



**Historic Building Recording at
Rugby Radio Station, B Building
Lilbourne, Northamptonshire
May 2015
DIRFT III**

Report No. 15/125

Author: Amir Bassir

Illustrator: Amir Bassir



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OAS/S REPORT FORM

PROJECT DETAILS		OAS/S molanort1-216313
Project title	Historic Building Recording at Rugby Radio Station, B Building, Lilbourne, Northampton, May 2015	
Short description	<p>MOLA Northampton carried out a programme of historic building recording at B Building of the Rugby Radio Station, Lilbourne, Northamptonshire. Rugby Radio Station began operations in 1926, and originally comprised a single main building (Building C) which was joined in 1929 by A Building. As a response to an increased demand for communications technology and a need to expand the facility, B Building was constructed in 1953 and formally opened in 1955. It comprised three transmitter halls containing 28 transmitters, two aerial switching rooms, transformer blocks, administration block and a range of training and development rooms and buildings.</p> <p>The layout of the building remained largely unchanged until the 1980s and early 1990s when it was converted to carry long range maritime services. This conversion comprised a technological upgrade accompanied by a degree of internal remodelling and partitioning, largely within the transmitter halls. As part of this conversion, the original transmitters and associated plant and equipment were removed from the building. B Building remained in operation until 2000, its closure brought about by advances in communications technology which largely rendered the facility redundant. The building is scheduled for demolition in 2015 as part of a wider scheme of redevelopment of the area.</p>	
Project type	English heritage Level 3, Historic Building Recording	
Previous work	Unknown	
Future work	Unknown	
Monument type and period	Mid-20th century radio transmitter station	
PROJECT LOCATION		
County	Northamptonshire	
Site address	Rugby Radio Station, Lilbourne	
NGR	SP 56230 75110	
Area	c4200sqm	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	CgMs Consulting	
Project Design originator	MOLA Northampton	
Director/Supervisor	Amir Bassir	
Project Manager	Amir Bassir	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
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End date	July 2015	
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**Historic Building Recording at
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Lilbourne, Northamptonshire
May 2015**

ABSTRACT

MOLA carried out a programme of historic building recording at B Building of the Rugby Radio Station, Lilbourne, Northamptonshire. Rugby Radio Station began operations in 1926, and originally comprised a single main building (Building C) which was joined in 1929 by A Building. As a response to an increased demand for communications technology and a need to expand the facility, B Building was constructed in 1953 and formally opened in 1955. It comprised three transmitter halls containing 28 transmitters, two aerial switching rooms, transformer blocks, administration block and a range of training and development rooms and buildings.

The layout of the building remained largely unchanged until the 1980s and early 1990s when it was converted to carry long range maritime services. This conversion comprised a technological upgrade accompanied by a degree of internal remodelling and partitioning, largely within the transmitter halls. As part of this conversion, the original transmitters and associated plant and equipment were removed from the building. B Building remained in operation until 2000, its closure brought about by advances in communications technology which largely rendered the facility redundant. The building is scheduled for demolition in 2015 as part of a wider scheme of redevelopment of the area.

1 INTRODUCTION

MOLA was commissioned by CgMs Consulting, on behalf of Prologis, to undertake a Historic England Level 3 historic building recording survey at Rugby Radio Station, B Building, Lilbourne, Northamptonshire (NGR SP 56230 75110). This report follows a Written Scheme of Investigation which was submitted and approved prior to commencement of fieldwork (MOLA 2015). An interim historic building statement was released prior to this report, outlining the fieldwork methodology and findings of the work. This report supersedes the interim statement and provides a comprehensive assessment in accordance with Historic England Level 3 guidance as set out in the document *Understanding Historic Buildings, a guide to good recording practice* (HE 2015a).

The former Rugby Radio Station (of which B Building is part) is located to the east of Rugby and is bound by the M1 motorway to the east. To the south-west is DIRFT (Daventry International Rail Freight Terminal) and to the north is the village of Lilbourne.

The Radio Station comprises three main buildings (A, B and C Stations) with smaller associated structures as well as transmitter masts configured about the site. Buildings

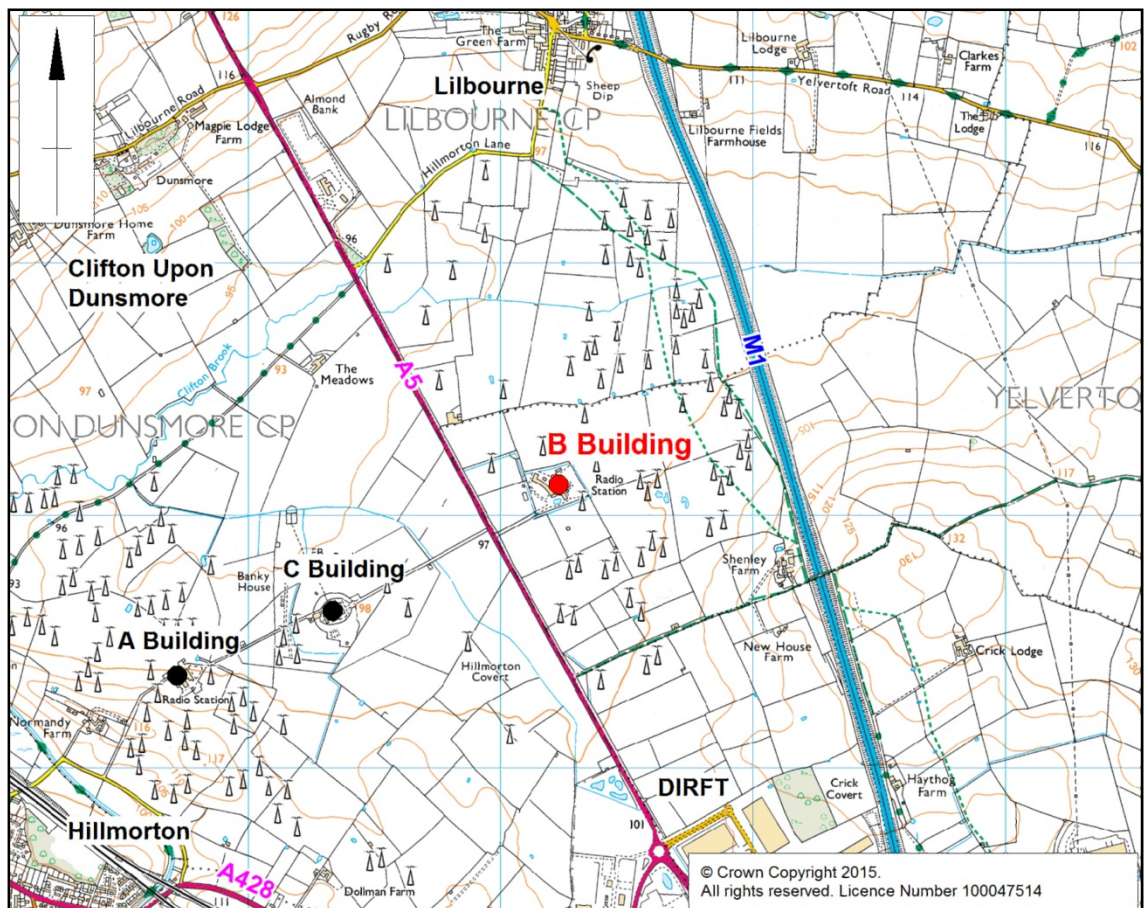
A and C lie to the west and B Station to the east of the A5; both parts of the Radio Station are accessed off the A5.

B Building is located on fairly level, though low-lying, ground, approximately 0.3km to the east of the A5. The site is roughly square in shape, bound on all sides by drainage gullies. Access to the site is from a road to the south-west that connects to the A5. B Building and the Radio Station as a whole is located within an area of enclosed fields, separated by hedgerows and drainage gullies. Clifton Brook and an unnamed stream cross both parts of the Radio Station site flowing from the higher ground to the east of the M1, crossing B Station, under the A5 and flowing west under the Oxford Canal towards Rugby. These water courses were manipulated to increase the ground conductivity of C Station.

The underlying geology of the area has been mapped as comprising Jurassic and Triassic mudstone, sandstone and limestone of the Lias Group, overlain by glacial and alluvial deposits. (<http://www.bgs.ac.uk/data/mapViewers/home.html>).

The buildings have been disused since 2003 and in the subsequent years have been subjected to widespread vandalism as well as natural deterioration. The majority of plant, equipment and furnishings had been removed and a prevalence of debris, particularly in the transmitter halls made access to these rooms problematic. Several of the rooms, particularly the test block, have suffered from fire damage and safety concerns were raised over the presence of large quantities of broken glass throughout the rooms.

RUGBY RADIO STATION, B BUILDING



Site location Fig 1.1



Aerial view of the site, © GoogleEarth Fig 1.2

2 OBJECTIVES AND METHODOLOGY

The objective of a Historic England (HE) Level 3 building recording is to provide an analytical record of an extant structure in accordance with the HE procedural document of 2006 '*Understanding Historic Buildings: A guide to good recording practice*' (HE 2015a, section 5.2)

Level 3 is defined as follows:

- Introductory description followed by a systematic account of the building's origins, development and use. The record will include an account of the evidence on which the analysis has been based, allowing the validity of the record to be re-examined in detail. It will also include all drawn and photographic records that may be required to illustrate the building's appearance and structure and to support historic analysis.

Recording was carried out on the 11th and 12th of May 2015 and comprised the following:

- An overall photographic survey of the buildings in their present condition comprising general and detailed shots. Photography was carried out using a Nikon D7000 16.2mp DSLR equipped with Sigma 35-17mm and Nikon 18-70mm lenses. Black and white 35mm film photography was carried out using a Nikon F80 SLR equipped with a Sigma 10-20mm lens. Additional photography was carried out using a FujiFilm FinePix S44500. The locations and directions of photographs were recorded on site plans. 1m scales were utilised in all photographs where possible and appropriate.
- In keeping with the level of recording, photography comprised general views of the buildings and their external appearance, and the overall appearance of the principal rooms and circulation areas as well as external and internal detail. Any remaining machinery and plant and any dates, inscriptions, graffiti and building contents relevant to the building's history and development.
- Existing survey plans were verified for accuracy and amended to reflect any changes to the rooms' layout and blockings to former openings.
- Written notes on the building's construction, present and former use and where appropriate, the building's past and present relationship to their setting in the wider landscape.

All works were conducted in accordance with the procedural documents *The Management of Research Projects on the Historic Environment* (HE 2015c) and *The Chartered Institute for Archaeologists Standard and Guidance for the archaeological investigation and recording of standing buildings or structures* (CIfA 2014a).

Site location plans indicating the position and orientation of photographs are included in the report. The plans utilised during fieldwork and for this report are CAD drawings drawn up by British Telecom and date to 1999 (Appendices I-VII).

3 HISTORICAL BACKGROUND AND DEVELOPMENT OF THE SITE

Prior to the 20th century, the area between Hillmorton, Lilbourne, Yelvertoft to the east and Clifton Upon Dunsmore to the west, was almost exclusively agricultural with scattered farms surrounded by enclosed fields watered by the Clifton Brook (Fig 3.1).

In the early 20th century the British Government was interested in the development radio transmitters that would allow stable radio communication throughout the Commonwealth. The site at Rugby was chosen for a variety of factors including the flat, open topography, the availability of water, suitable underlying strata and good transport links. The contract for the work was awarded to the Marconi Company with the Post Office having a communication station to prevent a monopoly. The land for the facility was purchased in 1923 and C Building, originally known as Main Building was opened in 1926. This building housed a powerful transmitter providing continuous long wave transmission, initially in Morse code and later, in 1927, established two-way communication with the USA.

A Building was opened in 1930 and provided short wave transmission which had the advantage of requiring less power and smaller aerials and therefore a lower cost. This building allowed the radio facility to provide telephone communications across the world.

During the Second World War, the transmitters were converted for telegraph work and the facility was utilised to jam German bomber communications and acted as the main transmitter for the Royal Navy.

Following the war, an increased demand for telephone circuits required an expansion of the facility and resulted in the laying out of plans for the construction of B Building which would house twenty-eight transmitters. The design and set out of the project was carried out by the Ministry of Works under the Chief Architect, Eric Bedford and Senior Architect J Russell in co-operation with Marconi Company. The original architect drawings carry the Job Number 49302 and are signed off by J Russell (see Appendices I-IV). The MoW Engineer in Charge was R A Lorton and the construction firm carrying out the works was Foster & Dicksee Ltd. Mr Bedford served as the Chief Architect for the Ministry of Works between 1950 and 1970 and is most known for the BT Telecoms Tower in London, which was completed in 1964, some ten years after Building B. Mr Bedford's obituary in *The Independent* describes him as, *a committed believer in modern, functioned design, technical innovation and a great supporter of young talent*.

The July 1955 edition of the *Marconi News*, a publication of the Marconi Company, describes Rugby Radio Station as, *a key centre for world communications*, and that, *the new extension presages a more extended, economical and efficient radio-telephone and telegraph service than has hitherto been possible*. It goes on to state that B Building was the company's largest order at that time and that the company was responsible for the design, supply and installation of the transmitters and, *much of the associated equipment including the Independent Sideband Generators, the Central Control Panel, the Aerial Selector Switching and the complex feeder systems*. The publication also says that, *the extension will double the number of transmitters in service, but, by using the most modern equipment and techniques...the traffic handling capability is approximately trebled*.

The building was constructed at a cost of £1,000,000 and became operational in 1953 and was officially opened by Dr Charles Hill, MP, Her Majesty's Postmaster General in 1955 (Fig 3.7), though the building does not appear on the Ordnance Survey map of 1955 (Fig 3.3).

A description of the newly opened station can be found in the 1955 September edition of *The Builder*, a long running publication which has been in circulation since the mid-19th century. The building is described as follows:

The new building consists of three transmitter halls with their ancillaries and adjacent administration and welfare block. An experimental test block and separate garage and cycle shelters are in close proximity. The area surrounding the building has been levelled and will ultimately be grass-seeded. Low growing shrubs planted around the building will add interest and colour.

Transmitter halls. -These have been planned in the shape of a cross -each hall being 114ft. long by 30 ft. wide and 14ft. high from floor to ceiling. Floors are covered with beech-wood blocks. In the transept formed by the intersection of the three transmitter halls is the central control panel enclosure. This is a raised and enclosed cubicle and glass, aluminium, and hardwood and houses the control panels for the Station from which the duty officer has a clear view of all three transmitter halls.

Construction. -The operational part of the building, i.e. transmitter halls, aerial switch rooms, etc., are steel-framed with hollow tile flat roof covered with asphalt. The floors are in reinforced concrete, with suspended precast unit floor screeded and covered with lino.

The article also provides a list of subcontractors involved in the works:

- Structural steelwork, Rubery Owen Ltd;
- Asphalt work, Faldo Asphalt Co Ltd;
- Precast concrete units, Siegwad Floor Co;
- Hollow tile roofing, Diespeker Ltd;
- Reconstructed stone, John Ellis and Sons Ltd;
- Facing bricks, W. T. Lamb and Sons Ltd;
- Common bricks, London Brick Co;
- Metal casements, C. E. Welstead Ltd;
- Roof and wall lenses, Lenscrete Ltd;
- Flush doors, Leaderflush Ltd;
- Heating contracts, Young Austin and Young Ltd;
- Wood block flooring, Vigers Bros;
- Terrazzo floor and stairs, Marboline Ltd

A comprehensive history of Rugby Radio Station has been written by Malcolm Hancock, a former station manager (Hancock 2002). The following is an extract regarding the technical operation and specification of the transmitters and aerial switching:

The new station, probably the biggest ever built as a single project, was well in advance of any other in existence at that time in technique and in the extent to which it economised in manpower.

The HS51 type transmitters were manufactured by "Marconi" and were rated at 30 kW peak power output capable of transmitting virtually all types of telephone and telegraph signal with continuous coverage in the band 4-30MHz. The final and penultimate stages used grounded grid technique and negative feedback could be applied as required.

A two-fold plan was followed in designing the building. First the low power equipment, the high power equipment and the aerial switches were segregated in different parts of the building and secondly, a large measure of automatic control and monitoring was introduced centred at a Central Control Position making the station easy to operate and of pleasing appearance.

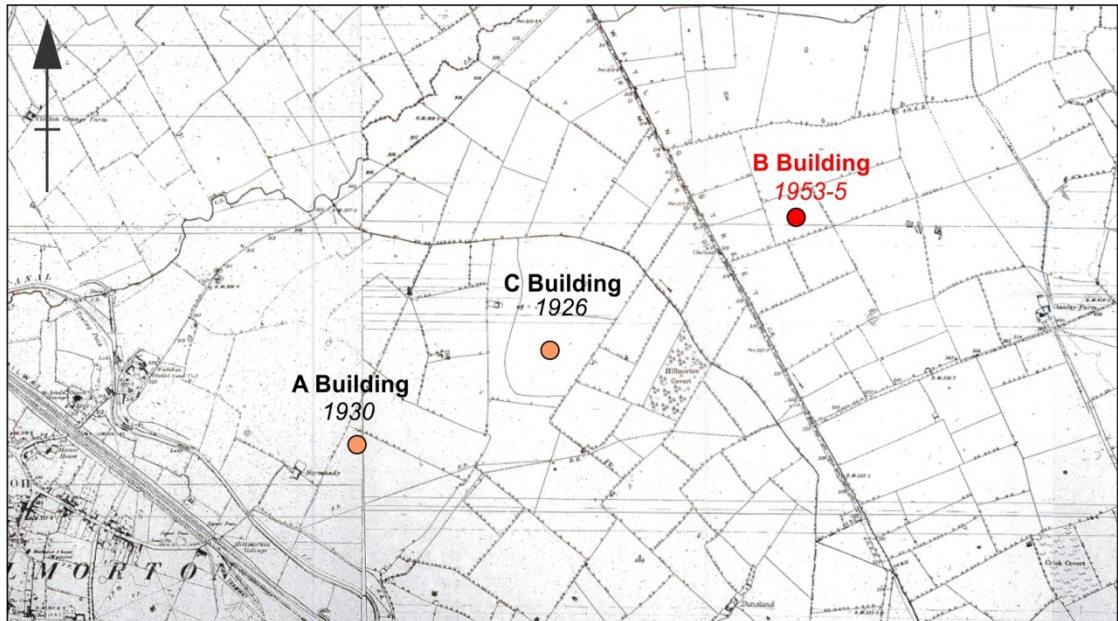
One large room houses the drive equipment for telephony and telegraphy, the carrier oscillators, the automatic monitors and the landline equipment. The transmitters are air cooled and installed in three halls converging on the Central Control Position, from where, by remote control, any transmitter can be operated on any one of six predetermined frequencies with the appropriate aerial. Hitherto in HF radio communications aerial switching had always been a problem and was usually performed manually. In the new building the problem was solved very satisfactorily by using 200. Balanced coaxial feeders carry the power from the transmitters to remotely controlled motor driven switches in one or the other of two aerial switch rooms.

From this point each transmitter has immediate access to any one of six outgoing aerial feeders. This is quite sufficient for normal operations but by manually altering connections any aerial feeder can be made available to any transmitter.

From aerial switch rooms the aerial feeders pass first via balanced feeders inside the station, to periodic exponential line transformers and then via open wire feeders outside the station to some 70 aerials around the periphery of the site.

The air-cooled HS51 transmitters are described in the *Marconi News* as being more economical in terms of capital and operational costs, as well as having a more efficient performance with notably less low intermodular distortion than previous transmitter types.

Underwater cables and Satellite communications systems led to a decline in the need for short-wave communications, and the closure of radio transmitter facilities across the UK. In the late 1980s and early 1990s the Rugby facility was converted to carry long range maritime and mobile services from B Building. At this time the HS51 transmitters were replaced with lower power 10kw units, these being QT3A4 transmitters, re-used from Ongar Radio Station in Essex, and Marconi H1141 transmitters. A Building was closed down in the early 1990s, followed by B Building in 2000. The maritime service at B Building ceased operations in April 2000 and the building was again converted, this time to house a customer service centre for Airwave Solutions, a mobile communications company founded in 2000. The site was thus occupied for three years until it was finally closed in 2003. The building is scheduled for demolition in 2015 as part of a wider scheme of redevelopment of the area.

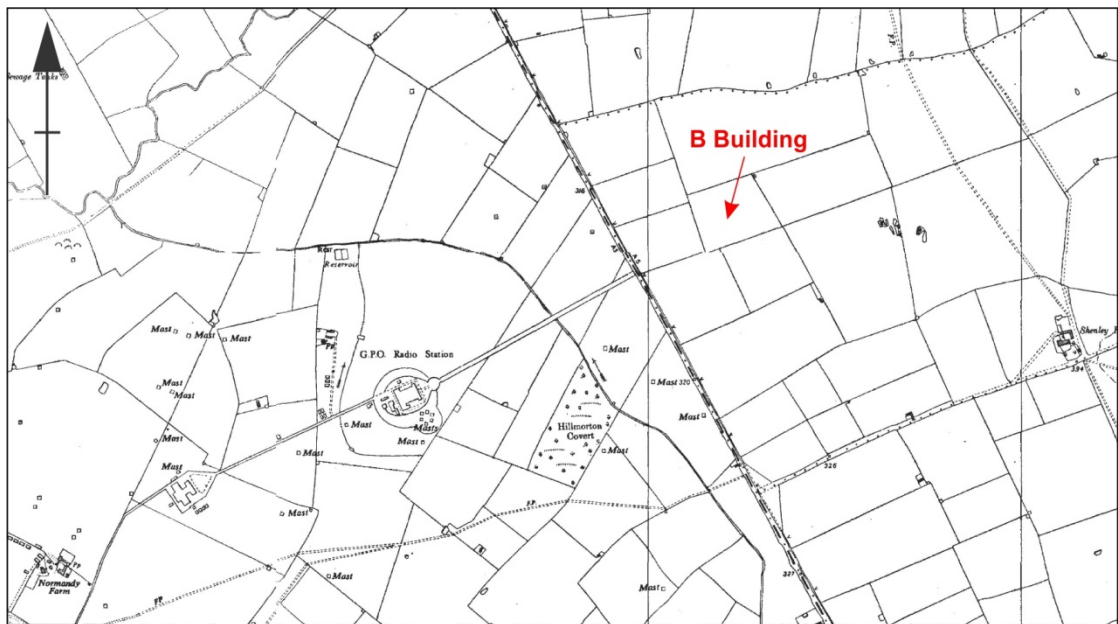


Ordnance Survey map of 1889, showing the sites of the future stations Fig 3.1

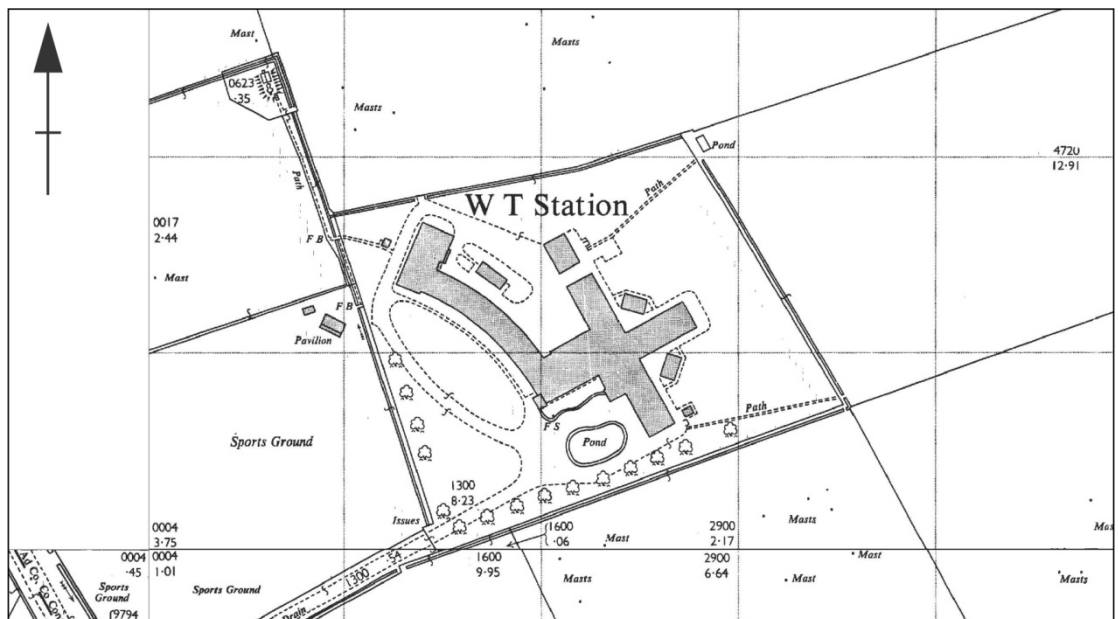


Aerial view of the site, c1945, © GoogleEarth Fig 3.2

RUGBY RADIO STATION, B BUILDING

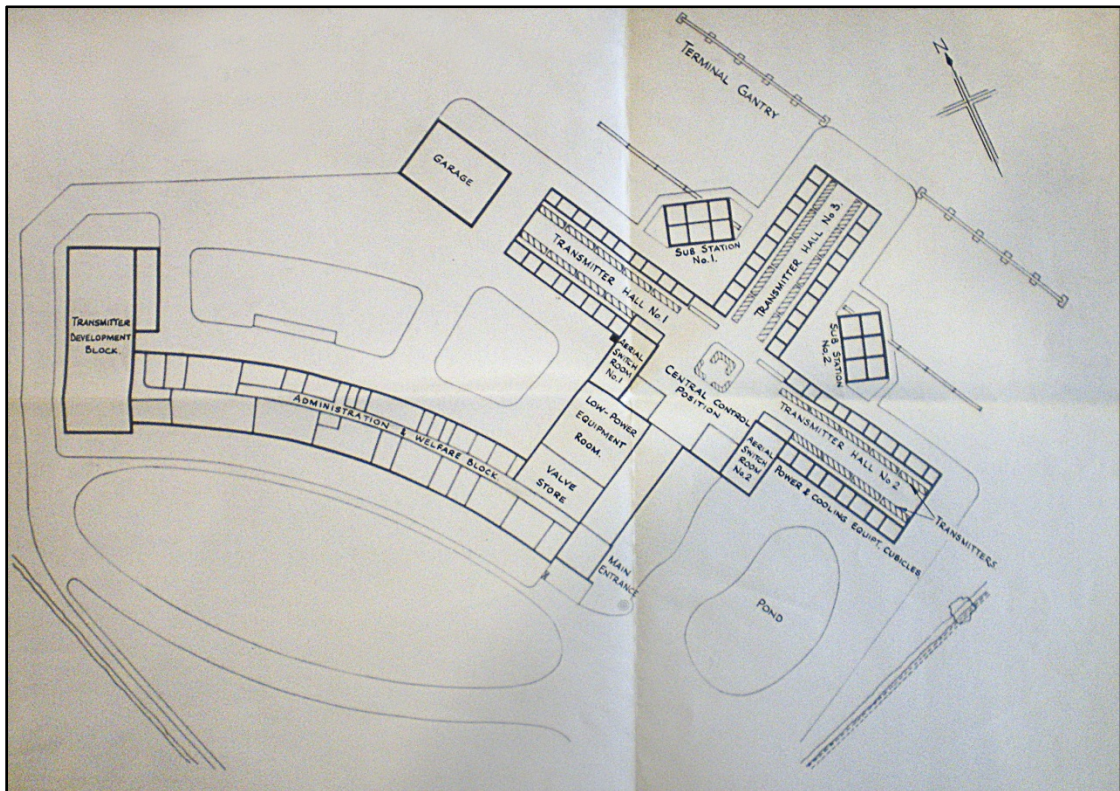


Ordnance Survey map of 1955 Fig 3.3



Ordnance Survey map of 1966 Fig 3.4

RUGBY RADIO STATION, B BUILDING



Plan of the site, c1955 Fig 3.5



The station during construction, looking north-east toward Transmitter Hall 1 and the Entrance Lobby / Hall Fig 3.6



The opening ceremony, 28th July 1955 Fig 3.7



Aerial view of the site, c1955, looking south-east Fig 3.8

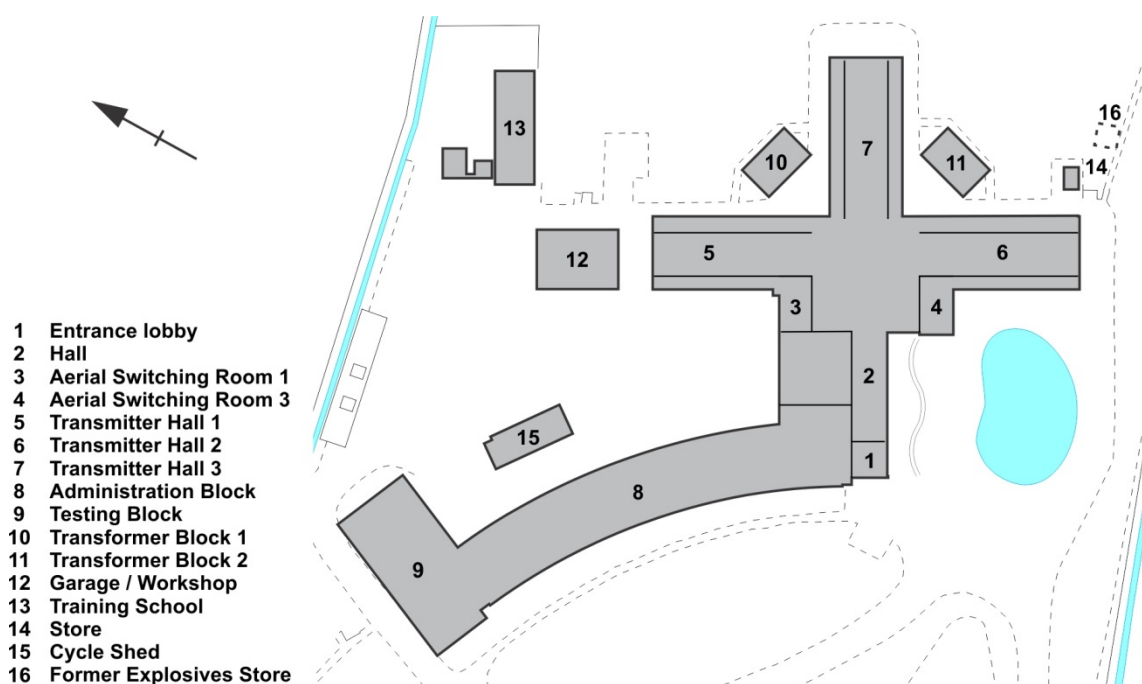
4 DESCRIPTION AND ANALYSIS OF THE STANDING BUILDINGS

4.1 The site layout

The site occupies a roughly square plot of land to the east of the A5 and is accessed by a short driveway which can be closed off by sliding security gates. The track opens out into a parking area around the main pond in front of the main entrance to the station. The driveway continues around the western perimeter of the site and curves around the northern edge of the building where it opens out into the main car park to the north of the site.

The station's layout reflects its functional purpose with the various operational, supportive, maintenance, training and administrative facilities housed within designated, purpose-built ranges and ancillary buildings (Fig 4.1.1). The main building comprises three transmitter halls contained within cross plan wings aligned north-west to south-east and north-east to south-west. Detached transformer buildings are located at the intersection of the three wings. The main entrance lobby and hall are contained within the south-west wing of the cross. A long curving wing attaches to the entrance lobby and houses the administrative facilities including stores, staff rooms, dining room, canteen, rest rooms and offices. These rooms are arranged around a long central corridor which follows the curve of the wing. At the far north-west of the building is a rectangular test block containing two main testing rooms and stores. It was noted during the survey that the internal layout had been superficially altered with new corridors, rooms and blocked doorways.

A number of detached ancillary buildings are situated to the north-west of the main building including a cycle shed located centrally to the car park and a brick garage and workshop building. At the north-western periphery of the site is a small complex of buildings comprising a training/rigging school which dates to the 1980s.



Plan of site, showing the surveyed buildings Fig 4.1.1

4.2 The Entrance Block and Aerial Switching Rooms (Figs 4.2.1-4.2.30)

The main entrance facade of B Building is approached from the south-west and faces an open parking area arranged around a large curving pond. The entrance is separated from the parking area by a low, curving brick wall and raised planting bed. The curved wall and planting beds do not appear on early photographs of the station. A raised terrace of stone slabs is located adjacent to the entrance lobby and hall. A number of concrete benches with plastic seats were located on this terrace. The entrance facade is largely of glass, set within steel frames. The roof projects a short distance over the wall face and is supported over seven white-painted concrete columns. A commemorative plaque bearing the royal cypher of Elizabeth II and St Edward's crown over a date of 1954, is located on the western wall adjacent to the entrance.

The western side of the elevation surrounding the main entrance largely consist of small rectangular glass panes. These are replacements of the originals which were squarer in shape. The double doors of the entrance are also more modern replacements of the originals and are surrounded by a modern glass and steel porch. Adjacent to the entrance, the western wall of the hall is dominated by large windows interspersed by a pair of double doors at the west and eastern sides of the hall. The windows comprise an upper row of clerestory windows overlying larger, tall panes. The windows of the hall are replacements, though in a similar style, of the original windows which can be seen on early photographs of the building. The original windows had an upper row of clerestory lights over a central row of large lights (twice the width of the current window panes), overlying a lower row of small fixed lights. The windows were carried over a short brick wall, now replaced. The doors to the hall are also later additions to the room.

The entrance lobby contains a reception desk and entrances to the hall, administration block and basement. The room has a suspended ceiling, largely dismantled, and a carpeted floor. The hall and corridor to the administration block are separated from the entrance lobby by modern fire doors, set within the original frames. The hall retained no furniture or fittings and had a suspended ceiling over carpeted floor. It can be seen on early photographs of the hall that leather seats and low coffee tables were formerly arranged along the west and eastern walls. Circular pipes with ventilation ducts stretched the length of the room at the ceiling and wall junctions.

The basement level could not be accessed during this survey due to flooding. Plans of the basement show that this level housed boiler rooms, pump rooms, generators, coolers and interestingly, though unsurprisingly, a pair of air raid shelters (Appendix III).

To the north of the hall are two large rooms, formerly the **Valve Store** and **Rack Mounted Apparatus** room. By 1999, these rooms had been stripped of their original equipment and fittings and partitioned (Appendix VII). The valve store has been converted for use as a kitchen with small stores and a kitchen office, and the apparatus room has been converted into a bar, office and lobby. Neither room retained any fixtures or fittings pertaining to their original function. The original plans of the apparatus room show that it formerly contained rows of mounting racks in the centre of

the room with sufficient space between and around them to allow staff and operators to access the equipment (Appendix V). The original herringbone parquet floor remained in this room. Holes in the floor formerly allowed pipes to attach from the equipment to the cooler room in the cellar below. The original plans of the building show that a diamond copper mesh was installed below the parquet floor of the apparatus room in order to prevent static discharge and damage to equipment in the room.

The hall formerly opened out into an open space in front of the central room of the transmitter halls. Flanking this area were a staff and duty room, with glazed screen partition walls. The staff room is depicted on the 1999 survey drawings but was not present by this survey. The former duty room had been re-enclosed by a stud partition and is marked as *Store* on the plan of 1999 (Appendix VII).

The former **Aerial Switching Rooms** are located at the intersections of the entrance hall and transmitter halls 1 and 2. The switching rooms are contained within prominent structures which project outward and upward from the main station building. These rooms formerly housed aerial switching equipment from which aerial feeders passed from the transmitter halls to line transformers and on to the aerials. Both rooms are marked as *Stores* on the plan of 1999 and their upper levels, which were not accessed during this survey due to safety concerns, are marked as *Disused* (Appendix VII). At ground floor the western extent of both switching rooms were enclosed by wire mesh partitions that prevent access to the ladders which lead to the upper mezzanine floors. These partitions are not original to the rooms but do appear on the plan of 1999. The mezzanine floors comprise steel girders supporting timber floor boards and are accessed by steep steel ladders. The ground level floor surface of both rooms was of herringbone parquet with a central strip of copper mesh constrained to the immediate area of the central switching equipment. No fixtures or fittings relating to the rooms' original function remained. The eastern extent of switching room 1 had latterly been enclosed and converted into male and female toilets. These do not appear on the plans on 1999 (Appendix VII).

4.3 The Transmitter Halls (Figs 4.3.1 – 4.3.40)

The transmitter halls are fairly simple rectangular plan structures comprising the central halls which stand to a height of approximately 6m, flanked by the shorter bays containing the cooler and fireproofing rooms. The bays stand to c3.7m in height and project c2.5m from the central halls. The hall and flanking bays have a total width of approximately 15m and each hall projects outwards approximately 32m from the central meeting point at the control room.

The buildings are clad in pink-buff textured brick in Flemish bond, with stone coping at the roof edges. They have flat roofs of asphalt over hollow brick which is supported over a steel and concrete frame.

The projecting bays comprise alternating rooms labelled as **cooling** and **fireproof** (power) rooms on the original architect drawings. These rooms present blue-painted, metal, louvered doors with louvered ventilation panels over. The door openings are separated by cast-stone panels. The rooms are raised slightly over ground level by levelling courses of brick with stone coping. Each type of room has an identical layout

to the others of its type throughout the three halls. No plant, equipment or fixtures and fittings could be seen in the accessible rooms. The fireproof rooms are only accessible externally to the hall via double door openings. The rooms were plain and are fireproofed internally with insulation sheeting. These rooms formerly contained power equipment for the transmitters and are fireproofed to mitigate any malfunction. The cooler rooms have exposed brick walls and were fully subdivided by brick partitions though many of the partitions have been truncated with the removal of plant. Each area of the room can be accessed by single and double width doors. The interior facing wall of each cooler room has a single width door opening which could be used to access the rear of the former transmitter amplifier equipment which lined the walls of the transmitter halls. In the majority of rooms, these openings had been blocked with concrete breeze blocks. Transom openings were also located above the internal door openings of the cooler rooms, allowing cabling and ventilation from the transmitter equipment into the cooler room plant.

Above the cooler and fireproof bays, the central hall presents long rows of clerestory windows interspersed by slightly projecting concrete pilasters. The clerestory windows are steel framed and arranged five lights over two. A number of the windows have external steel mesh coverings. The flat roof of the halls projects a short distance over the wall face. In places a safety barriers are located at the edge of the roof a steel ladder allowing access.

The shorter, distal elevations of the halls each contain a wide door opening edged in cast stone, with concrete steps rising from the external ground level to the slightly higher interior floor level. The openings each have two flush panel steel sliding doors with handles externally and runners over. These flank a central panel containing a double width steel folding door alongside a single width, side-hung fire door.

An enclosed control room was located at the intersection of the three wings with its entrance to the south-west. Photographs taken at the opening of the facility show that this was a square room raised above the general floor level. It had wood panelled walls with windows over. This room commanded a view of the three transmitter halls as well as the entrance hall and lobby. A number of control panels and desks were arranged around the edges of the room. The furniture seen in this room is in keeping with fashion at the time with rounded edges and corners, and chrome edging. On the survey drawings of 1999, this central area is labelled as *raised plinth*, and *museum*. By this survey, the area had been fully enclosed and had been converted into a meeting or presentation room with four rows of cinema style folding chairs facing eastward where a pull-down projector screen was formerly located. A wide window opening took up most of the east wall of the room. The glass had been removed by this survey but it seems likely that it comprised either tinted or one-way glass. The western side of the room is at a higher level than the east and steps allow movement to either side of the seats. The main entrance to the room is from the west where double fire doors open on to a mezzanine platform overlooking the entrance hall and lobby. This platform can be accessed from below by a stair (no longer present) and a short lift in a steel and glass enclosure. A fire door located in the south-west corner of the room leads to a narrow flight of steps which descend to a connecting corridor between transmitter halls 2 and 3.

As with the apparatus and aerial switching rooms, a diamond copper wire mesh was installed beneath the herringbone parquet floors of the three transmitter halls in order to prevent static discharge which might damage to the sensitive electrical equipment.

Transmitter Hall 1 (north)

The north transmitter hall is rectangular in plan, aligned north-west to south-east and measures c14 x 35m. The hall is plain, painted white, with no internal features or equipment surviving within. The former transmitter room has been fully partitioned from the other halls, roughly in-line with the external return to the west of Aerial Switching Room 1. This partition is not shown on the survey drawings of 1999. A small stud partition office has also been created in the south-eastern corner of the room. A double door in the south-west corner of the room allows entry into the modern corridor.

Clerestory windows with adjustable blinds run the length of the room along the east and west walls. These were within galvanised steel frames, painted white, with rectangular panes. The windows are ten lights, five over two and the second and fourth columns are centrally pivoted and can be tilted open by hooks located at the tops of the moveable lights. Pipes with ventilators also stretch the length of the room adjacent to the clerestory windows.

The room has a suspended ceiling of square panels in a steel frame with three long rows of lights formerly suspended below the ceiling level, though no lights remained. A number of panels have fallen to the ground, allowing the roof structure to be seen. The roof is primarily supported by tensioned concrete tie beams which in turn carry girders with pale yellow and buff-coloured hollow bricks between.

The southern end of Transmitter Hall 1 was partitioned, post-1999, into a large fully enclosed server room which contained rows of empty mounting racks and cabinets for electrical equipment including servers and fuse/junction boxes. The room formerly had a suspended ceiling which had largely been removed by this survey. In addition to natural light from the clerestory windows of the east wall, the room was also lit by strip lighting suspended from the ceiling. The room retained its original parquet floor.

Transmitter Hall 2 (south)

Labelled as *Cellnet Store* on the survey drawings of 1999, transmitter hall 2 remained a single open room though the far northern end of the room was partitioned to accommodate the projection/presentation room (Appendix VII). A full complement of ventilators and ducts remained *in-situ* against the west wall of the room below the clerestory windows. These were supported by steel brackets, and steel flues connected from the underside of the ventilators through the west wall to the outside of the room. An electrical fuse/switch box remained *in-situ* centrally to the east wall of the room. This equipment is of a modern date, serving replacements of the room's original apparatus.

The modern floor is of square panels supported over steel pedestals which are fixed to the original herringbone parquet floor of beech-wood blocks. Cable trays are carried between the two floor levels. The floor panels had been largely pulled up and the floor

was littered with a considerable quantity of debris, making movement in this room very difficult.

Lighting in the room consists of fluorescent tube strips aligned lengthways down the room in three rows, suspended from the original ceiling.

A wide door opening is located south of the room. This comprises flush panel steel sliding doors with handles at the extreme ends, with a central panel of folding steel doors and a side hung fire door. The external door surround is of cast stone.

Transmitter Hall 3 (east)

Formerly a fully open room, the space has latterly been partitioned into two large rooms though this is not shown on the survey drawings of 1999 (Appendix VII). The westernmost room contained several banks of desks or work stations though no accompanying equipment remained. These were in a state of disarray, making access to the room difficult. No equipment or fittings relating to the halls original function was noted.

The eastern portion of the room retained a number of mounting racks against the north wall. These were of steel, painted blue and contained shelves and compartments for power, ventilation and other equipment. Pipes for ventilation and cooling run the length of the north wall of this room above the mounting racks to which they were formerly connected. Both the piping and mounting racks are later additions, replacing the original equipment. Defunct electrical switch, fuse and junction boxes were located on the south wall of the room. These are also more modern additions serving replacements to the original equipment.

The floor level has been raised in both rooms, the more recent flooring comprising square tiles supported over steel pedestals. The pedestal bases are fixed to the underlying original floor of herringbone parquet floor of beech-wood blocks and a grid of raised cable trays carry electrical cables around the room below the modern floor.

At the far east of the room is a wide door opening comprising flush panel steel sliding doors on runner with an central panel of folding doors and fire exit. The wider sliding doors are not visible internally to the room. Interestingly, early views of the interior of the halls do not show these doors, instead showing centrally opening double doors. It is unclear when these were replaced.

4.4 Administration Block (Figs 4.4.1 – 4.4.25)

The administration block is the long curving structure which links the lobby of the transmitter halls to the training block to the north. The block is single storey, measuring c80m and 70m at the longer and shorter curving elevations. The interior comprises a long, curving central corridor which is flanked to either side by rooms. The roof level is higher over the western rooms of the block and at a lower level over the corridor and eastern rooms. The west elevation presents an almost continuous central panel of windows. This element projects slightly from the brick face of the wall and consists of a repeating design of side hung, single light casement windows. The windows are set within a steel frame with cast stone mullions, sills and lintels. A secondary scheme of

window has been inserted internally to the rooms and consists of modern double glazed sliding windows in PVCu frames. Overlying these are narrow, top-hung, two-light clerestory windows, spaced slightly further apart. These windows are not original to the building though they are set within the openings of original, taller windows. The original openings have been narrowed in red brick to accommodate the narrower windows.

The east elevation has smaller, more widely spaced windows, generally two per room. These windows are roughly square with cast stone sills. The windows are six lights, two over three. The upper lights are much smaller top hung panels over taller side hung, two-light casements. The windows are set within steel frames and several have security meshes internal to the rooms.

The central corridor is a continuous space which can be closed into two sections by double fire doors located halfway. A number of niches in the east wall of the corridor formerly contained fire appliances and extinguishers. A strip of glass blocks arranged in panels of 14x3 blocks forms a skylight in the ceiling that runs the full length of the corridor over its eastern side. Directly below this, brick channels are located below the floor level. These have removable panels for access and contain insulated water pipes.

The rooms to the western side of the corridor are generally larger and brighter than those to the east. As well as the main windows facing to the west, clerestory windows are located at the top of the east wall. The base of these windows is roughly level with the room over the corridor and eastern rooms. The western rooms were originally utilised as offices, workshop and staff rooms as well as games room, dining room and staff lounge. The eastern rooms were WCs and stores as well as a spare room, dark room, first aid room and kitchen. By 1999, part of the dining room had been merged with the adjacent spare and games room and is labelled as *Electronics Workshop B*. Similarly, the former *Stores* and *Plant List* rooms had also been merged into *Electronics Workshop A* (Appendix VII). Due to remodelling and modernizing, as well as extensive vandalism, of the rooms, very few original fixtures and fittings remained. Several of the doors, particularly to rooms east of the corridor appeared to be original. The rooms west of the corridor largely have replacement modern fire doors.

4.5 Testing Block (Figs 4.5.1 – 4.5.13)

The testing block is a single-storey building on a rectangular plan, measuring c34 x 17m. It is contemporary with the station and is constructed of textured buff-red brick in Flemish bond. The building has been heavily vandalised with very few internal features surviving. The majority of windows have been broken and several of the rooms have suffered fire damage. The rooms have suspended panel ceilings with modular lights, though these have fallen out of place in most rooms.

The block is located at the north-west of the station and can be accessed through the administration block and externally from the car park and yard area. A concrete ramp located against the eastern wall leads up to recessed openings marked *Stores* and *Deliveries*. A former recessed opening between *Stores* and *Deliveries* has been blocked in concrete breeze blocks. Two door openings, one blocked in brick, are located in the north-east elevation with raised concrete walkways with steps and

handrails. The three rooms to which these doors lead are labelled as *Switch Room*, *Transformer Room* and *Store* on the plan of 1999 (Appendix VII).

The block comprises two equal-sized rooms flanking a central hall which itself is subdivided into a *Lobby*, *Office* and *Store*. The north-western room has been subdivided with stud partitions into four areas labelled as *Bench Room*, *Lobby* and *Stores*. The more southerly room is marked as *Machine Shop*.

4.6 Transformers 1 and 2 (Figs 4.6.2 – 4.6.16)

The two transformer blocks are positioned diagonally to the intersections of the three transmitter halls. They are of an identical size and layout, measuring c8x12m with a rectangular footprint of c89sqm. Transformer 1 is to the north of transmitter hall 3 and is aligned north-west to south-east and transformer 2 is to the south of transmitter hall 3 and is aligned north-east to south-west. Both blocks are constructed of buff-pink bricks in Flemish bond and have flat roofs of asphalt. The internal jambs of the outer doors are of bullnose bricks as are the jambs of the internal door openings. Each block is subdivided into six, roughly square rooms. The inward facing rooms, those which open toward the transmitter halls, are enclosed on three sides with wide openings formerly containing blue and red-painted, louvered double doors set within blue-painted door frames and cast stone edging. In transformer block 1 the floor of these rooms were of gravel with parallel pairs of iron rails leading from the door openings to the rear wall of the rooms. A sunken, brick-lined, linear channel leads from the transmitter hall to the north-west room of transformer block 1. The original design plans locate a sunken *cable turning chamber* adjacent to the south-east elevation of transformer 1 and the north-east elevation of transformer 2 (Appendix I). These rooms contained no plant or equipment though the remnants of cable trays and mounting brackets remained.

The outward facing rooms are accessed by single width door openings edged in cast stone, formerly with blue-painted doors. These rooms are linked internally by single width doorways within the brick dividing walls.

4.7 Garage & Workshop (Figs 4.7.1 – 4.7.9)

This is a single storey building measuring c12x16m with a rectangular footprint of c196sqm on a north-west to south-east alignment. The original function of the building was garage and workshop and it retained this function throughout the operations at the facility. In contrast to the other buildings on site, the Garage is primarily constructed of pink-red brick in English Bond. The west elevation however, has been constructed or with brick in Flemish bond at a later date. It can be seen on an aerial photograph of 1955 that the building was formerly open fronted to the west. The distal ends and the upper section of the wall are in English bond and a cast stone lintel spans the length of the elevation with the modern brickwork contained within. Central to the west elevation is a double-width doorway with large transoms over, held within a blue-painted timber frame. To either side of the central door, and interspersed by projecting brick pilasters, are symmetrically arranged pairs of windows comprising upper top hung lights over side hung single lights with fixed lights below. These are identical in design to those of the east elevation but are not contained within cast stone surrounds. The most

northern window of the west elevation is set within concrete breeze blocks internally to the room.

The building has a flat roof of asphalt over hollow bricks, with brick parapets in English bond around the full perimeter. Cast-iron downpipes are located at the north-east and south-east corners of the building where openings in the parapet allow water to drain from the roof.

The east facing elevation has three large window openings to each of the workshop rooms. These are of three lights, two over three. The upper lights are top hung and are over taller side hung casements and the lowest pair are fixed. The windows are set within metal frames and the window openings are lined with cast stone slabs. Adjacent the northern half of the elevation is dominated by a pair of large square openings to the vehicle bays. The two openings are lined with cast stone slabs and the lintels are level with the tops of the windows. Both openings can be shut by blue-painted steel rollers.

The north half of the building is partitioned into two vehicle bays with blue painted roller doors to the east. A steel girder spans one of these rooms supporting a steel chain winch on rollers. A number of smaller steel beams span the two rooms, supporting fluorescent tube lights. The garage occupies the south-western corner of the building. This is a fairly plain room with white painted walls and concrete floor. A number of steel supports for tube lights span the length and width of the room. The south-east corner of the building is subdivided into workshop rooms. These are accessed through the garage via single width door openings with blue-painted braced, plank and batten doors. Again these rooms are plain, with no fixtures or fittings remaining except for tube lights over and cable trays below the windows.

4.8 Training / Rigging School (Figs 4.8.1 – 4.8.6)

This is a fairly modern addition to the site and was constructed between 1980-1991, first appearing on the Ordnance Survey map of 1991 (not reproduced). It is located to the north-east of the station, facing toward the car park area, and comprises the main rigging school structure and adjacent oil and gas stores. The school is single storey on a rectangular plan measuring c23x8m and c193sqm. It is a simple steel and concrete structure with corrugated panels over light timber frames. The gable roof is likewise of corrugated panels, with each side of the roof having a central strip of roof lights. The west facing elevation has a tall door opening with a blue-painted steel roller door. To the east the door opening is lower and wider with a pair of blue-painted timber sliding doors.

Internally the building comprises a single open room with no partitioning. The room is fully open to the roof with the concrete trusses and frame visible. Much of the wall panelling has been lost, revealing the underlying insulating material. Semi-transparent corrugated panels are located below the eaves to allow for increased light. Square ventilation pipes are located along the north wall, below the semi-transparent panels.

Of the fixtures and fittings which remained in the room, most were electrical switches and wall mounted electrical fuse boxes. A secure gas canister container was fixed to the floor in the south-east corner of the room. A low, brick-built work bench with timber top is located at the north-west corner of the room.

The oil and gas stores are small, brick-built structures located to the north of the main building. Square ventilation pipes lead out from the school and into the adjacent building where an air handling unit would have formerly circulated air in and out of the school.

4.9 External Store and Cycle Shed (Figs 4.9.1 – 4.9.7)

A small detached building, labelled as external store on the plan of 1999, is located to the south-east of Transformer 2, adjacent to the path which runs around the station (Appendix VII). The store is contemporary with the station and can be seen on the Ordnance Survey map of 1966. It is a single storey structure on a rectangular plan measuring c3.5x4.5m and constructed of purple-red brick in stretcher bond. The interior faces of the walls are white-painted and the room retains no fixtures or fittings. A double width opening with concrete lintel and blue-painted timber doors opens to the west. A single width door is located in the opposing elevation to the east. The store has a flat asphalt roof with white-painted timber fascia boards at the eaves.

Plans of the station show that an explosives store was formerly located to the east of the external store. This had been demolished prior to the survey (Appendix VII).

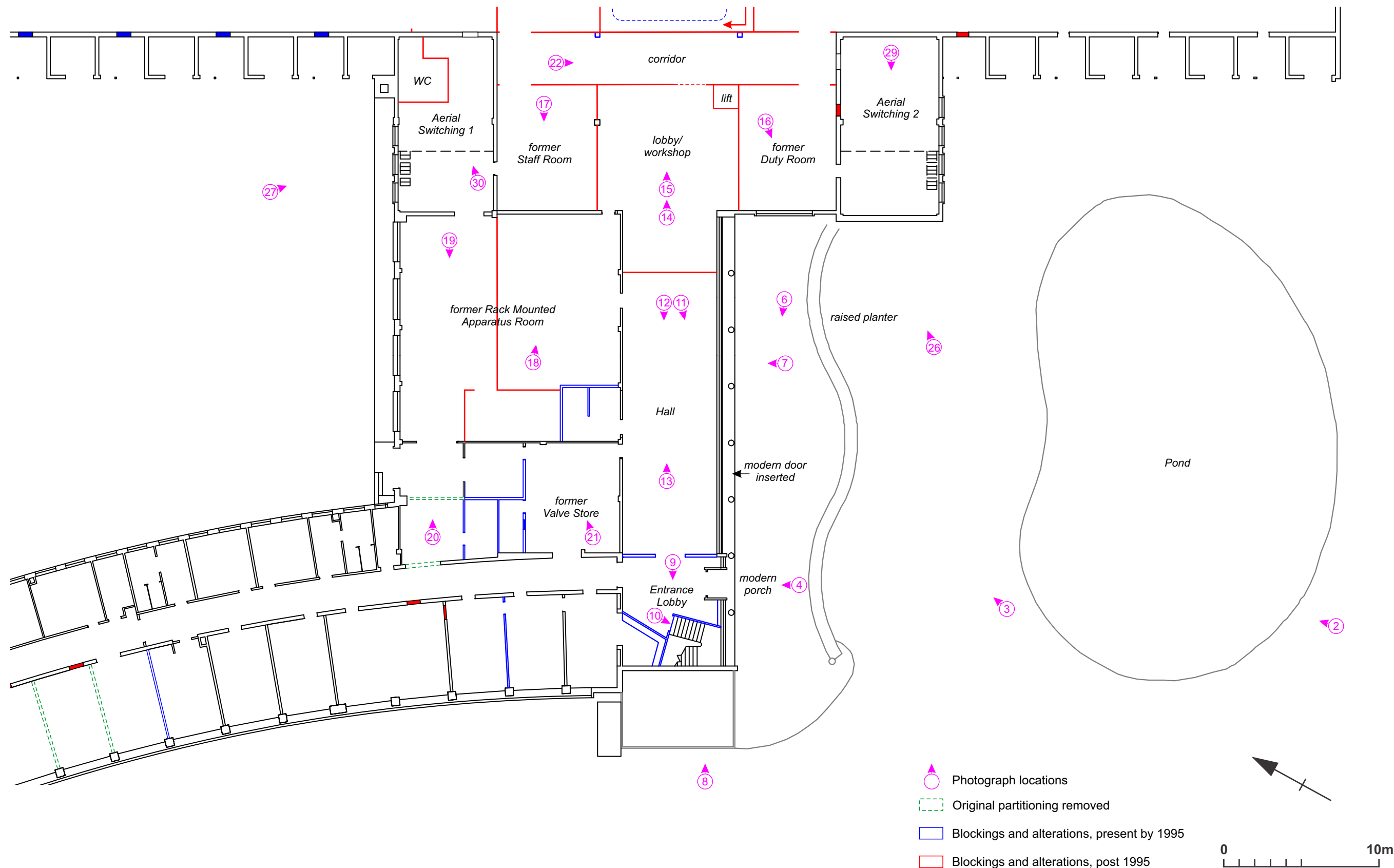
The cycle shed is located within the car park to the north-east of the administration block. It is a single storey structure aligned north-west to south-east, and measuring c16x6m and c100sqm. It is primarily constructed of buff-coloured brick in Flemish bond, with concrete supports. The flat roof, which is of asphalt rolls with timber fascia boards, had partly collapsed by this survey and the building was not entered due to safety concerns. The building is subdivided into central cycle storage bays, open fronted to the west, flanked by enclosed sheds to the north and south. The southern shed has a blue-painted double width door to the west and a single width door to the south. Both openings have cast stone lintels. The northern shed is a slightly smaller room with single width door openings to the west and east. The eastern elevation comprises five bays, with corrugated sheeting separated by brick columns. Each bay has four fixed windows over the corrugated sheets.

5 DISCUSSION

At the time of its opening in 1953, B Building was highly advanced and technologically innovative due to its largely autonomous functionality which required minimal day to day control and supervision. From the central control room, an engineer had control over all of the transmitters and aerial selector switches. The Marconi HS51 transmitters were more economical and efficient than their predecessors and essentially tripled the traffic handling capacity of the station. The building was carefully and deliberately planned to allow for maximum effectiveness and efficiency, with the transmitters, power, aerial switching, administration and staff facilities, and training areas confined to distinct, purpose built rooms and buildings.

Development and innovation of underwater cables and satellite communication technology caused a decrease in demand for high frequency transmission and the transmitters and plant at the station were subjected to a phased replacement in the late 1980s and early 1990s. This conversion was accompanied by some internal remodelling and partitioning of the building and the original room layouts. In addition, many of the doors and windows were replaced, in line with modern fire regulations.

The maritime service at B Building ceased operations in April 2000 and the building was again converted, this time to house a customer service centre for Airwave Solutions, a mobile communications company founded in 2000. The site was thus occupied for three years until it was finally closed in 2003. This report is a snap-shot in time of the facility, recording the buildings and site prior to proposed demolition works ahead of a scheme of re-development of the wider area.



Scale 1:250 Plan of the Lobby, Hall and Aerial Switching Rooms, showing photograph locations Fig 4.2.1

4.2 Entrance Block and Aerial Switching Rooms



The approach to site, looking north-east Fig 4.2.2



The Entrance Block, c1955 Fig 4.2.3



The Entrance Block, looking north Fig 4.2.4



The modern glass porch Fig 4.2.5



The south elevation of the hall, looking south-west Fig 4.2.6



Detail of bench Fig 4.2.7

4.2 Entrance Block and Aerial Switching Rooms



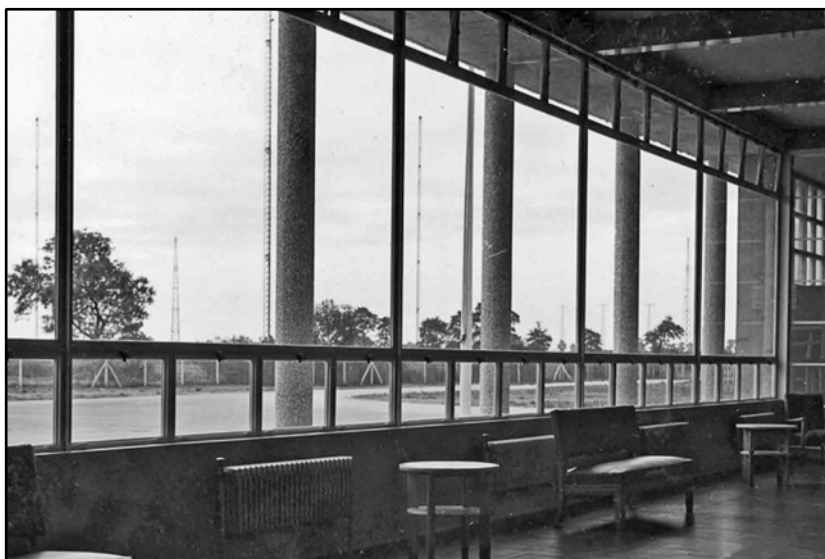
Detail of commemorative plaque Fig 4.2.8



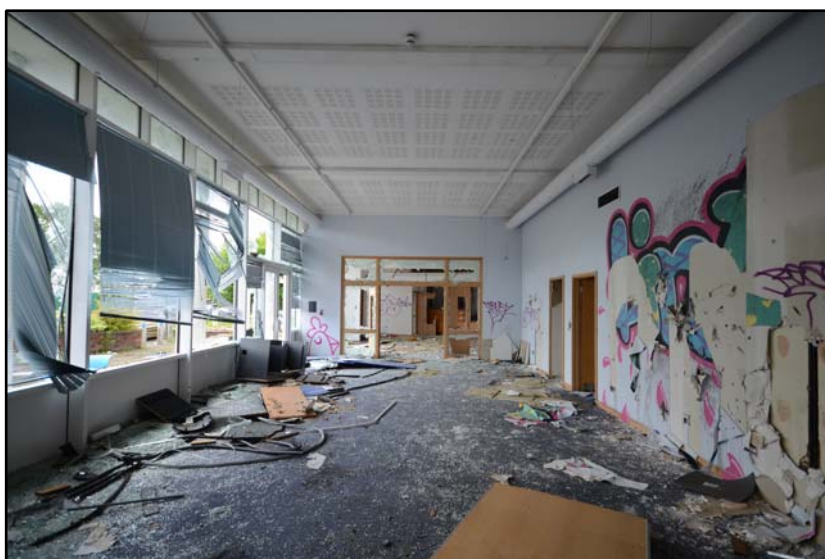
The entrance lobby, looking south-west Fig 4.2.9



Stairs to the basement Fig 4.2.10



The Hall, c1955, looking south-west Fig 4.2.11



The Hall, looking south-west Fig 4.2.12



The Hall, looking north-east Fig 4.2.13

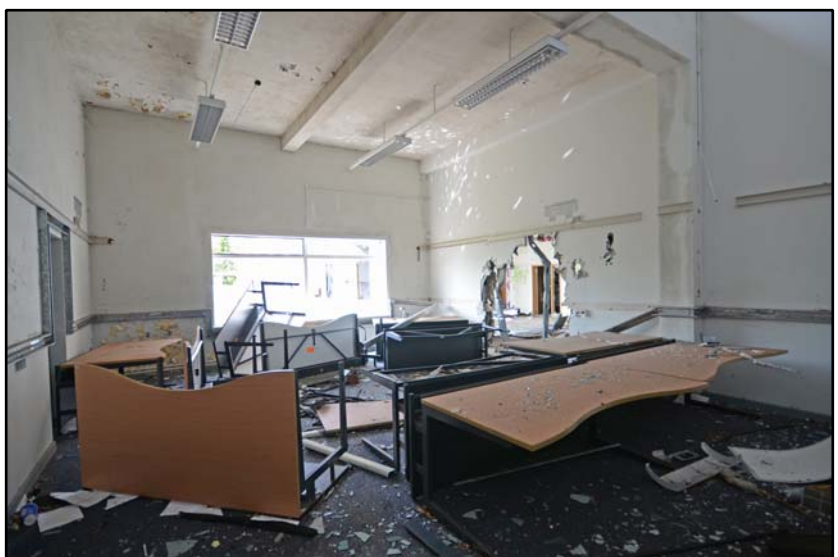
4.2 Entrance Block and Aerial Switching Rooms



Former lobby / workshop east of the hall Fig 4.2.14



Detail of herringbone parquet flooring Fig 4.2.15



Former Duty / Office, looking south-west Fig 4.2.16



Modern partitioning of former Staff Room Fig 4.2.17



Modern partitioning of the former Apparatus Room,
looking north-east Fig 4.2.18



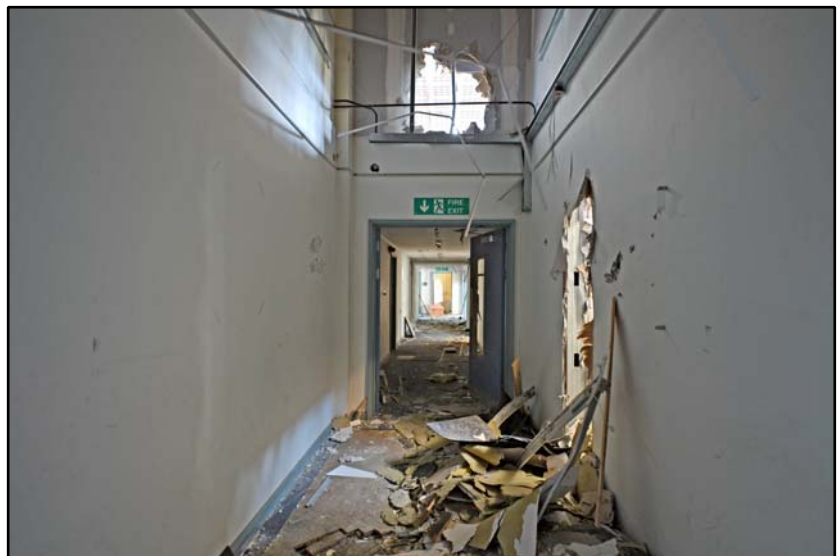
Lobby and store within the former Apparatus Room,
looking south-west Fig 4.2.19



Corridor / lobby within the former Valve Store Fig 4.2.20



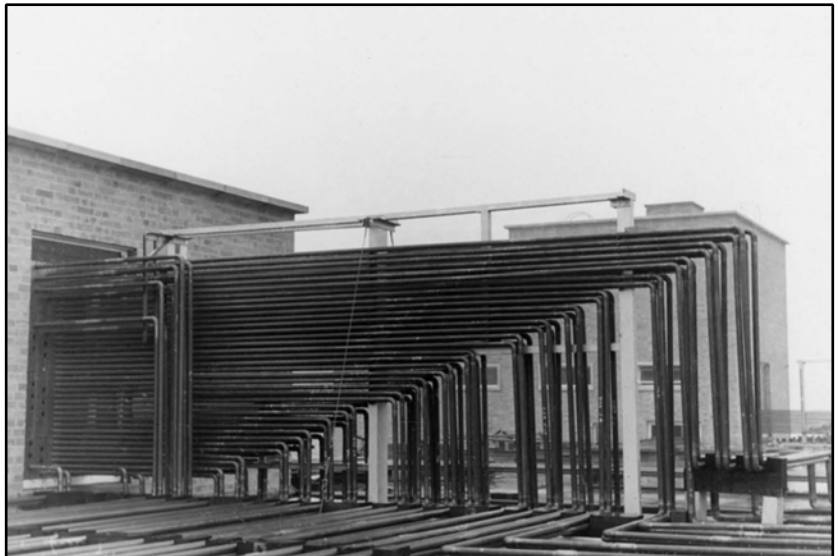
Modern partitioning of the former Valve Store Fig 4.2.21



Modern corridor, looking south-east Fig 4.2.22



Aerial Switching 2, c1955, looking south-east Fig 4.2.23



Aerial Switching 2, c1955, looking north-west Fig 4.2.24



Aerial Switching, c1955, looking north-east Fig 4.2.25

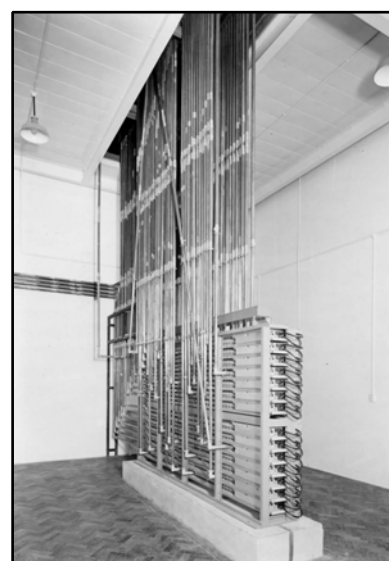
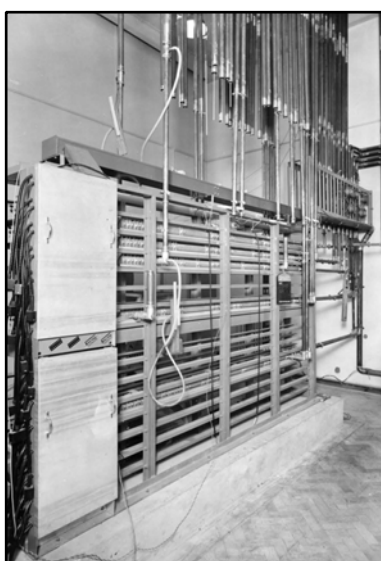
4.2 Entrance Block and Aerial Switching Rooms



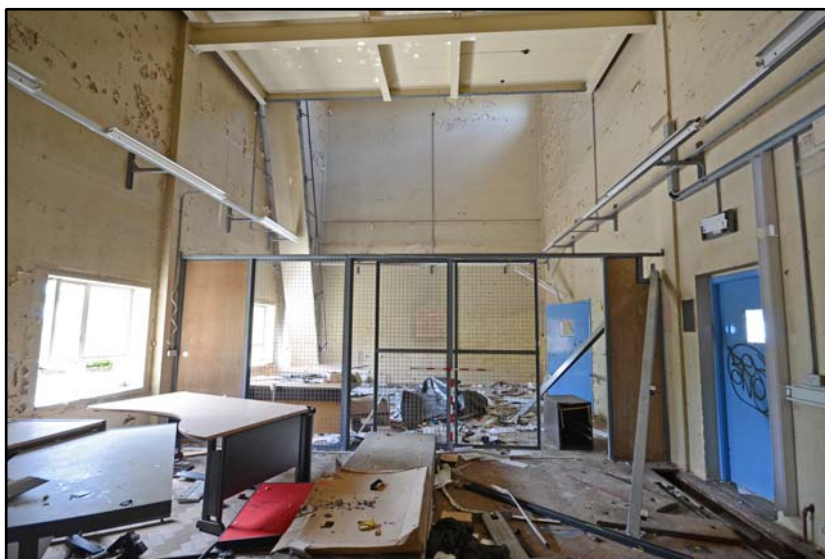
Aerial Switching 2, looking north-east Fig 4.2.26



Aerial Switching 1, looking south-east Fig 4.2.27



Aerial Switching rooms, c1955 Fig 4.2.28



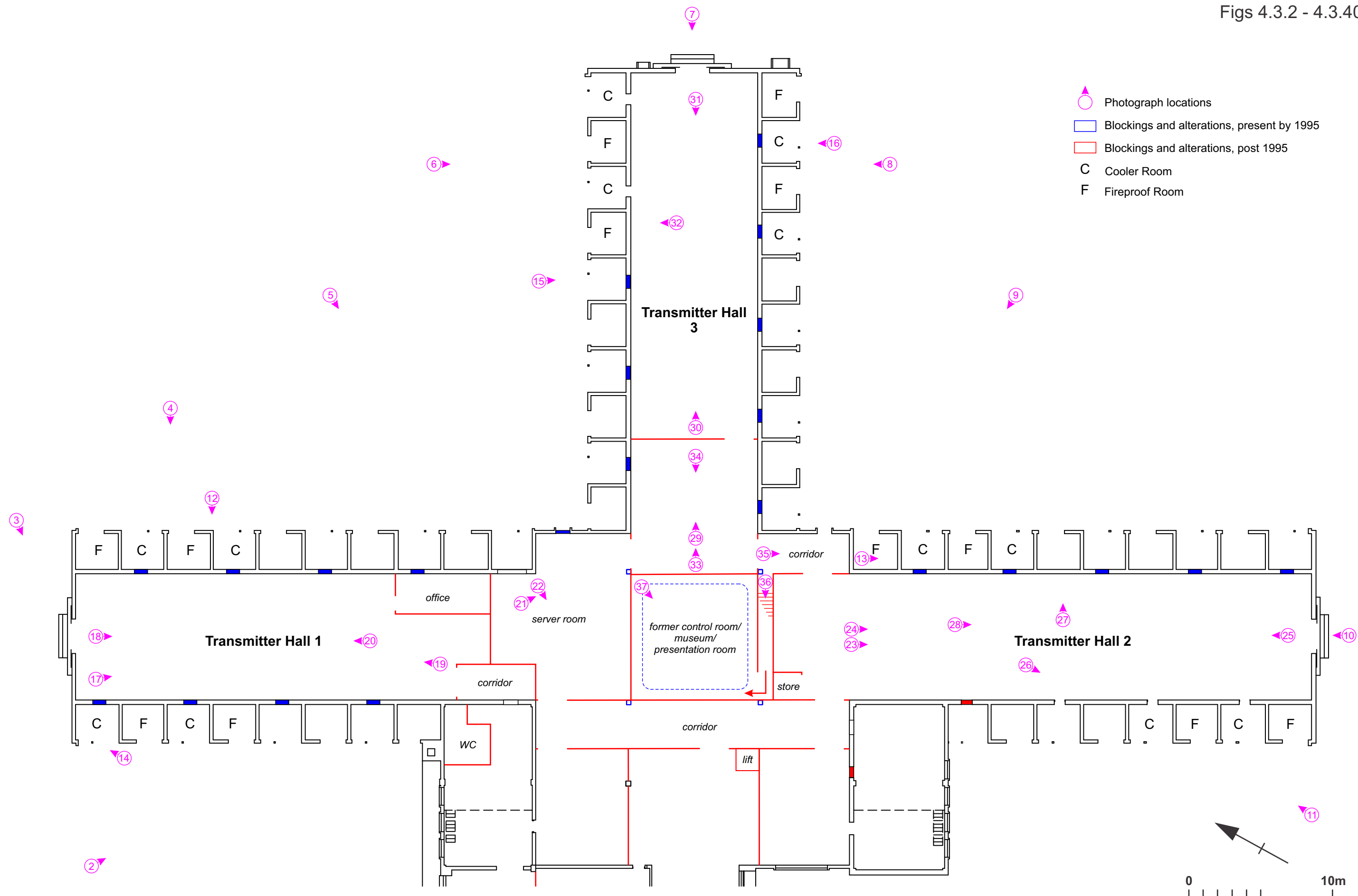
Aerial Switching Room 2, looking south-west Fig 4.2.29



Aerial Switching Room 1, looking north-east Fig 4.2.30

The Transmitter Halls

Figs 4.3.2 - 4.3.40





The west elevation of Transmitter Hall 1, looking east Fig 4.3.2



The north entrance of Transmitter Hall 1, looking south Fig 4.3.3



The east elevation of Transmitter Hall 1, looking south-west Fig 4.3.4



Transmitter Halls 1 and 3, looking south Fig 4.3.5



Transmitter Hall 3, looking south-east Fig 4.3.6



The east entrance of Transmitter Hall 3, looking south-west Fig 4.3.7



The south elevation of Transmitter Hall 3, looking south-east Fig 4.3.8



Transmitter Halls 2 and 3, looking west Fig 4.3.9



The south entrance of Transmitter Hall 2, looking north-west Fig 4.3.10



Transmitter Hall 2, looking north Fig 4.3.11



Cooler and Fireproof rooms, Transmitter Hall 3 Fig 4.3.12



Interior of fireproof room, with spare valve cupboard
Transmitter Hall 2 Fig 4.3.13



Former cooler room, Transmitter Hall 1 Fig 4.3.14



Former cooler room, Transmitter Hall 3 Fig 4.3.15



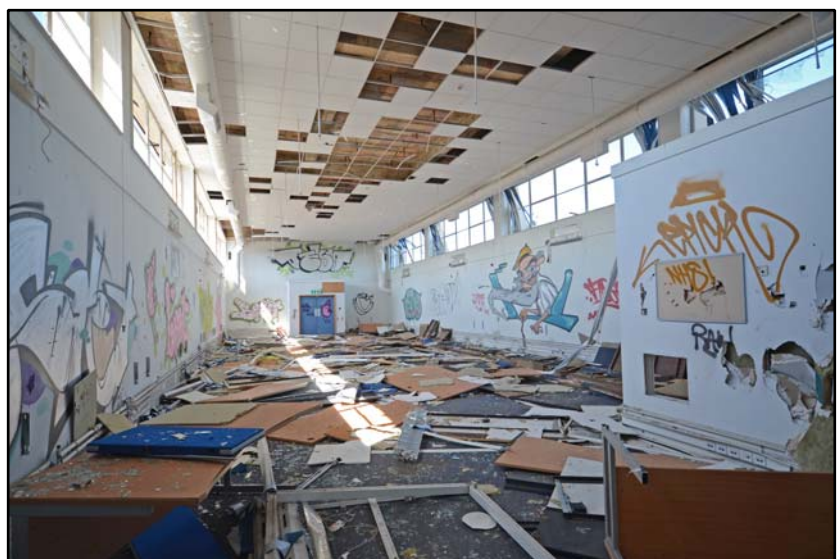
Former cooler room, Transmitter Hall 3 Fig 4.3.16



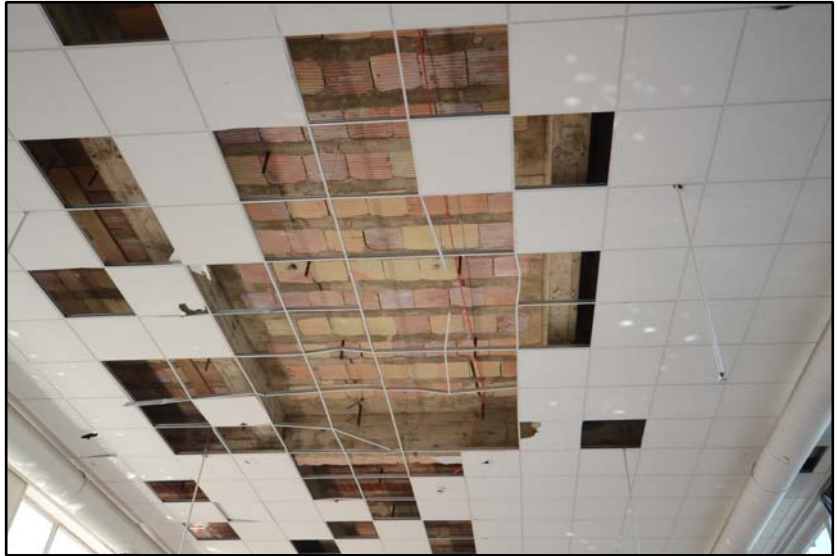
Transmitter Hall 1, c1955, looking south-east Fig 4.3.17



Transmitter Hall 1, looking south-east Fig 4.3.18



Transmitter Hall 1, looking north Fig 4.3.19



Transmitter Hall 1, detail of ceiling and roof construction Fig 4.3.20



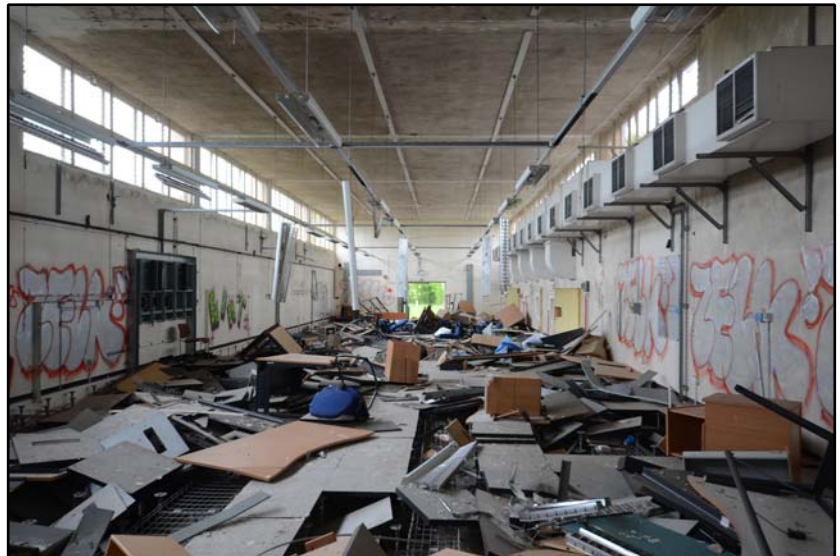
Transmitter Hall 1, server room, looking south-east Fig 4.3.21



Transmitter Hall 1, server room, looking south-west Fig 4.3.22



Transmitter Hall 2, c1955, looking south-east Fig 4.3.23



Transmitter Hall 2, looking south-east Fig 4.3.24



Transmitter Hall 2, looking north-west Fig 4.3.25



Transmitter Hall 2, detail of ventilation Fig 4.3.26



Transmitter Hall 2, detail of electrical boxes Fig 4.3.27



Transmitter Hall 2, detail of modern and original floors Fig 4.3.28



Transmitter Hall 3, c1955, looking east Fig 4.3.29



Transmitter Hall 3, looking east Fig 4.3.30



Transmitter Hall 3, looking west Fig 4.3.31



Transmitter Hall 3, detail of mounting cabinets Fig 4.3.32



Transmitter Hall 3, looking east Fig 4.3.33



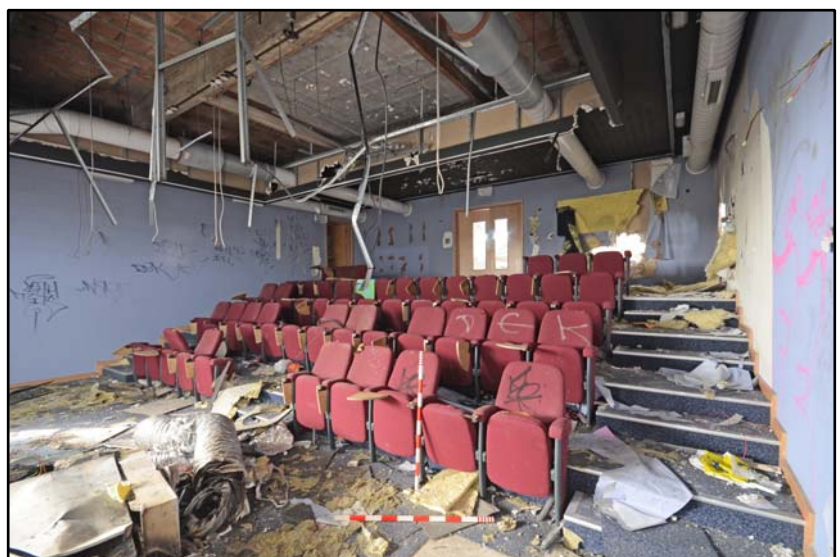
Transmitter Hall 3, looking west Fig 4.3.34



Corridor between Transmitter Halls 2 and 3, looking south Fig 4.3.35



Stair to presentation room above former control room Fig 4.3.36



Presentation room over the former control room, looking south-west Fig 4.3.37



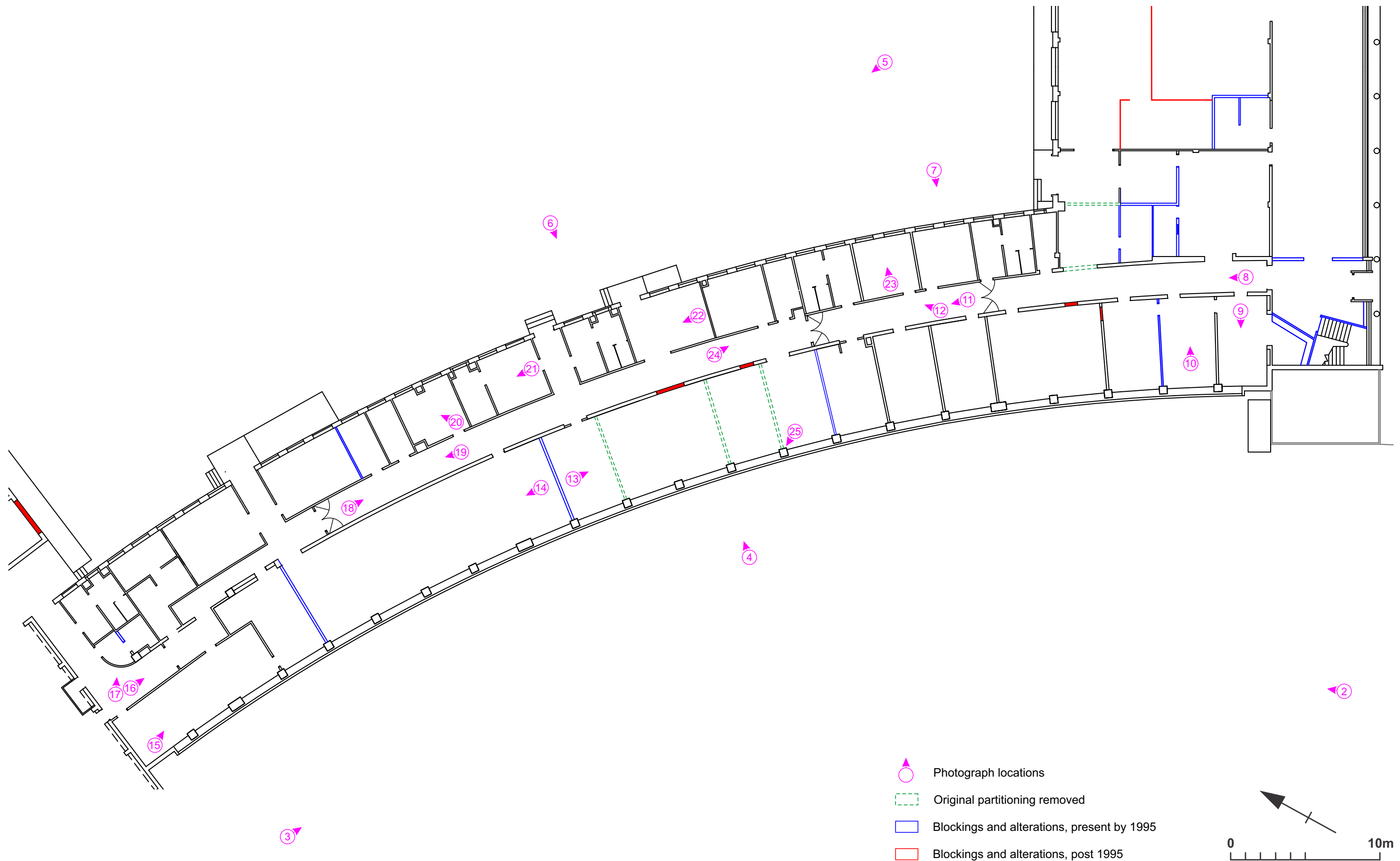
Central control room, c1955, looking north-north-east Fig 4.3.38



Central control room, c1955, looking north-east Fig 4.3.39



Central control room, c1955, interior Fig 4.3.40





Administration, west elevation, looking north Fig 4.4.2



Administration, west elevation, looking south-east Fig 4.4.3



Administration, west elevation, detail of windows Fig 4.4.4



Administration, general view, looking north-west Fig 4.4.5



Administration, east elevation, looking south-west Fig 4.4.6



Administration, east elevation, detail of windows Fig 4.4.7



Administration, the central corridor, looking north-west Fig 4.4.8



Administration, former general enquiries / office Fig 4.4.9



Administration, former general office Fig 4.4.10



Administration, central corridor, looking north-west Fig 4.4.11



Administration, detail of pipe trench in central corridor Fig 4.4.12



Administration, former store, plant and office rooms, looking south-east Fig 4.1.13



Administration, former games room, lounge and stores Fig 4.4.14



Administration, former *Test Engineers* room, looking south-east Fig 4.4.15



Administration, upper extent of corridor Fig 4.4.16



Administration, link passage to Testing Block Fig 4.4.17



Administration, corridor, looking south-east Fig 4.4.18



Administration, corridor, showing doorways and fire extinguisher niche Fig 4.4.19



Administration, former spare / rest room Fig 4.4.20



Administration, former lavatory / test & development room Fig 4.4.21



Administration, former store room Fig 4.4.22



Administration, former first aid / office Fig 4.4.23



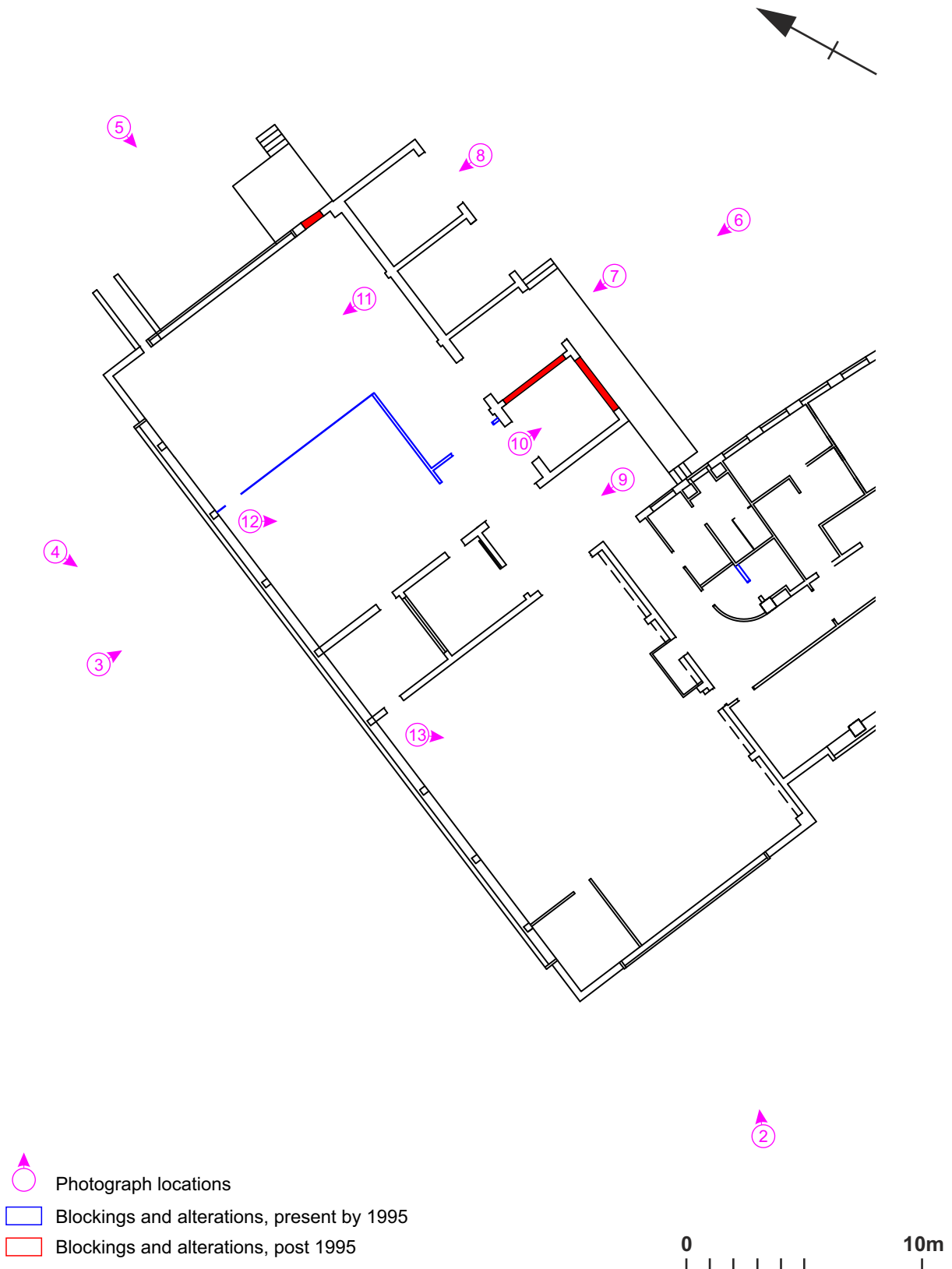
Administration, detail of roof lights over the corridor Fig 4.4.24



Administration, detail of original and modern windows Fig 4.4.25

4.5 Testing Block

Figs 4.5.2 - 4.5.13





Testing Block, looking east Fig 4.5.2



Testing Block, looking south-east Fig 4.5.3



Testing Block, looking south Fig 4.5.4



Testing Block, the north-east elevation Fig 4.5.5



Testing Block, the south-east elevation Fig 4.5.6



Testing Block, former deliveries entrance Fig 4.5.7



Testing Block, former switch room Fig 4.5.8



Testing Block, lobby, looking north-west Fig 4.5.9



Testing Block, former store with modern blocking Fig 4.5.10



Testing Block, eastern extent of the eastern room,
looking south-west Fig 4.5.11



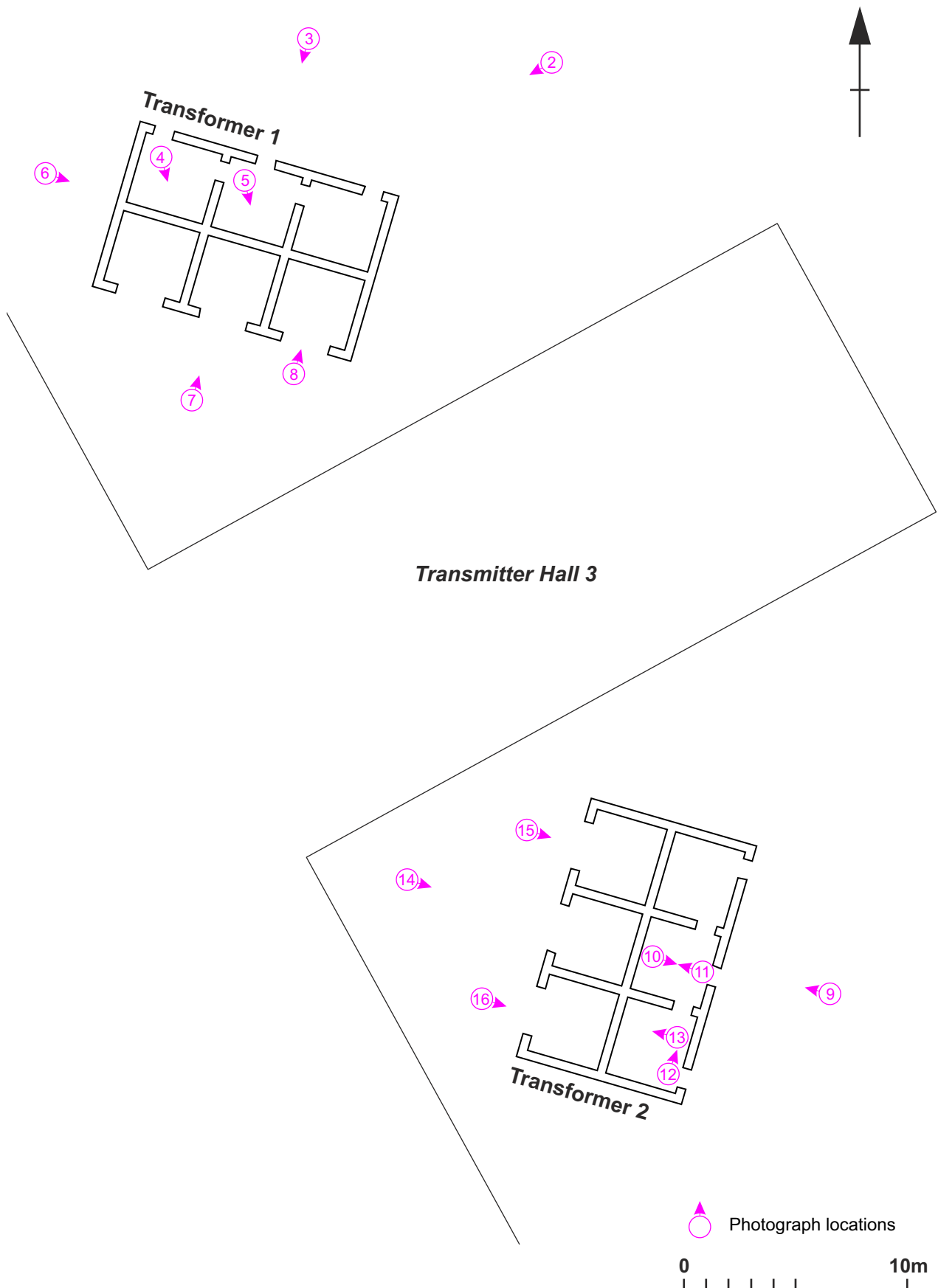
Testing Block, western extent of the east room,
looking south-east Fig 4.5.12



Testing Block, the western room, looking south Fig 4.5.13

4.6 Transformers

Figs 4.6.2 - 4.6.16





Transformer 1, c1955, looking west Fig 4.6.2



Transformer 1, looking south-west Fig 4.6.3



Transformer 1, plant *in-situ* in the north rooms Fig 4.6.4



Transformer 1, plant *in-situ* in the north rooms Fig 4.6.5



Transformer 1, west elevation, looking south-east Fig 4.6.6



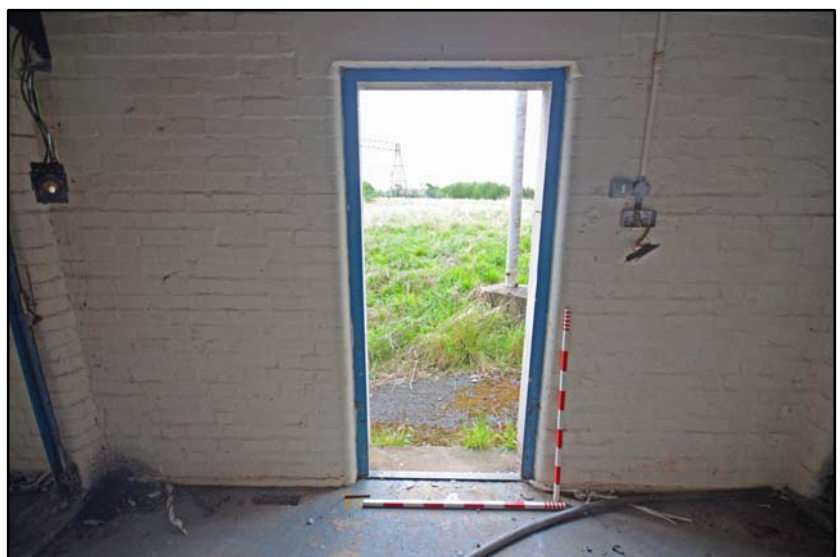
Transformer 1, looking north-east Fig 4.6.7



Transformer 1, example of the southern rooms Fig 4.6.8



Transformer 2, looking north-west Fig 4.6.9



Transformer 2, detail of door opening Fig 4.6.10



Transformer 2, mounting cabinets within the east rooms Fig 4.6.11



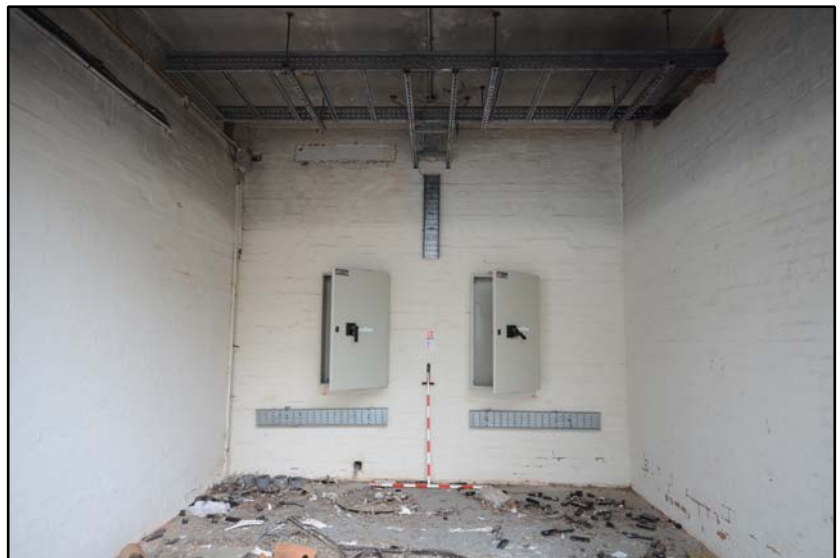
Transformer 2, the east room, looking north-east Fig 4.6.12



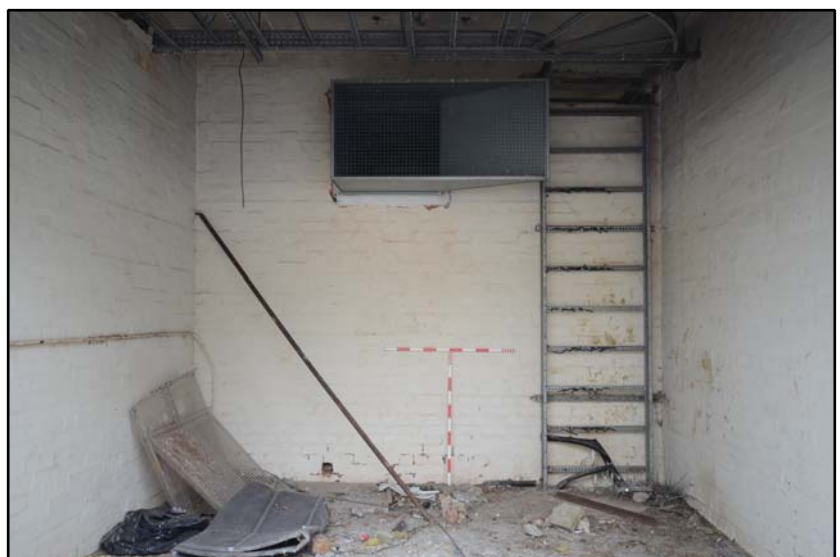
Transformer 2, overhead cable tray and ventilation Fig 4.6.13



Transformer 2, looking south-east Fig 4.6.14



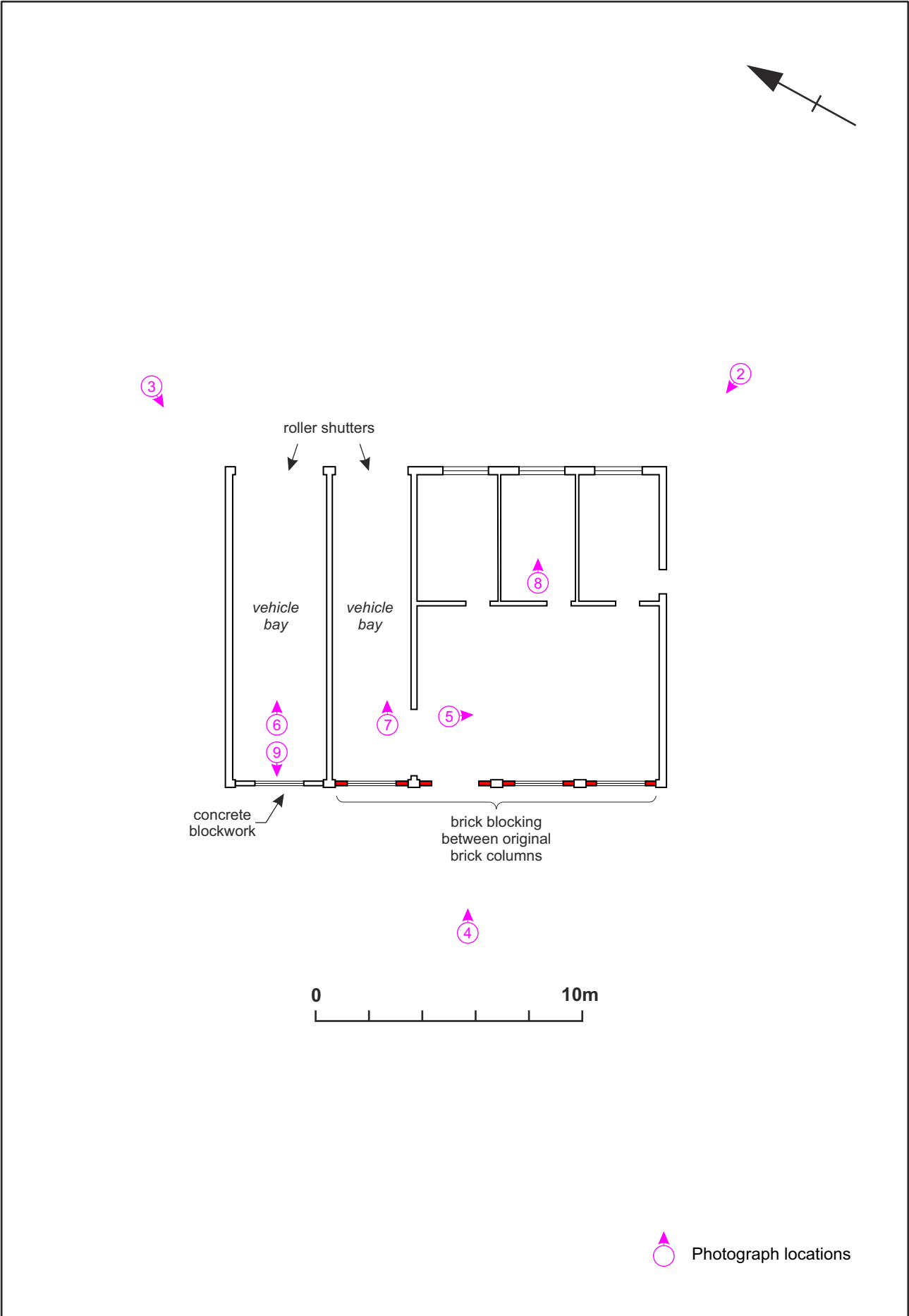
Transformer 2, west room with wall mounted electrical boxes Fig 4.6.15



Transformer 2, west room with cable tray and ventilation Fig 4.6.16

4.7 Garage / Workshop

Figs 4.7.2 - 4.7.9



Scale 1:200

Plan of the Garage / Workshop, showing photograph locations Fig 4.7.1



The Garage, looking west Fig 4.7.2



The Garage, east elevation, looking south-west Fig 4.7.3



The Garage, west elevation, looking north Fig 4.7.4



The Garage, the main workshop area Fig 4.7.5



The Garage, the northern vehicle bay Fig 4.7.6



The Garage, vehicle bay, looking north-east Fig 4.7.7



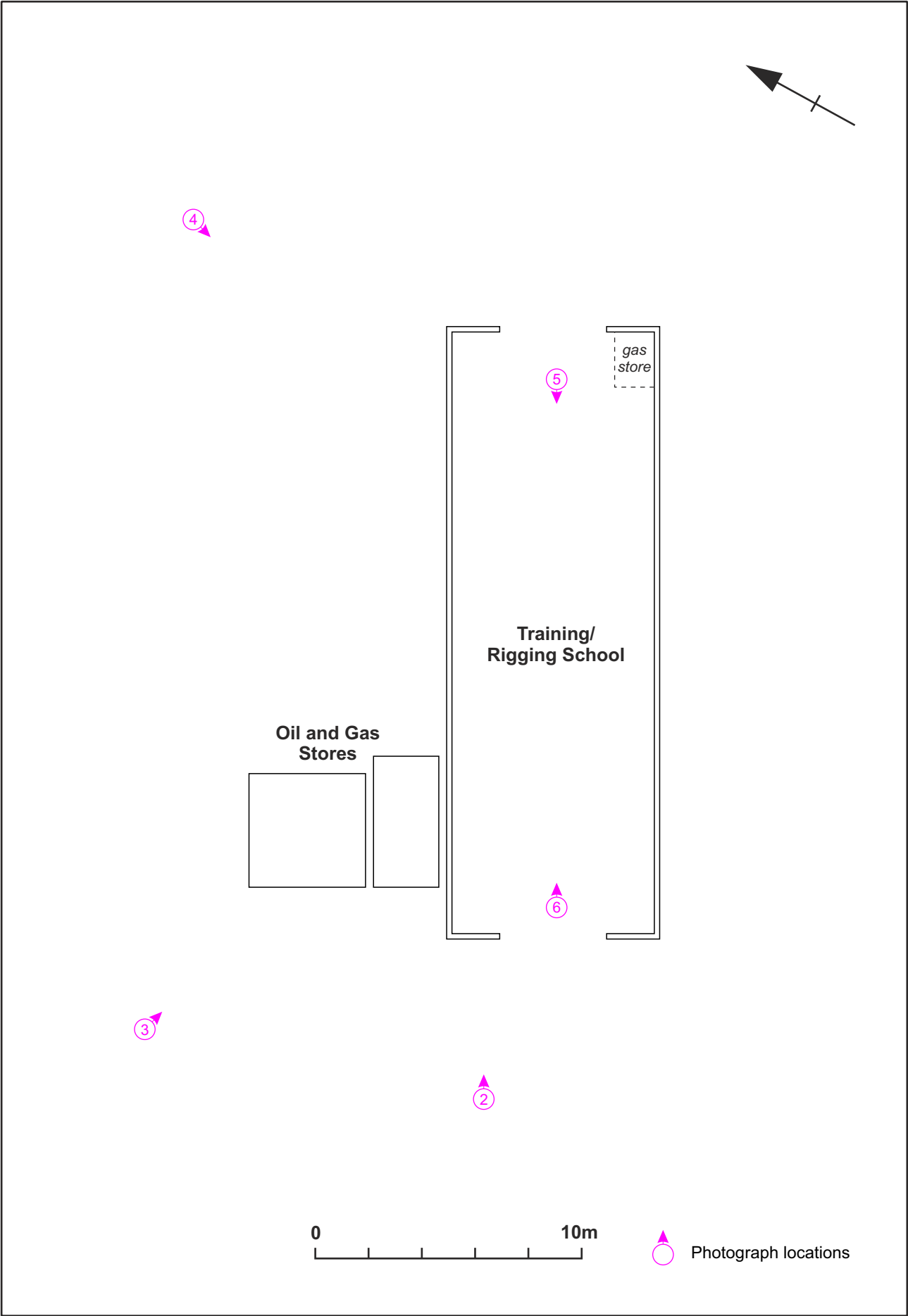
The Garage, eastern workshop room Fig 4.7.8



The Garage, concrete blockwork Fig 4.7.9

4.8 Training / Rigging School

Figs 4.8.2 - 4.8.6



Scale 1:200 Plan of the Training / Rigging School, showing photograph locations Fig 4.8.1



The Training / Rigging School, and oil and gas stores,
west elevation Fig 4.8.2



Rigging School and stores, looking east Fig 4.8.3



Rigging School, looking south Fig 4.8.4



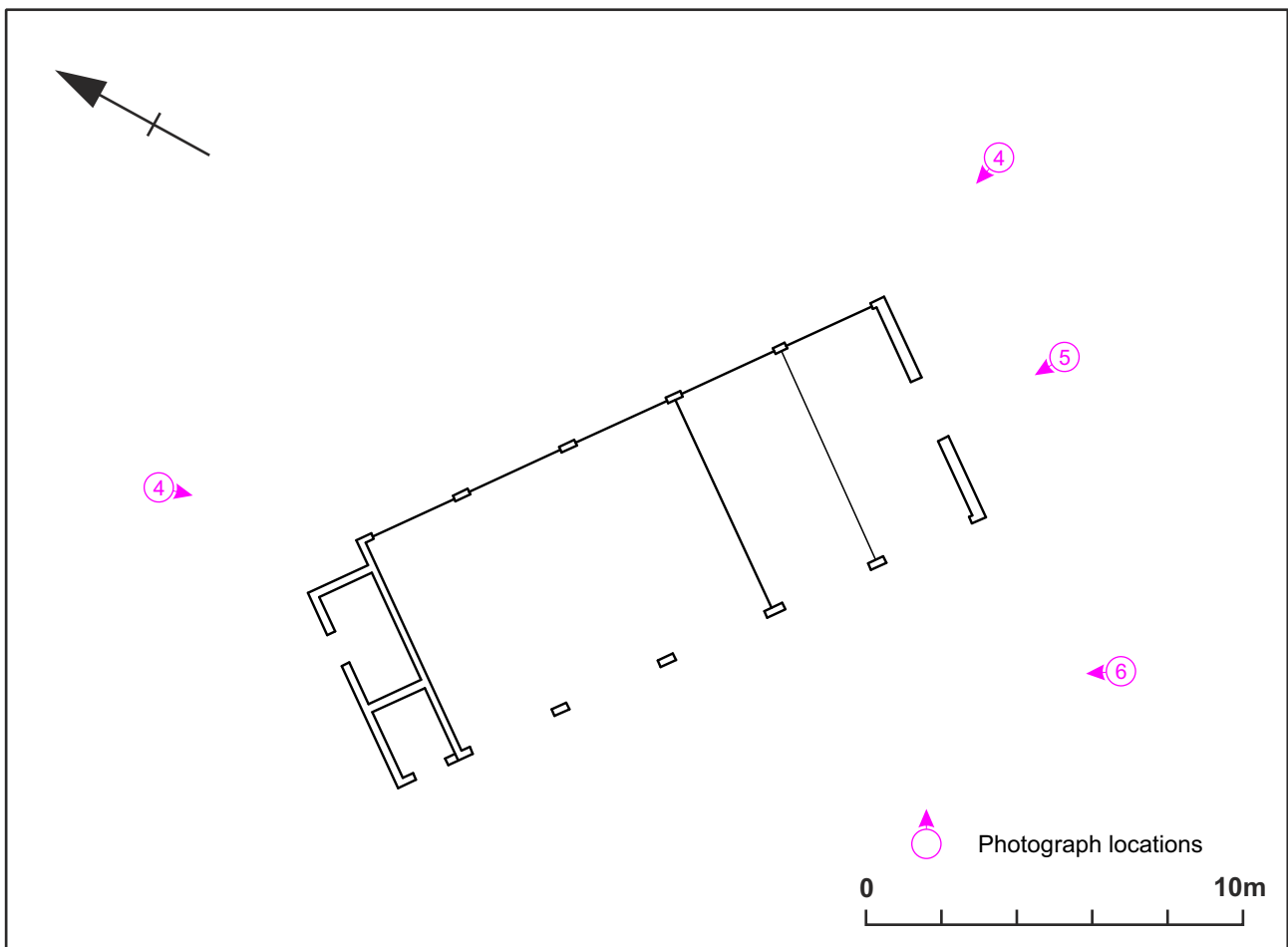
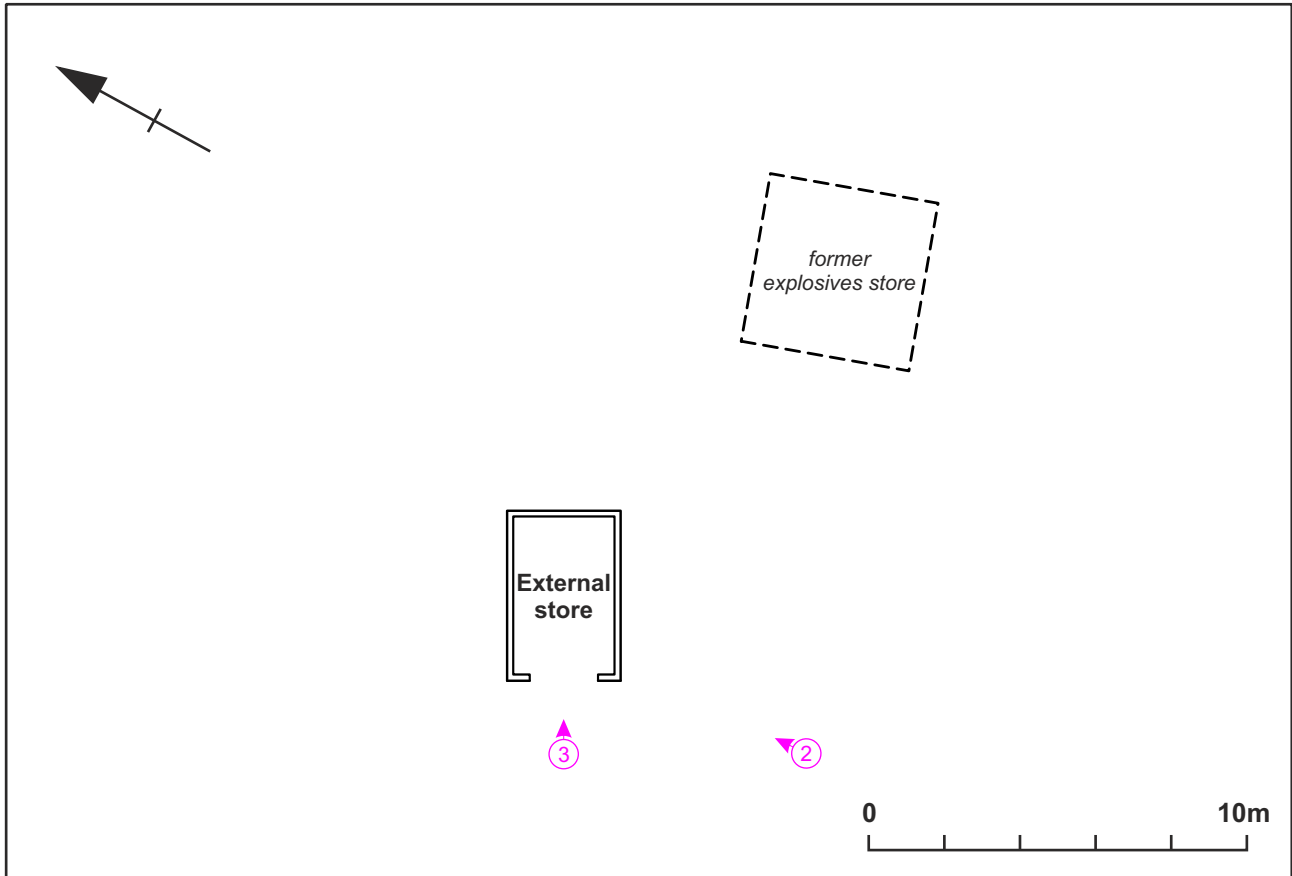
Rigging School, interior view, looking south-west Fig 4.8.5



Rigging School, interior view, looking north-east Fig 4.8.6

4.9 External Store and Cycle Shed

Figs 4.9.2 - 4.9.7



Scale 1:200

Plans of the External Store and Cycle Shed,
showing photograph locations Fig 4.9.1



The external store, looking north Fig 4.9.2



The external store, looking north-east Fig 4.9.3



The cycle shed, looking west Fig 4.9.4



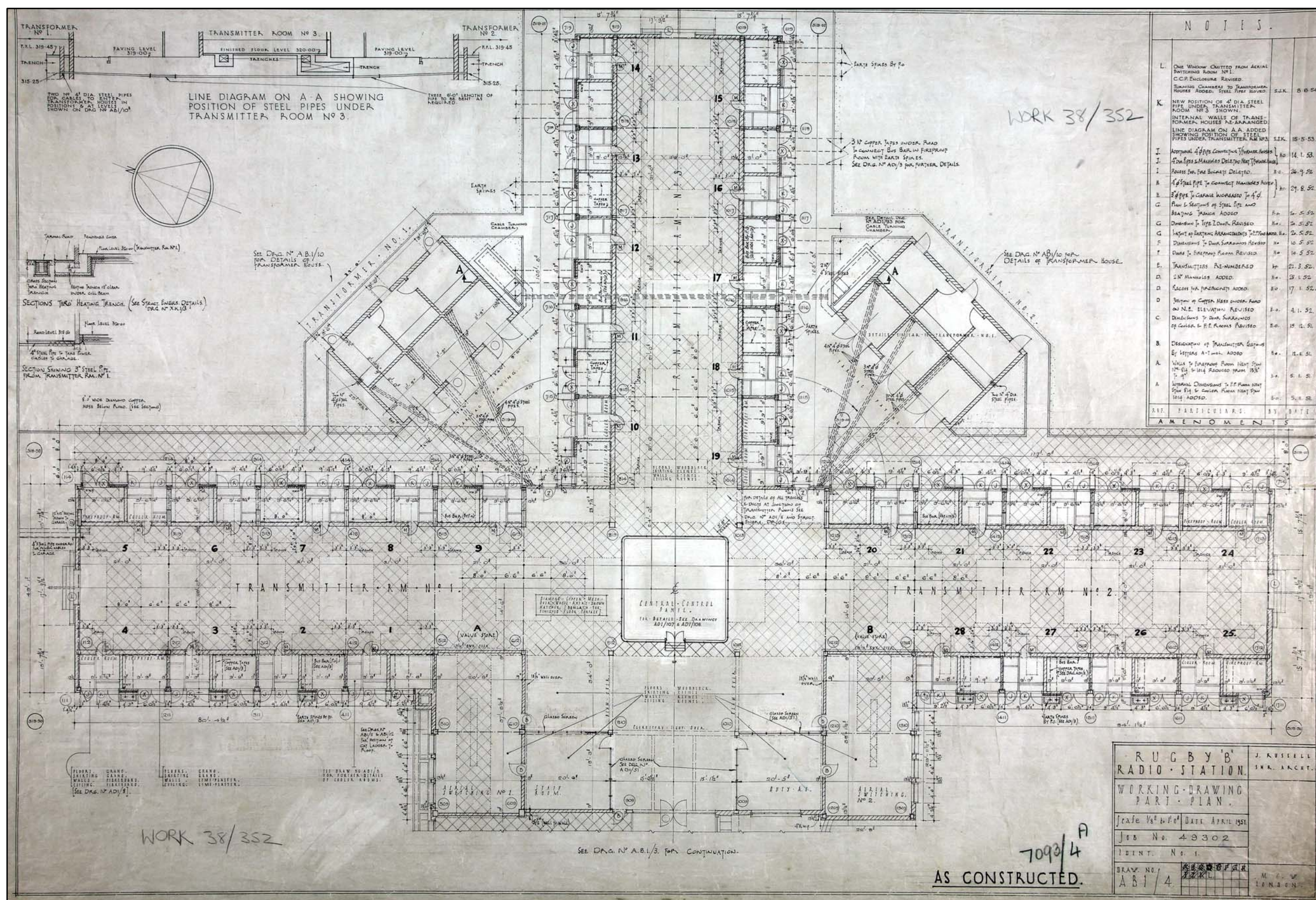
The cycle shed, looking north-west Fig 4.9.5

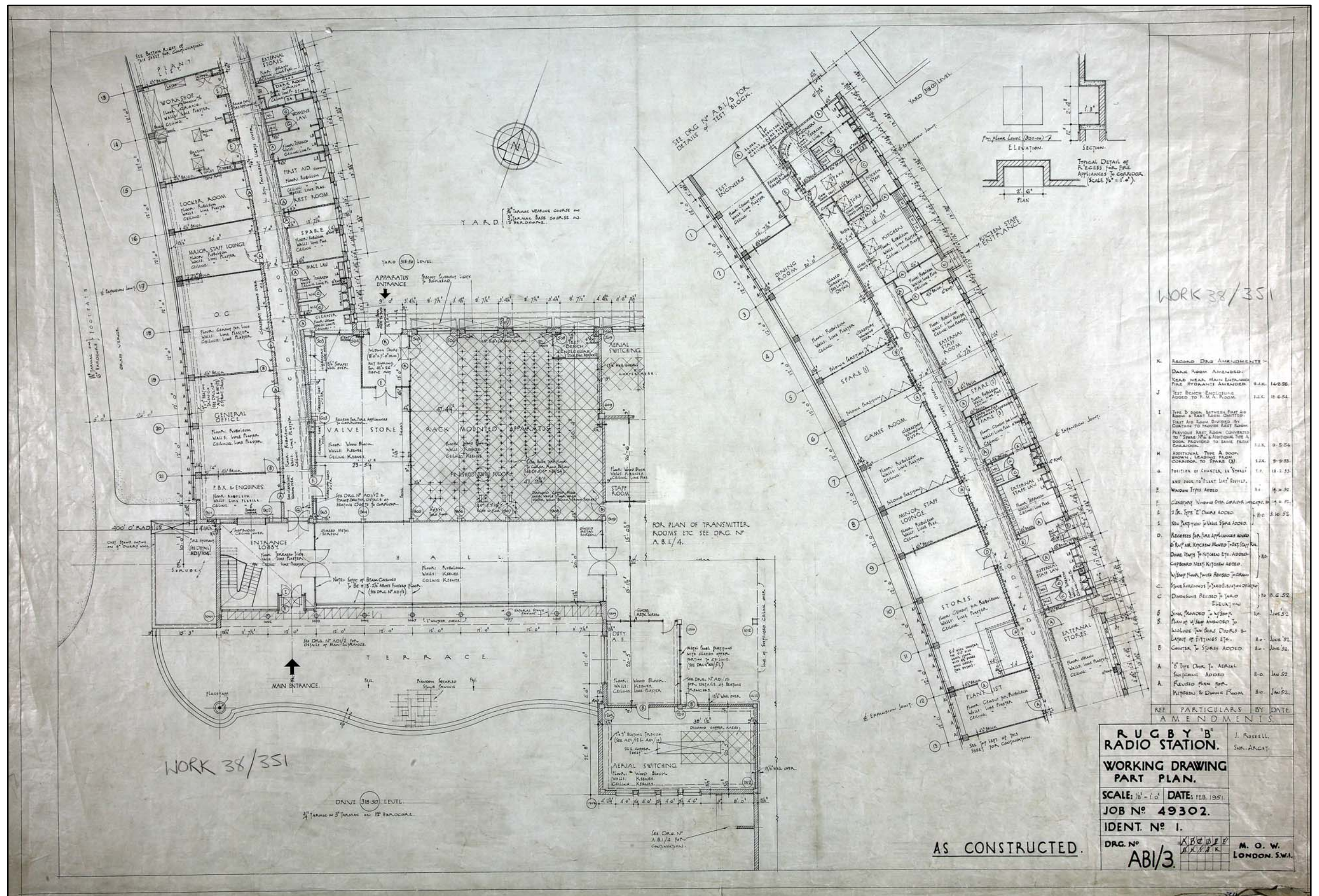


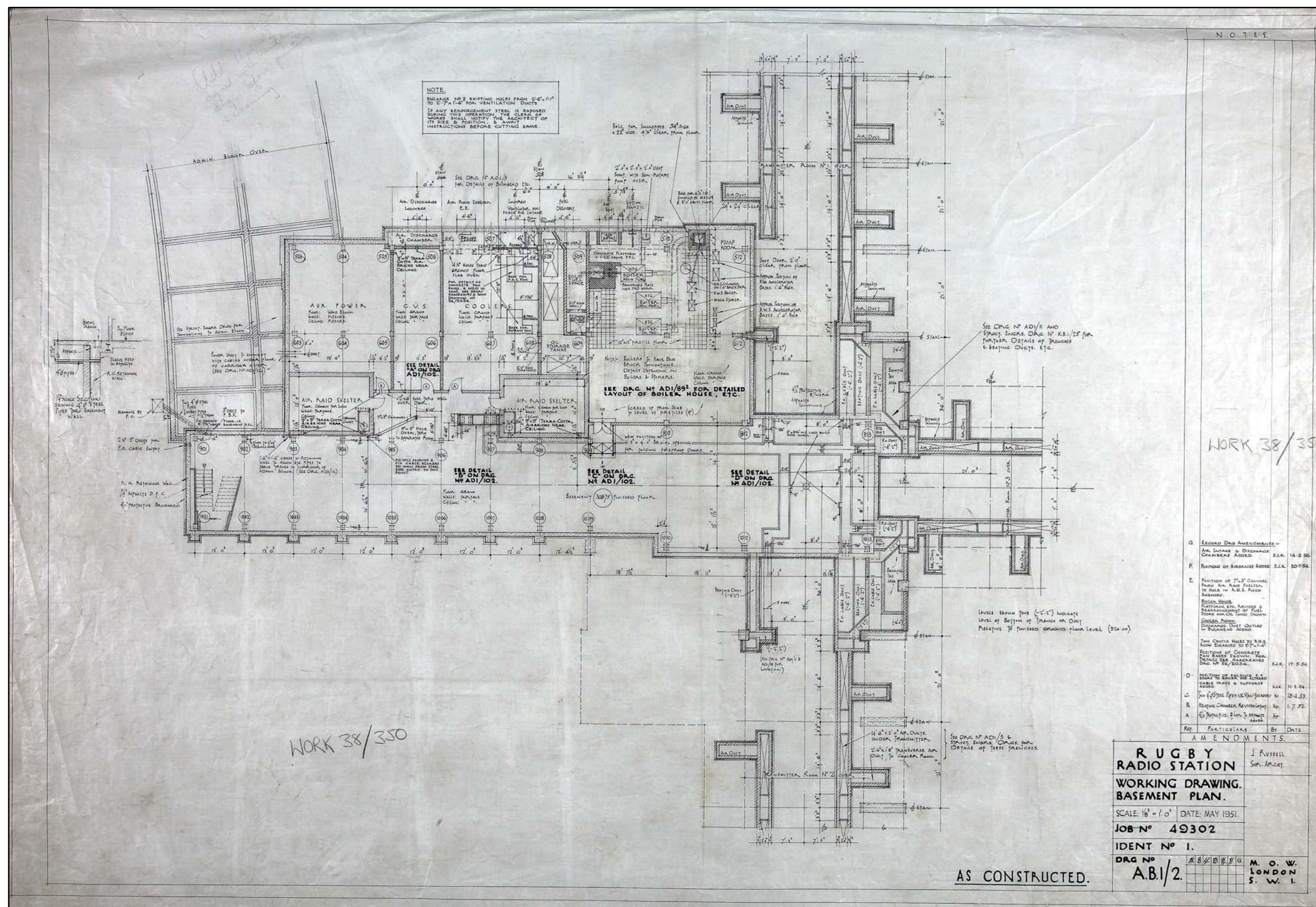
The cycle shed, looking north Fig 4.9.6

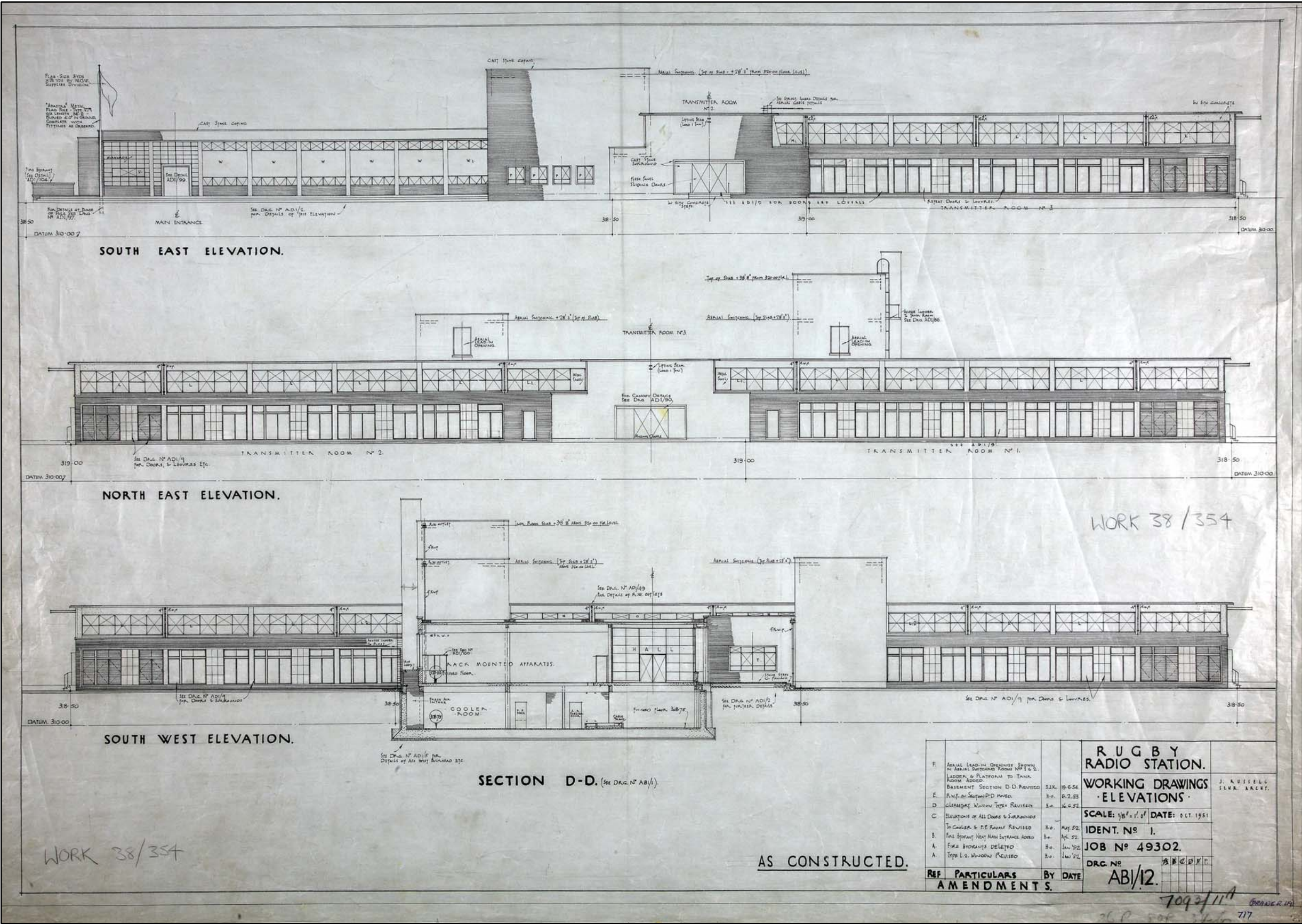


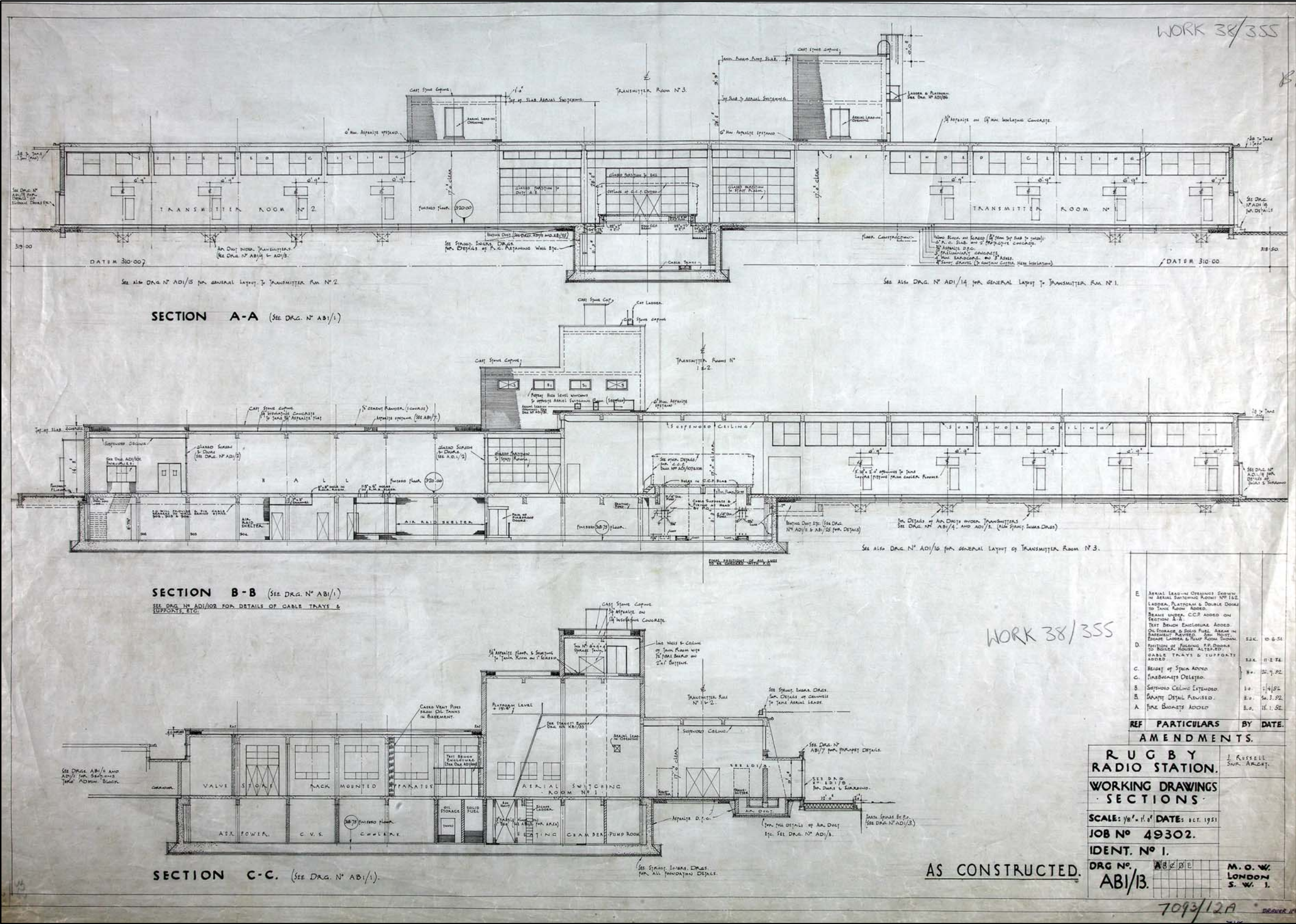
The cycle shed, looking south Fig 4.9.7



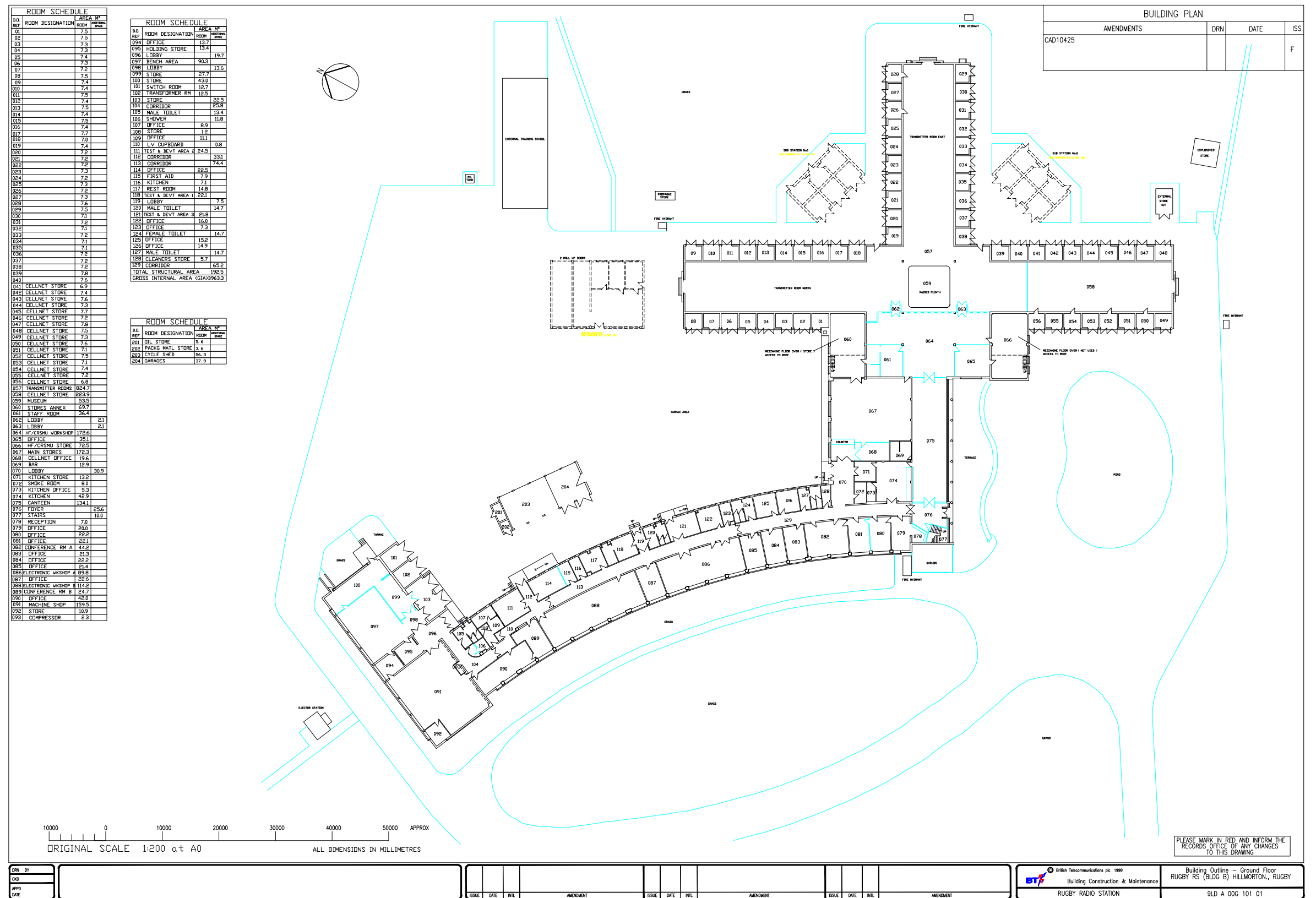












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