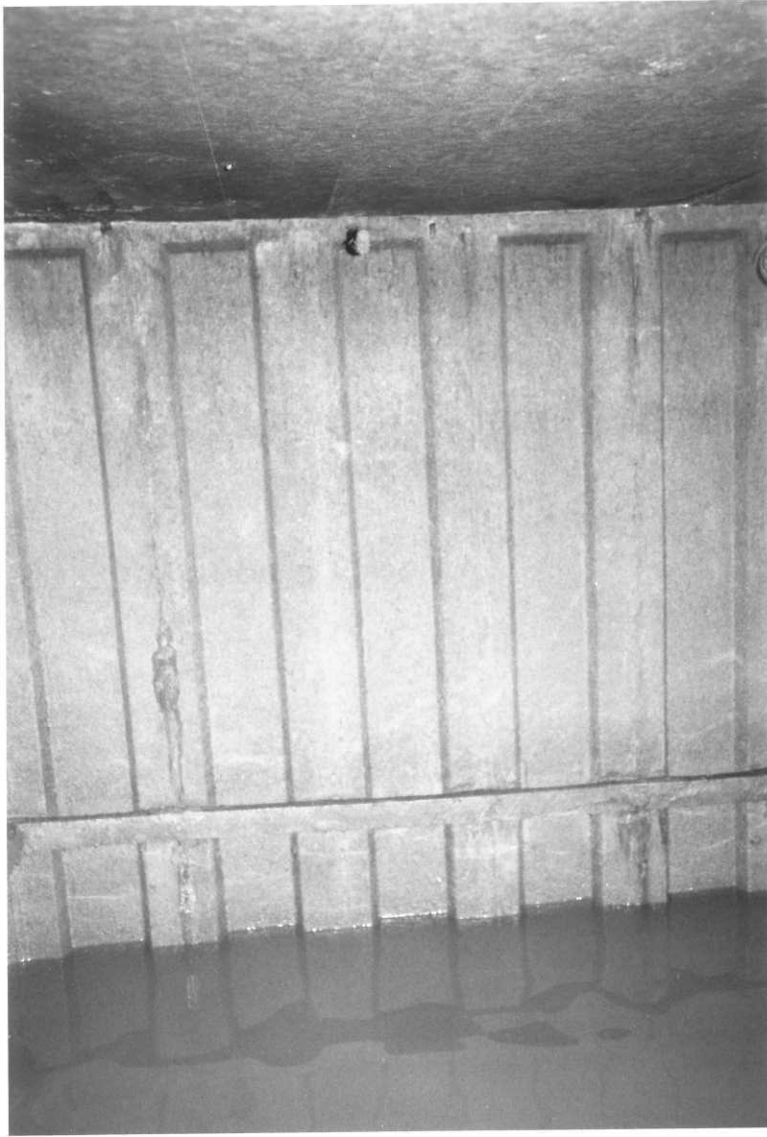
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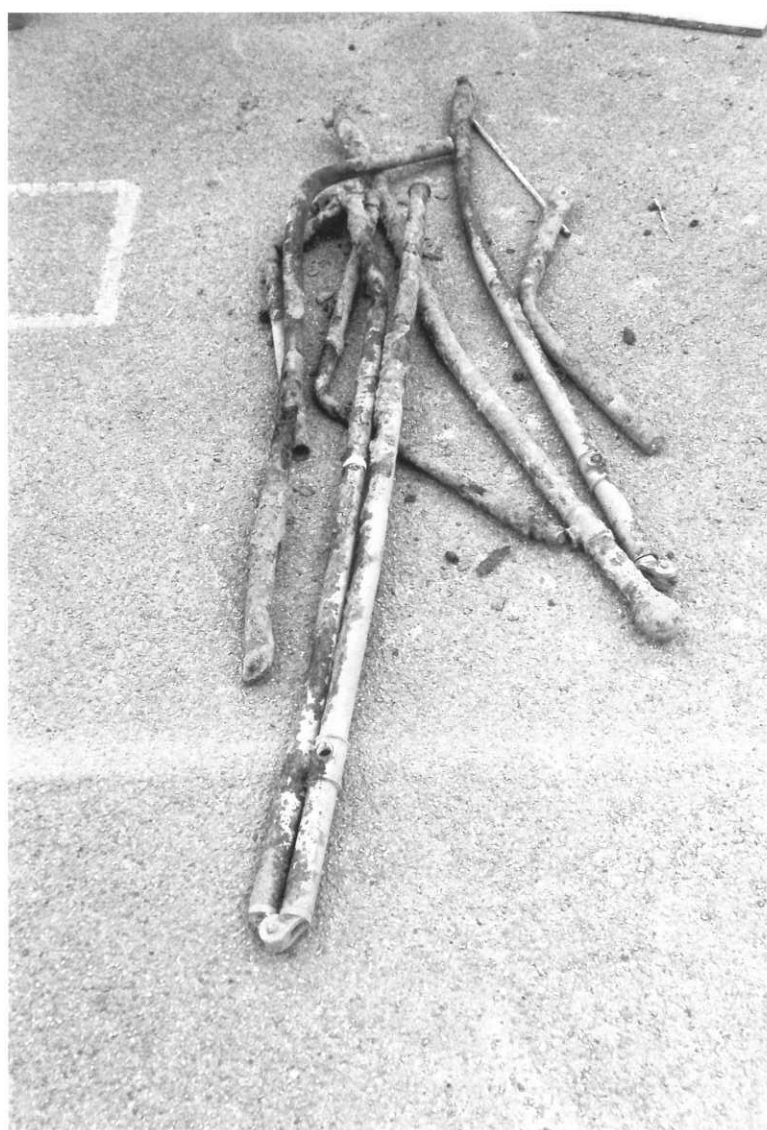
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