



Historic Building Recording at Rugby Radio Station, Building A Hillmorton, Warwickshire

Report No. 17/36

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OASIS REPORT FORM

PROJECT DETAILS		OASIS molanort1-282346
Project title	Historic Building Recording at Rugby Radio Station, Building A, Hillmorton, Warwickshire	
Short description	MOLA carried out historic building recording of Building A at the Rugby Radio Station, Hillmorton, Warwickshire. The building was designed by H. M. Office of Works and construction began in the late 1920s. The building was designed to house telephony equipment and associated infrastructure and machinery. It comprises two linear open-plan halls with a connecting block of offices and narrow ranges of transformer and switch rooms. The building was derelict at the time of survey and all transmitting and telephony equipment had been removed.	
Project type	Historic England Level 3, Historic Building Recording	
Previous work	None	
Future work	Unknown	
Monument type and period	1930s telephony and transmitter station	
PROJECT LOCATION		
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Site address	Building A, Rugby Radio Station, Hillmorton	
NGR	SP 54740 74360	
Area	c2000 sq m	
Height	100m aOD	
PROJECT CREATORS		
Organisation	MOLA (Museum of London Archaeology)	
Project brief originator	CgMs Consulting	
Project Design originator	MOLA	
Director/Supervisor	Amir Bassir	
Project Manager	Amir Bassir	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
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Historic Building Recording at Rugby Radio Station, Building A Hillmorton, Warwickshire

ABSTRACT

MOLA [Museum of London Archaeology] carried out historic building recording of Building A at the Rugby Radio Station, Hillmorton, Warwickshire. The building was designed by H. M. Office of Works and construction began in the late 1920s. The building was designed to house telephony equipment and associated infrastructure and machinery. It comprises two linear open-plan halls with a connecting block of offices and narrow ranges of transformer and switch rooms. The building was derelict at the time of survey and all transmitting and telephony equipment had been removed.

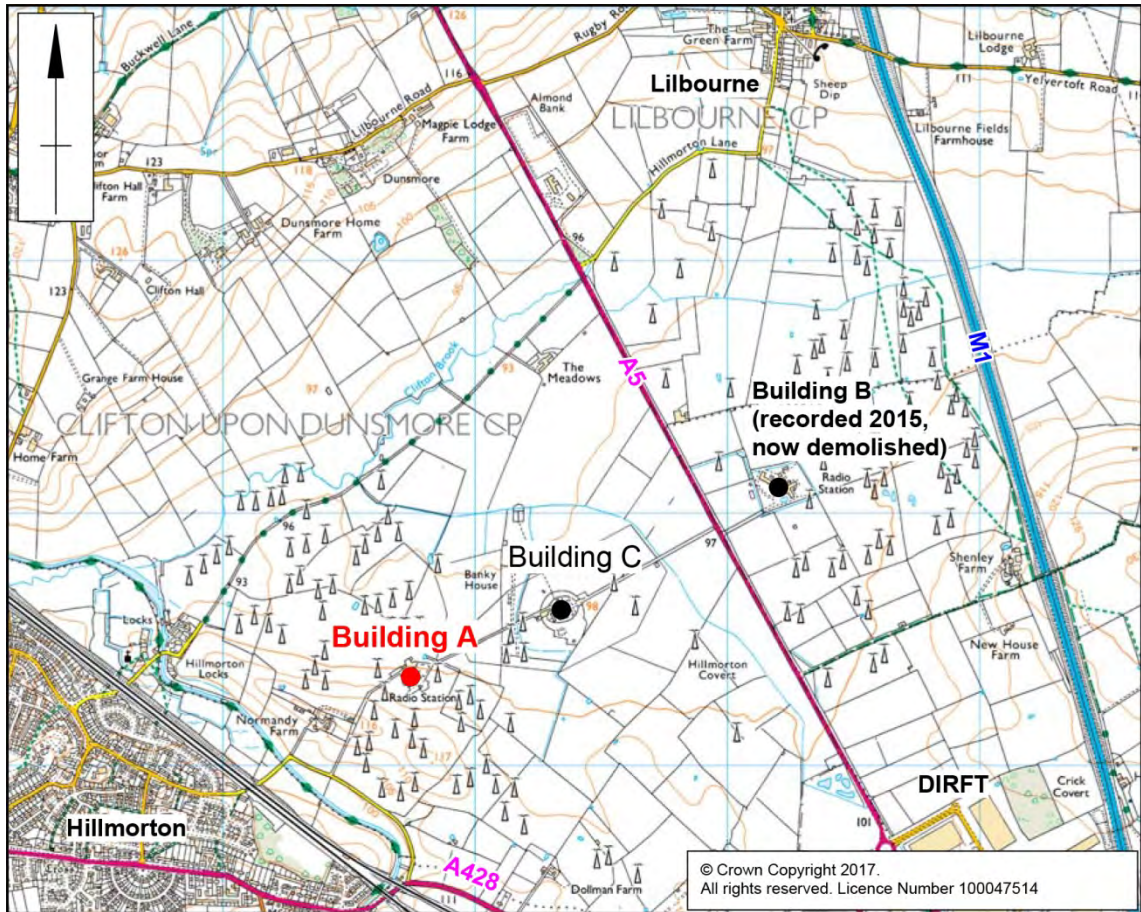
1 INTRODUCTION

MOLA [Museum of London Archaeology] was commissioned by CgMs Consulting to undertake a programme of historic building recording at Building A, Rugby Radio Station, Hillmorton, Warwickshire (NGR SP 54740 74360, Figs 1 and 2).

This report follows an approved Written Scheme of Investigation (MOLA 2017) which set out a methodology for archaeological recording in-line with Historic England Level 3 historic building recording (HE 2016). All works were undertaken in accordance with current guidelines (ClfA 2014a and 2014b) and Historic England (MORPHE) (HE2015). This recording follows a desk-based assessment of the Radio Station buildings and surrounding historic environment (CgMs 2009).

Building A is the westernmost building of the three main facilities of Rugby Radio Station. The building, which is not Listed, was constructed in the late 1920s to house telephony equipment and associated supporting plant. At the time of recording, the area comprised Building A and two smaller adjacent buildings which served as a store and shed. The buildings had been disused and lain derelict for a number of years and presented safety concerns which prevented entry to some of the areas.

RUGBY RADIO STATION, BUILDING A



Site location Fig 1



The recording area (image © Google Earth) Fig 2

2 OBJECTIVES AND METHODOLOGY

The objective of Historic England (HE) Level 3 building recording is to provide an analytical record of an extant structure in accordance with the HE document *Understanding Historic Buildings: A guide to good recording practice* (HE 2016). It provides a systematic account of a building's origins, development and use.

A site visit was carried out on 22nd March 2017 with a further visit on 7th April. Recording included the following elements:

- Establishing an accurate archaeological record of the buildings to Historic England Level 3 (HE 2016, section 5.3);
- An overall photographic survey of the exterior and interior of the buildings in their present condition comprising general and detailed shots. Photography was carried out using a Nikon D7200 DSLR equipped with Sigma 35-17mm and Nikon 18-70mm lenses. Files are in RAW with high quality JPEG duplicates. Where possible and appropriate 1m scales or smaller were included in all photographs;
- Detailed photographic recording of architectural and decorative features, signage, graffiti, electrical and mechanical fittings, and any features of historic interest;
- Written notes on the buildings' construction, present and former use and, where appropriate, the buildings' past and present relationship to their setting in the wider landscape;
- Annotation of existing survey drawings to depict features of archaeological or architectural interest.

Site location plans indicating the position and orientation of photographs are included in this report.

The building is referenced and labelled in various documentation and mapping as *A Building*, *Building A*, or *A Station*. This report will refer to it as Building A.

For ease of description the north-eastern elevation is referred to as the *east* elevation, the south-west elevation as *west* elevation and so on. Elevations and footings plans, dated 1930, are provided as Appendices at the back of this report.

The historic photographs used in this report were sourced by CgMs Consulting and kindly passed to MOLA. The images are taken from the BT Archives Photograph Library in Warwickshire County Archives and the negative reference number is provided in brackets after each photograph. Other images are referenced as appropriate.

3 LOCATION AND TOPOGRAPHY

The former Rugby Radio Station facility is located to the south-east of Rugby and north-east of Hillmorton, and is bound by the M1 motorway to the west (Fig 1). To the south-west is the DIRFT freight terminal and to the north is the village of Lilbourne.

The facility comprised three main buildings (A-C) with smaller associated structures as well as transmitter masts scattered about the site. These areas are connected by a trunk road which runs from Moors Lane and the A428 Crick Road at the south-west, to the A5 at the north-east.

Buildings A and C lie along the 1.5km long access road that spans between Moors Lane and the A5. Building A comprises two parallel linear ranges connected by a central block. The main access route passes immediately to the north of the building and is joined by a secondary track which leads to the south of the building. Building C is 0.6m to the north-east of Building A and is located within a semi-oval enclosed compound which also encompasses ancillary buildings and parking areas. The building comprises a large square plan block abutting a linear range which faces west. Both buildings are isolated within the surrounding landscape which comprises enclosed fields. The area was formerly densely populated with radio masts which have since been dismantled. Clifton Brook and an unnamed stream cross the radio station site, flowing from the higher ground to the east of the M1, crossing the former B Station, and flowing west under the Oxford Canal towards Rugby. These water courses were manipulated to increase the ground conductivity of Building C.

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. (BGS 2017)

4 HISTORIC BACKGROUND

A comprehensive history of the Rugby Radio Station has been written by Malcolm Hancock, the former station manager. Released initially online, this information has now been made available as a book. Much of the following information is derived by this source.

Prior to the development of the Radio Station, 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). At the north of the site was the former Lilbourne Airfield, a First World War airfield used as a pilot training centre.

The Post Office had developed an interest in wireless telegraphy in the late 19th century and was involved in the early experimentation and development of this technology. The Wireless Telegraphy Act of 1904 had given the Post Office licence over all UK wireless stations and in 1911 a plan was put in place for the creation of a series of state owned wireless stations throughout the British Empire in order to allow for stable radio communication in the Commonwealth. The contractor for construction of these stations of the "Imperial Wireless Chain" was the Marconi Company, but accusations of insider share dealing and profiteering led to pressure to cancel the contract and several partially built sites fell to the Post Office.

In addition to the existing short wave transmitting stations the Government wanted a Long Wave Wireless Station for practical and political purposes and the General Post Office was given the task of building the station.

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 land for the site was purchased in 1923 and the facility comprised twelve 820ft masts and an

earth mat of buried copper wires. Building C, originally known as Main Building was opened in 1926. It was located roughly central to the masts and housed generators, amplifiers and tuning components. The powerful transmitter provided continuous long wave transmission, initially in morse code and later, in 1927, established two-way communication with the USA. The building is formed of two main parts connected by a central block. The linear, western range was the Power Building, housing motor generators, boosters and transmitters. Adjacent to these was the Switch Gallery containing generator switches and DC switchboards. The main entrance to the building was from the east into the square plan range which housed offices, transformers, amplifiers and antenna tuning forks. To the west of the main building are a Rigging Workshop, Garage, Oil Store and other small structures.

Following experimentation with Short Wave transmission for telephony services, a Short Wave transmitter was installed to the west of Building C in 1928, followed by a second transmitter a year later. These proved inadequate to serve the growing global demand for wireless telephony services and it was determined that a new building be constructed to provide this service. Building A was designed by the Commissioners of His Majesty's Works & Public Buildings, under the architect Mr FA Llewellyn and construction was undertaken by Edwin Archer & Sons Ltd.

The building was unusual in that the Post Office had taken a rather cautious approach as to how big the new building should be. Therefore it was designed in modular form and only about a third of the buildings were built in the first stage of construction. However, by 1930 it was fully completed to the original design. (Hancock 2017). See Figs 5 and 6

Six transmitters were installed in Building A, these being Double Sideband (DSB) transmitters and installed by The Standard Telephone & Cable Company. Two more transmitters were installed by the Post Office in 1938.

Rapid expansion of short wave radiotelephone services followed equipment of the 'A' building in 1929 and plans for building low frequency transmitters were dropped.

By then the transmitters were frequency controlled by means of a temperature stabilised quartz crystal excited oscillator, followed by frequency multipliers and amplifiers up to a power of about 60kW and modulated by speech in the low power stages and this remained the basic design over a number of years.

The filament, grid bias and intermediate HT supplies were obtained from d.c. generators driven by a.c. synchronous Motors while the final HT voltage was from thermionic valve rectifiers. Although, at this time, the merits of single sideband operation had been well proven it was not possible to control the frequencies of HF oscillators with the necessary precision and double sideband was therefore used.

The aerials in general were various patterns of arrays of half wave elements and reflectors working on particular frequencies in fixed directions and suspended from self-supporting steel towers some 200 feet in height.

The original high power thermionic valve rectifiers were soon replaced by much more efficient mercury vapour and later mercury arc types. Demountable valves were also introduced in the final high power amplifiers. The demountable valve, as its name may suggest, could be dismantled into its separate parts so that any component, e.g.; Filament, grid, screen grid could be replaced when a failure occurred. The components mentioned were rigidly mounted on the valve 'head' which in turn was affixed to the unit, the complete assembly being then carefully sealed at the joints, using bitumen for the more permanent joints and plasticine treated with special grease for the others. The assembled valve was continuously

evacuated by means of two oil condensation pumps in cascade, backed by an oil immersed rotary pump evacuating to atmosphere. The pumping equipment was capable of creating a vacuum pressure of 10-6 mm Hg.

In this type of valve water-cooling was necessary on the filament and grid seals as well as on the anode. The oil condensation pumps were also water cooled. A valve of this principle using 18 grid filament assemblies set in a single anode jacket and devised for use on the long wave transmitter GBR and operated successfully for some time, taking the place of one power panel.

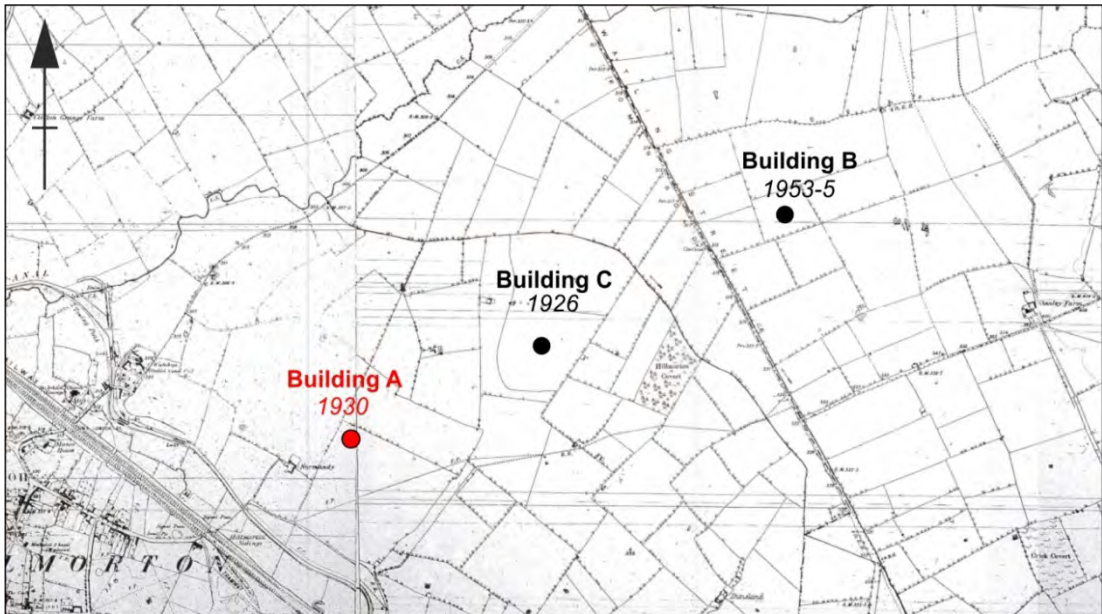
By 1937 sufficient advance had been made in the design of oscillators to permit the use of single sideband working on high frequencies and this type of communication was introduced on the high frequency TAT service in 1938. (Hancock 2011)

During the Second World War, the station 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.

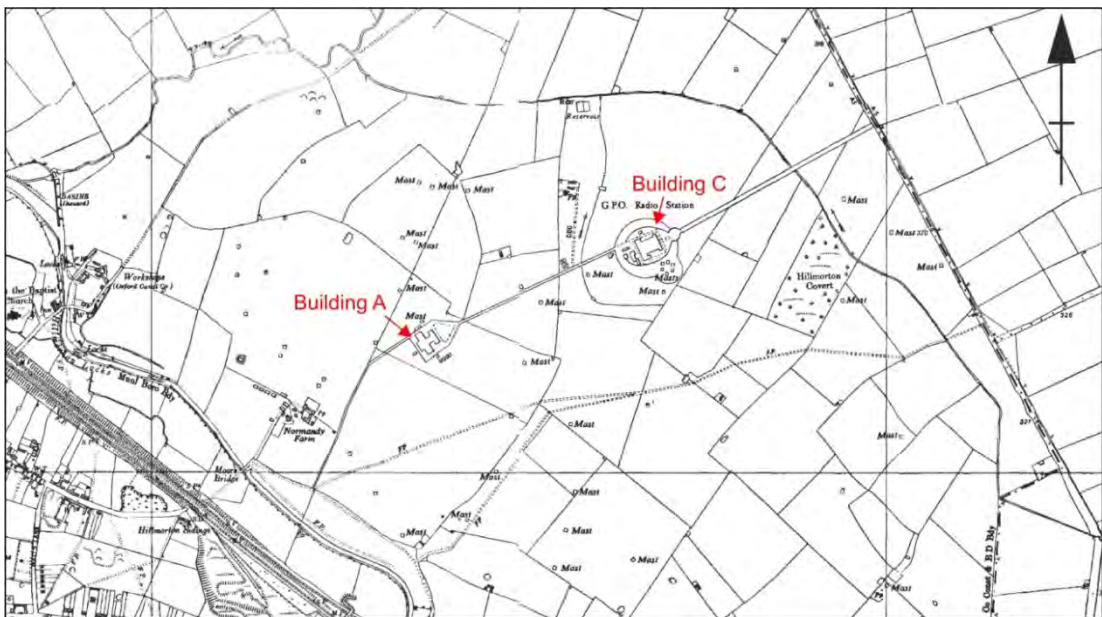
Following the war, an increased demand for telephone circuits required an expansion of the facility and resulted in the construction of B Building which would house twenty eight transmitters. The building became operational in 1953 and was officially opened in 1955. It was designed by the Ministry of Works under the Chief Architect, Eric Bedford and Senior Architect J. Russell.

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 services from B Building, until shipping also moved towards satellite based communications. A Building was closed down in the early 1990s, followed by B Building in 2000.

RUGBY RADIO STATION, BUILDING A



Ordnance Survey map of 1889, showing the positions of the future Rugby Radio Station buildings Fig 3



Ordnance Survey map of 1955, showing buildings B and C Fig 4



The building during its initial stages of construction, looking north-east,
dated January 1930 (E6498) Fig 5



The building during its initial stages of construction, looking south-east,
dated January 1930 (E6497) Fig 6

RUGBY RADIO STATION, BUILDING A



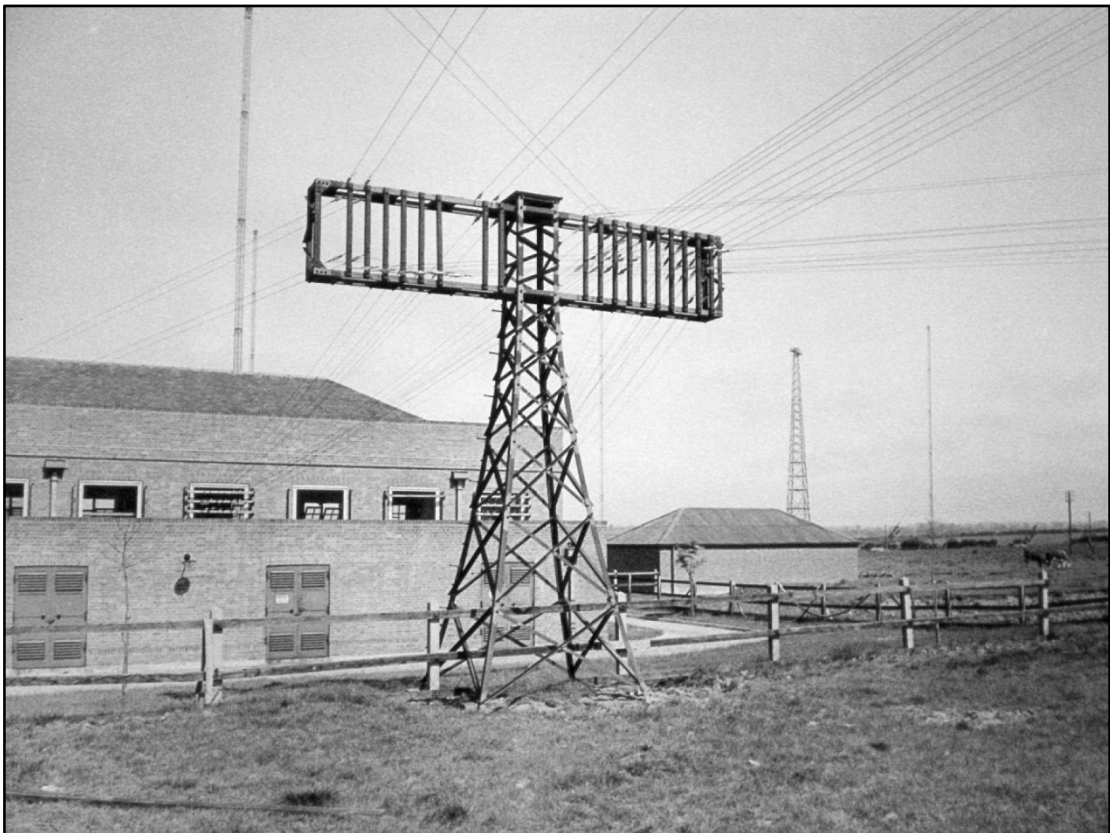
Building A, looking east, dated 1932 (E36) Fig 7



The main (north-east facing) elevation, dated 1934 (E8913) Fig 8

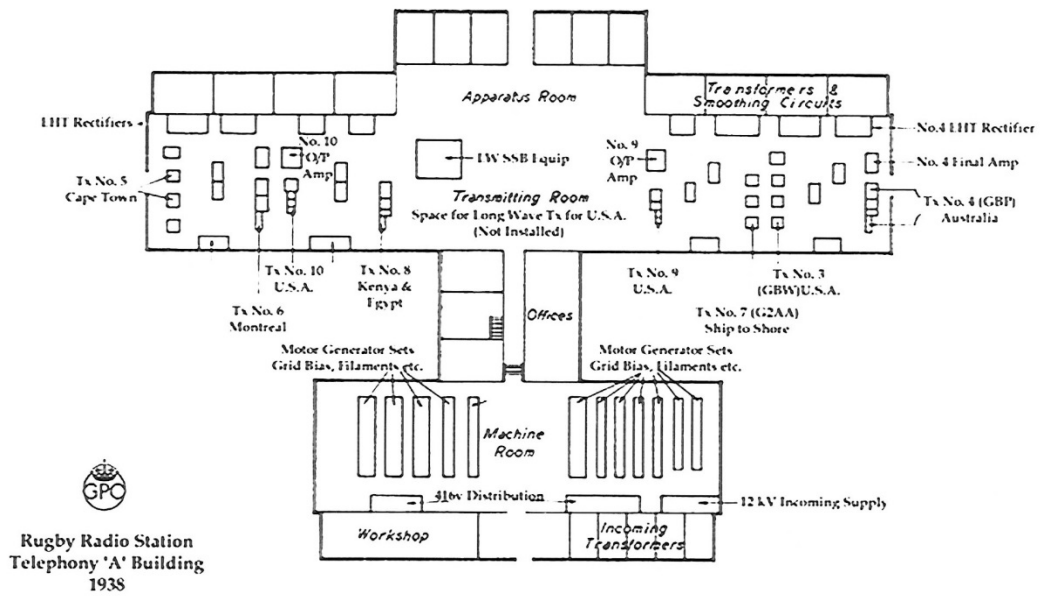


The south-west elevation, dated 1937 (E10106) Fig 9



Building A and the adjacent store room, dated 1937 (E10105) Fig 10

RUGBY RADIO STATION, BUILDING A



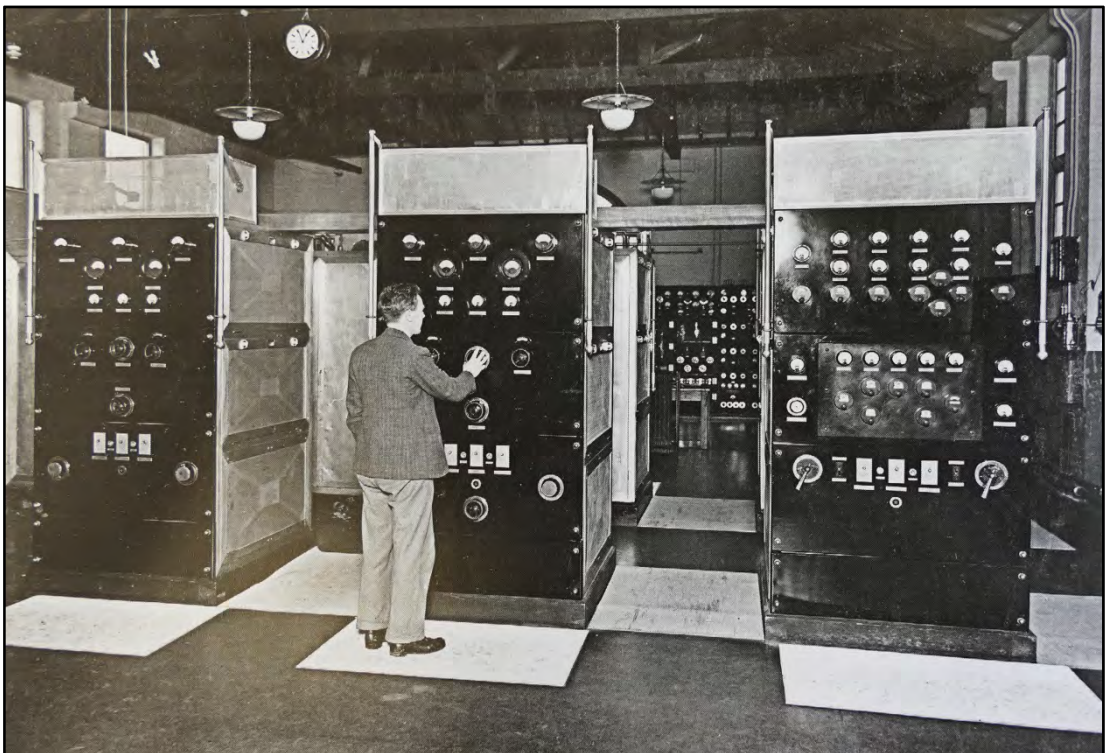
Plan of the building and arrangement of equipment in 1938 (Hancock 2017) Fig 11



View of the Machine Room, showing Motor Generator sets, dated 1934 (E8911)
Fig 12



The Transmitting Room, dated 1934 (E8912) Fig 13



The telephony equipment of the Transmitting Room (Hancock 2017) Fig 14

5 BUILDING DESCRIPTION

Building A was derelict at the time of recording and partly unroofed in some areas. Several rooms were not entered due to safety concerns and the basement could not be accessed due to severe flooding. All major fixtures and fittings had been removed prior to its abandonment.

The main approach to the building is from the north-east, and the primary façade is oriented perpendicular and central to the access track. A triangular lawn is formed in front where the access track splits to go around the building. The building has a low profile and does not stand out within the surrounding landscape and being flanked by trees at the north and south is largely hidden from both of these directions. The topography is flat to the east and north-east and slopes upwards to the west.

In plan the building comprises two main ranges or blocks, connected by a much smaller connecting block containing offices and staff rooms. The east range is the shorter of two and originally housed generators, a workshop and incoming transformers. It comprises an open-plan hall with a central 3-bay entrance lobby on its eastern side, which is flanked by smaller transformer rooms.

The central connecting block is subdivided into offices, kitchen and WCs, and also contains the stair to the basement. The basement level was not accessed but its plan indicates that its footprint only occupies the central block and houses fuel tanks, boiler room and stores.

The west range is the longer of the two main blocks and is dominated by the long open-plan transmitting room, with an apparatus room projecting to the west, flanked by transformer rooms.

5.1 The exterior

Viewed from the north-east, the main façade presents two tiers of brick walls interspersed by regular, symmetrical fenestration, capped by a hipped roof. The entrance lobby projects slightly forward from the surrounding walls and is of three bays, comprising two arched-lintel doorways and a window (Fig 16). The side door is an alteration of a former window which can be seen on historic photographs and elevation drawings. The brickwork is in English bond and forms a parapet above the doors. The wooden double doors are blue-painted, each door being of three moulded panels, with an arched or “half-round” transom above each. The arched lintels are formed of rubbed brick and rise from brick springers at transom level.

Comparison of the modern fenestration and historic photographs and elevation drawings of the main elevation reveals that there has been a rearrangement of these elements since the building’s construction (Figs 8 and 15, Appendices). At the time of survey there were six windows in groups of three, to either side of the lobby, with doors beyond these, opening to small transformer rooms (Figs 17-20). The doors are likewise grouped together, and are of two types though of a similar design. Two pairs are double doors, each door with a top and bottom panel of louvers and a central steel bar for security. The others are single-width security doors with a single louvered panel at the bottom. The single-width doors are located within extensions to the original range and a vertical join in the brickwork can be seen between the doors. These extensions could not be accessed but it is known from plans that they functioned as switch rooms.

The three windows at the north side of the lobby were originally doors, matching in design the double doors beside them. To the south of the lobby were originally four windows with a central door which has since been converted to a window, and the southernmost window has been converted to a door.

Clerestory windows can be seen above the transformer rooms, opening into the machine room. There are five of these to each side of the entrance block and are two-light fixed windows set within white painted wooden frames, with flat lintels over. An additional panel of higher level clerestory windows are located above the entrance block, within the slope of the roof (Fig 42). There are six of these windows, forming a continuous strip, and each is of eight lights and can be swung open transversely to allow ventilation.

The north and south elevations of the eastern range appear to have originally been of an identical design but the south elevation has been partly obscured and altered by the later construction of two small plant rooms (Fig 21). Each elevation has a central projecting bay with a large central doorway and the north elevation has tall windows built into the recessed bays. Elevation drawings of 1930 indicate that these windows are a later insertion in the elevation (Appendix I). The south elevation has a single square window which again is a later insertion. The arched doorways are of brick which forms a rusticated surround of projecting blocks with a projecting keystone (Figs 22, 27, and 35). The white-painted wooden frame is held within a plain brick surround recessed from main door surround. The door is in three parts, comprising a single width door and a centrally folding double door, each with five moulded panels. Above the door is a large arched or half-round transom with radiating muntins in a sunburst pattern. The windows are each of four-lights, set within moulded frames. The bottom lights are fixed but the top lights are centrally hung transversely and can be opened by a rope pull. Above the fenestration, the brickwork forms a projecting parapet which runs fully around all of the walls.

The central block is a single-storey structure with basement, whose roofline is lower than the adjoining ranges, though a small, externally accessed room is built on top the roof (Figs 23 and 36). The north facing elevation is of five bays, with a central double door flanked by two small windows and two larger windows. Above the door is a sign "*BT National Records Centre*", relating to the building's most recent function as a records storage facility prior to its closure. The brickwork is in English bond and forms a parapet above the walls, which is pierced to allow water to drain into downpipes. Above the door and window openings are flat lintels of brick. The west elevation is of three bays of large windows in the same style as those on the opposing elevation. Light wells are sunk at the north and south sides of the block allowing natural light into the basement rooms through several windows. A stair in the south light well allows external access to the basement.

The west range is comprised of the main transmitter room, a central block projecting to the west, and two blocks of transformer rooms to each side of the central block. Viewed from the east, the transmitter room presents a plain brick wall with nine bays of equally spaced windows to each side of the connecting block (Fig 26). The brickwork is in English bond and the windows are of four-lights with flat arches of rubbed brick. The wall is separated from the roof parapet by a brick string course. A brick chimney rises from the south-west corner of the central connecting block and connects to the boiler room in the basement (Fig 25). A number of downpipes were formerly connected to the wall but were no longer present by the time of this survey.

The north and south elevations of the main range are of an identical design, each having a projecting central bay with a large doorway (Figs 28 and 34). The design of

the door surround and doors are the same as those seen on the eastern range, comprising a rusticated brick surrounded with a half-round transom window over a folding double door and single-width door.

The west elevation of the transmitter room is obscured at ground level and centrally by the smaller transformer rooms on this side of the building (Figs 28 and 33). Above these rooms are clerestory windows, eight to each side of the central block. These are two-light windows, the upper light being smaller and top-hung. The windows have white painted frames, set below flat lintels, and are separated from the parapet by a string course.

The two transformer room ranges are low, single-storey buildings each of which is subdivided into seven rooms. These rooms could not be accessed during this survey. Each pair of rooms is entered by an unusual arrangement of doors in that pairs of single-width doors are at 45° to the external wall and utilise a single shared opening in that wall (Fig 29). The doors themselves are blue painted steel doors with louvered panels at the base. Electric cables span the length of the wall at lintel level and pairs of electrical switches are located at each side of the door openings. The most central of the doors, at each side of the central projecting block, have been blocked and replaced with a window, and the pairs of transformer rooms opened into each other to form two single rooms. The arrangement of doors is an alteration to the original openings which, judging from 1930s elevation drawings were flush with the wall and of a style similar to those seen on the transformer rooms of the eastern range. Pairs of remnant hinges can be seen in the brickwork of the door jambs and remnant steel frame survives below the lintels.

The central block of the west range is the former Apparatus Room, a single-storey building comprising an open-plan room, and a number of small transformer rooms on the western side. The three exposed elevations present a number of former doorways, now mostly blocked in brick (Fig 31). The main, western elevation has five bays, consisting of a larger, central door flanked by two pairs of doors, now blocked in brick, leaving only the central door intact. The only surviving example is in the north elevation and is a blue painted double door with louvered panels at the top and bottom, with a half-circle transom panel of louvers. Vertical scars can be seen adjacent to both of the doors of the north and south elevations, and the parapet gives indication that it has been rebuilt or repaired. It is unclear what the vertical scars are associated with.

5.2 The west range and central office block (Figs 39-53)

The former Machine Room is an open plan hall measuring c26m x 8m. Primary access is from the east via the central entrance and lobby, and from the north and south via large doorways in the end elevations. The room had been cleared of most fixtures and fittings prior to this survey. The most striking element of the machine room and the nearby Transmitting Room is the well-built roof structure which survived in good condition. This is comprised of ten trusses, of a modified "Howe" type, with each end of the truss supported on timber corbels. Shallow full height pilasters project from the walls and the corbels are supported on top of these and embedded into the walls. At the ends of the room, pairs of stub trusses positioned perpendicular to the main trusses connect the roof structure to the end elevations and carry the roof hip. The plank-clad roof surface is carried over closely spaced rafters which in turn are carried over two pairs of cleated purlins. The whole of the roof structure and underside of the roof surface is white painted. Historic views of the building show that these were originally unpainted, or painted a dark colour. A number of fluorescent light strips hang from the rafters, replacing lamps which can be seen on historic photographs.

The plain concrete floor is crossed by a grid of pipe and cable trenches which formerly served the room's generator sets. The trenches are covered by removable wooden panels.

A small square store room, built of breezeblock, was located off-centre to the hall and the plan of 1998 shows that the hall had formerly been subdivided into two rooms. These features relate to the later Record Centre function of the building. A number of cast-iron, blue-painted radiators are installed on the main walls, between the pilasters, with water pipes running along the walls, just above ground level.

The central office block which connects the two ranges comprises a central corridor with rooms to either side, with a stair leading down to the basement. The block is of a roughly square shape, measuring c8.5m x 9m. A single width door with transom window opens onto a short run of steps that rises up to the higher floor level of the offices and Transmitting Room. At the opposite, western side of the corridor is an identical door which opens into the western range. The office rooms were not accessed due to safety concerns. The corridor and stairwell are lit by electrical lights and by a large roof light with built-in hatch. The blue-grey painted walls are plain, with darker painted, beaded skirting at floor level. The doors to the various rooms are a mixture of modern replacements and what appear to be original panelled doors. The narrow stairwell is enclosed by a simple balustrade of closely spaced steel bars with a moulded timber handrail.

5.3 The Transmitting Room (Figs 54-62)

This is a linear open-plan room or hall measuring c48 x 8.5m and formerly housed transmitting equipment. As with the machine room, all major fixtures and fittings had been removed and no equipment relating to the building's function as a Telephony Building remained.

The roof structure is the same design as that seen in the machine room, but here comprises twenty-one trusses, again painted white and supported over shallow brick pilasters and plain timber corbels.

The floor is in three distinct parts; the central area has a greater density of pipe and cable trenches and has small square vinyl tiles over the concrete floor between. This area spans the width of the adjacent Apparatus Room which is c16m or eight bays wide. Clerestory windows in both sides of the roof pitch span the central floor area allowing natural light into the space throughout the day. To either side of this area, the floor is plain concrete, with pipe and cable trenches running along the outer edges of the room. This difference in flooring treatment is related to the arrangement of the transmitters and other equipment within the room.

The room retained a full complement of cast-iron wall-mounted radiators and a number of roof hung fluorescent strip lights. Also present were two panels of fuse and switch boxes, both mounted against the east wall. Each panel consisted of four secure boxes housing switches and fuses, and had labels such as *Protectors 1B*, *Fuses*, *TX 37-41*, etc.

The Apparatus Room can be accessed through the Transmitting Room through eight arched doorways between the bay divisions that support the roof trusses. This room was in a particularly poor state and the roof had almost entirely collapsed into the room. The room contained few fixtures and fittings: modern radiators were installed on the west wall and a continuous bench occupied the south wall with electrical sockets over. Wall-mounted steel cable trays formerly served a number of switches about the room. The room was lit by two rectangular windows in the north and south walls.

5.4 **Miscellaneous structures** (Figs 63-68)

A small hut is located at the eastern side of the main building, on the grass adjacent to the path which spans the length of the building. This was a small square brick structure, 1.8m x 1.8m, with a concrete slab roof. The interior is enclosed by blue-painted wooden double doors.

As well as the main building, two smaller ancillary structures were surveyed. These were a brick-built store room and a post-and-clad shed.

The shed was located at the north-western side of Building A. The interior was not accessed due to the presence of asbestos. It is a linear, rectangular plan structure with a hipped roof of corrugated sheets, and had a double-door entrance facing onto a car parking area at the north of the main building. The building comprises a light timber frame with wooden cladding. Each of the long elevations has, at the distal ends, two nine-light timber-framed windows. The building can be seen on a photograph of 1937.

The store was located to the south of the main building. It is a single-storey, linear, rectangular plan building on a north-south alignment, and has a hipped roof of corrugated sheets. The building is formed of red brick in English Bond and the main elevation is to the east where a small concreted yard is located. There are two large wooden sliding doors on steel rails located central to the main elevation and separated by a brick column. It is clear that the building formerly had several of these large openings which have been infilled in brick. The interior comprises a single room which was found to contain a large amount of general waste and debris and it is likely that most recently the building was used as a waste store. The roof is supported by three timber trusses which span the width of the room between projecting brick piers. Three steel or iron tubes span the length of the room on the underside of the trusses. This building is visible on a photograph of 1937.

6 DISCUSSION

Documentary and map evidence show that the building, while appearing to be a unified structure was constructed in a modular fashion, consisting initially of parts of both of the linear ranges and the central office block. Construction was carried out in two main stages between 1928 and 1930. The building's design is fairly typical of the functional, economic, and aesthetically uncomplicated approach to civic and industrial architecture at this time, utilising plain brickwork for the walls with simple brick embellishment to the doorways. Despite this, the building has symmetry and was a successful design which was well-suited to the purpose to which it was intended, namely to house generators and transmitting equipment. The roof structure of the main rooms is very well built and while the building has become severely derelict, the main roofs have remained intact. Minor alterations and additions to the building include some refenestration, the construction of a pair of small switch houses at the far ends of the east range, some rearrangement of the office block and the subdivision of the transformer rooms of the west range which necessitated the alteration of the door arrangements to allow for the increased number of rooms.



The north-east facing elevation, looking west Fig 15



The central entrance / lobby Fig 16



Former doorways converted to windows Fig 17



Doors to transformer rooms and switch room. Note change of brickwork between.
Fig 18



Windows within recessed panels, to the south of the entrance lobby Fig 19



Doorways to transformer and switch rooms Fig 20



The south elevation of the east range Fig 21



Door to the Machine Room, south elevation Fig 22



General view of the central connecting block, looking north-west Fig 23



Railings and stair to the basement. Note fuel pipes adjacent to railings Fig 24



Chimney to the basement boiler room Fig 25



The south side of the western range Fig 26



The south door to the Transmitting Room Fig 27



The west range, looking north Fig 28



Entrance to transformer rooms showing the double-door arrangement Fig 29



Former transformer room door, converted to a window Fig 30



The central block of the west range, looking east Fig 31



Blocked doorway Fig 32



The west range, looking south-east Fig 33



The west range, looking south-west Fig 34



The north door to the Transmitting Room Fig 35



The central connecting block, looking south-east Fig 36



General view of the building, looking south Fig 37



The south elevation of the east range Fig 38



The east range, looking south Fig 39



The east range, looking north Fig 40



The roof structure Fig 41



The clerestory lights Fig 42



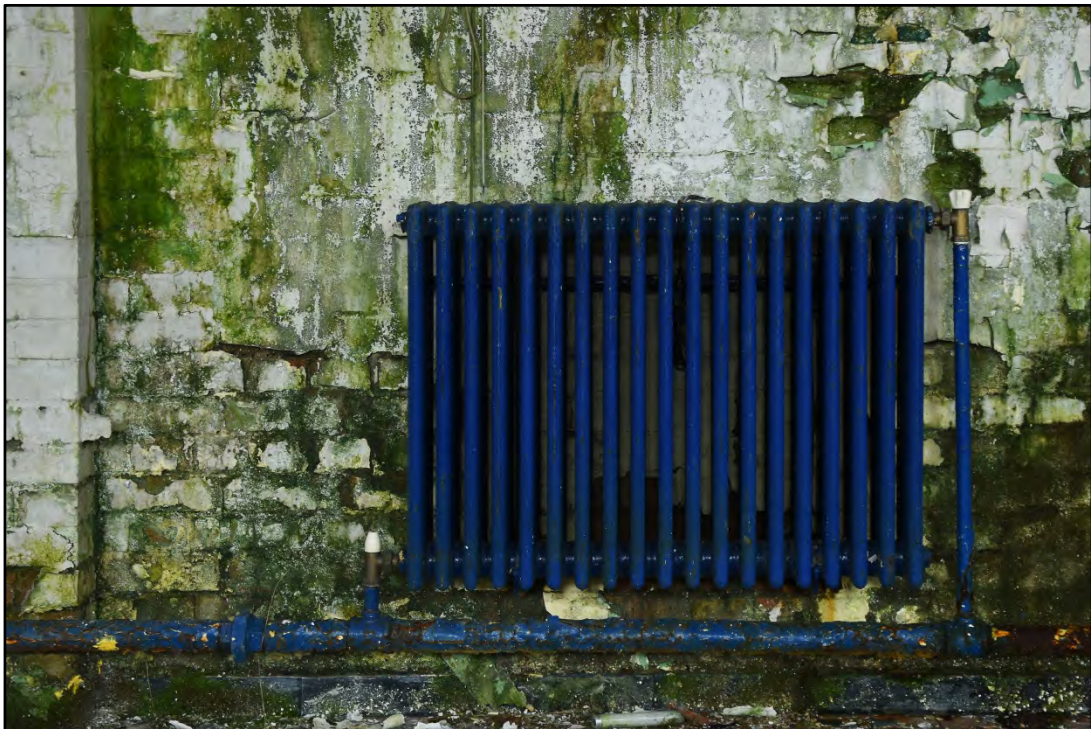
The north door of the east range Fig 43



Example of the windows Fig 44



The covered cable and pipe trenches Fig 45



Detail of the radiators Fig 46



The entrance lobby Fig 47



The door between the east range and the central block Fig 48



The central block, looking west Fig 49



The central block, looking north-east Fig 50



The central block roof-light Fig 51



The basement stair Fig 52



Door between the connecting block and the west range Fig 53



The west range, looking north from the centre Fig 54



The west range, looking south Fig 55



The south door Fig 56



The pilaster and window arrangement Fig 57



The roof structure Fig 58



Detail of electrical boxes Fig 59



The arched openings to the Apparatus Room Fig 60



The Apparatus Room, looking south Fig 61



The Apparatus Room, looking north Fig 62



Brick hut to the east of the east range Fig 63



The Store building, looking west Fig 64



Sliding doors Fig 65



The Store, looking south Fig 66



The Shed, looking west Fig 67



The north elevation of the Shed, looking south-west Fig 68

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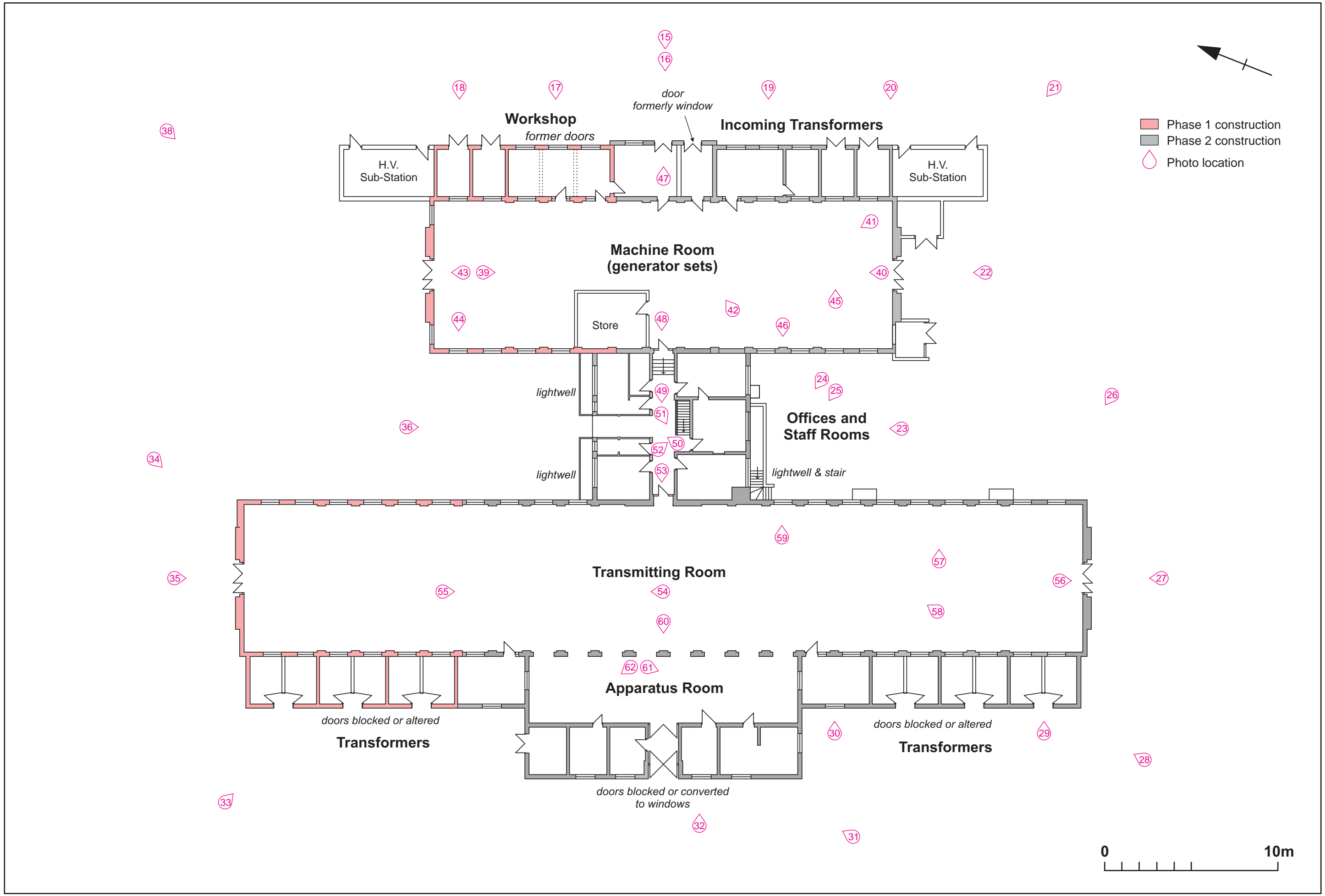
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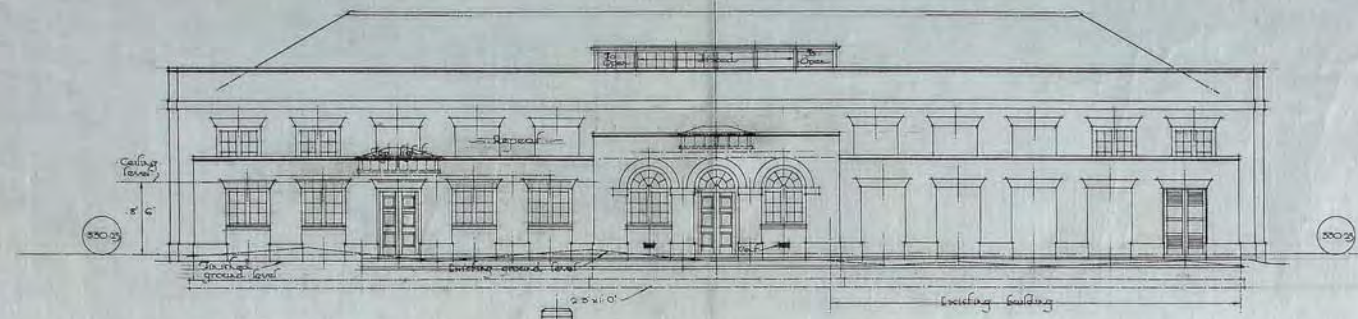
BGS 2017 <http://www.bgs.ac.uk/data/mapViewers/home.html> [accessed 15/3/17]

Hancock 2011 http://www.subbrit.org.uk/sb-sites/sites/r/rugby_radio/indexr68.shtml [accessed 28/3/17]

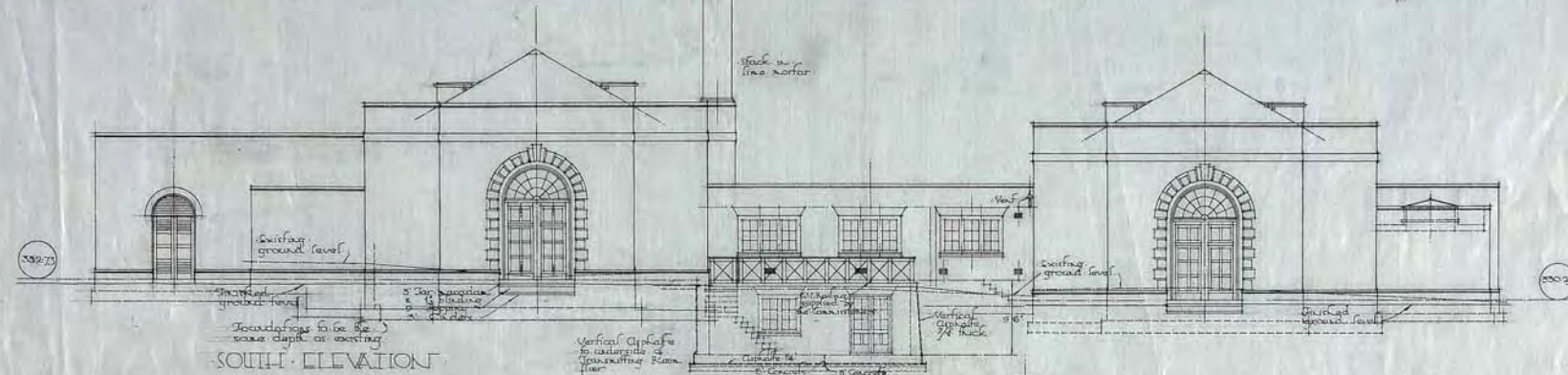
MOLA Northampton
18 April 2017



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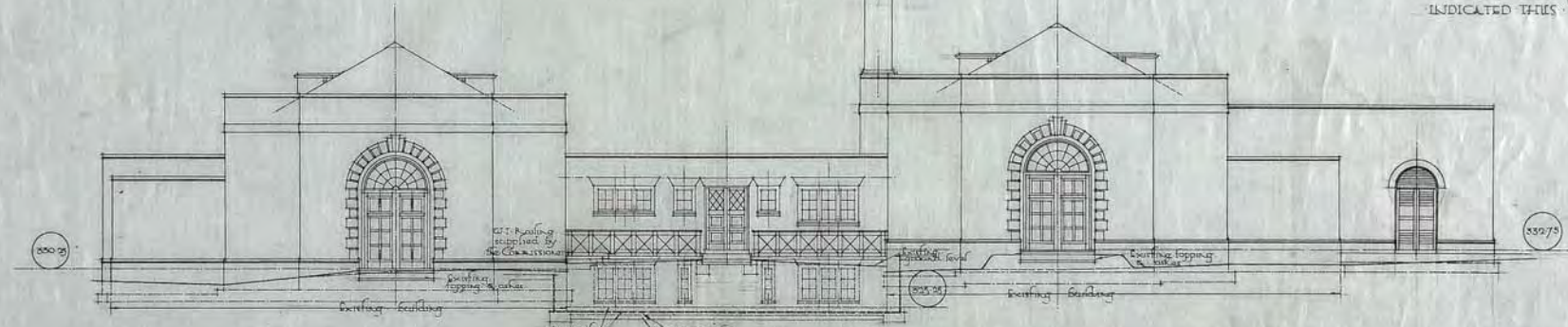
EAST ELEVATION



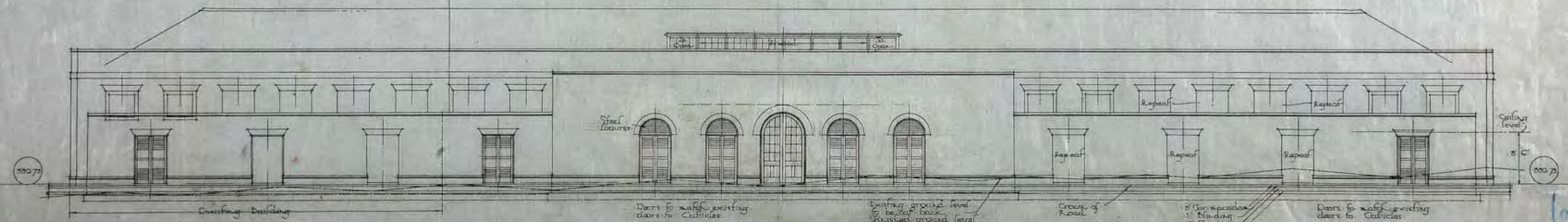
SOUTH ELEVATION

NOTE:
Existing ground levels shown are taken at face of plate.

FLOOR LEVELS INDICATED THIS ○



NORTH ELEVATION



WEST ELEVATION

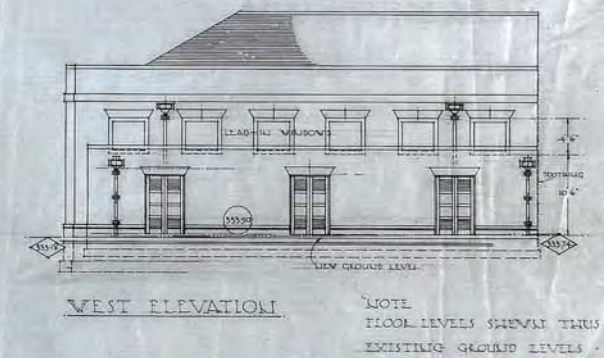
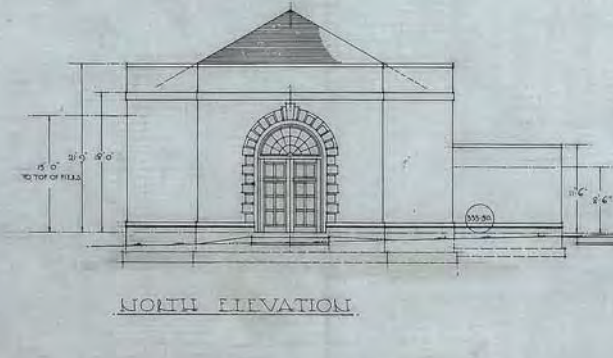
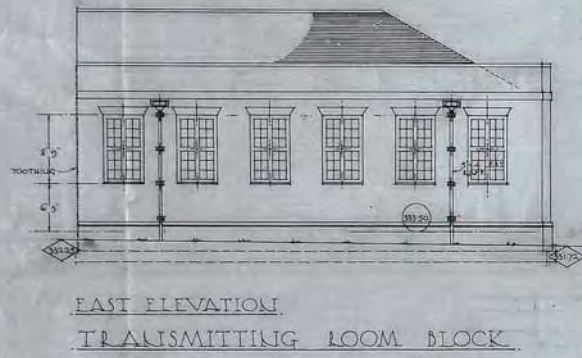
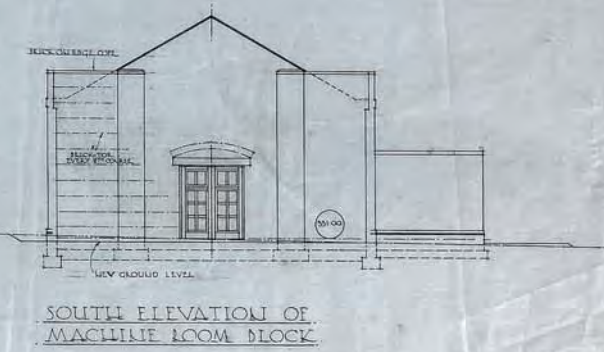
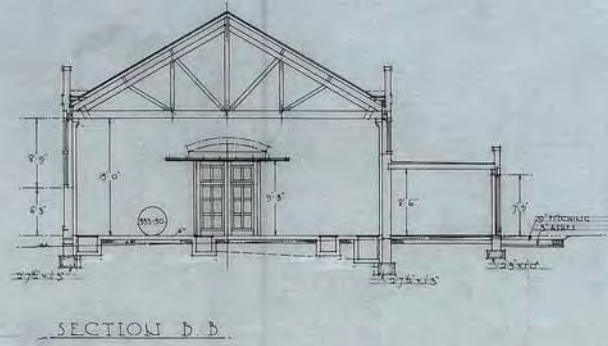
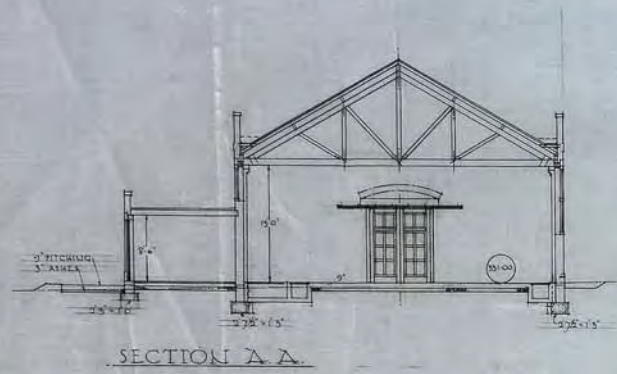
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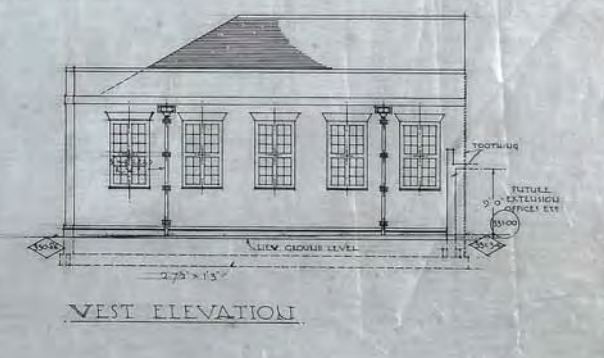
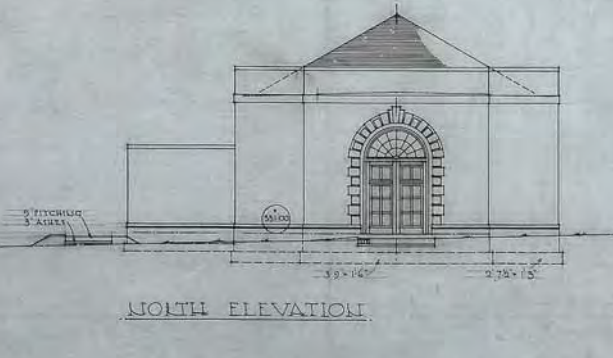
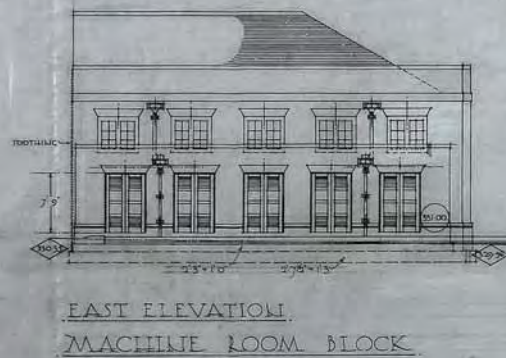
P. O. RADIO STATION RUGBY EXTENSION TO TRANSATLANTIC TELEPHONY BUILDING

H. M. OFFICE OF WORKS WESTMINSTER

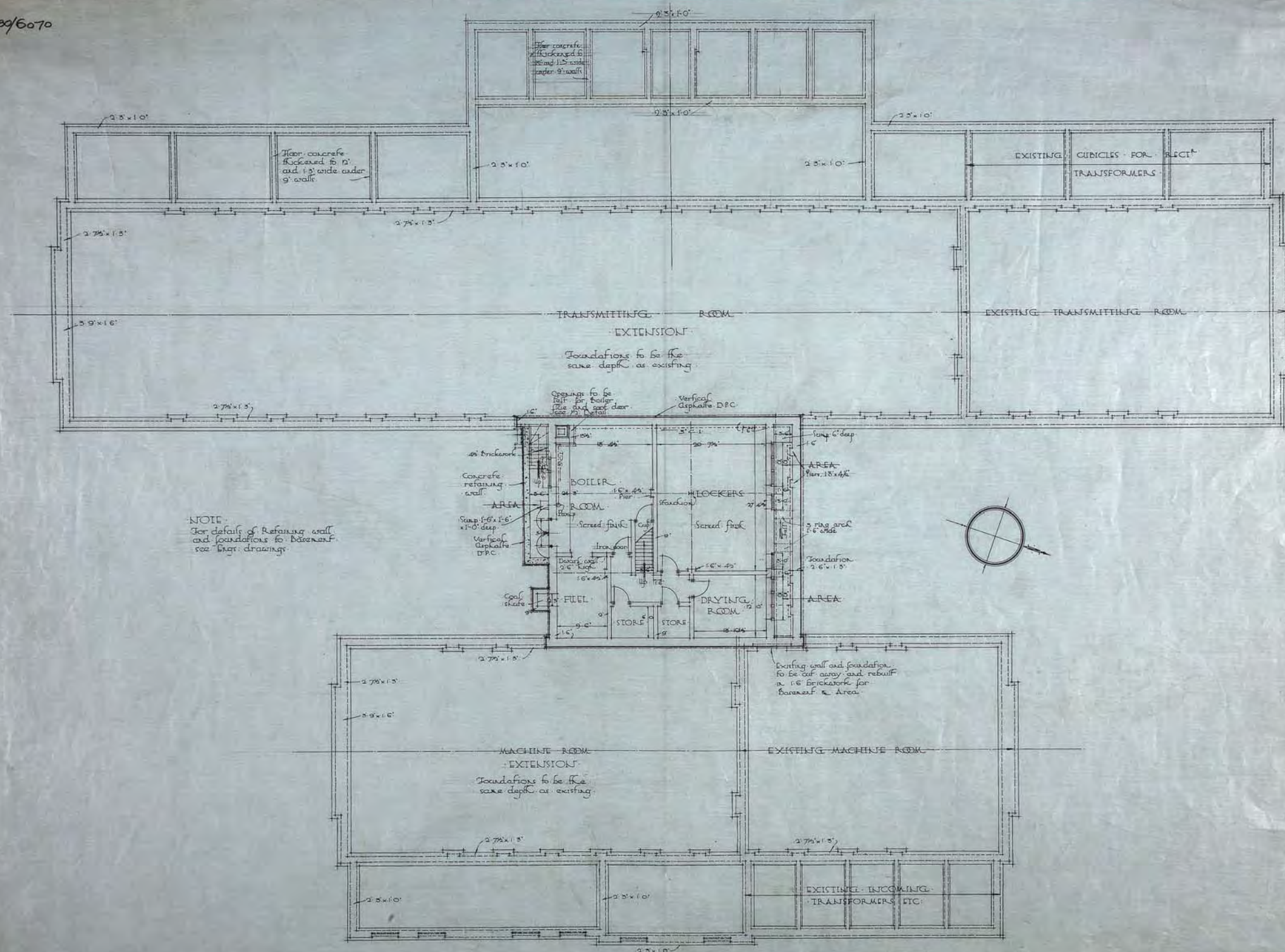
NO 20/2996 MAR 1930



NOTE
FLOOR LEVELS SHOWN THUS
EXISTING GROUP LEVELS



WORKS 39/6070



NOTE:
 For details of retaining wall
 and foundations to basement
 see first drawings.

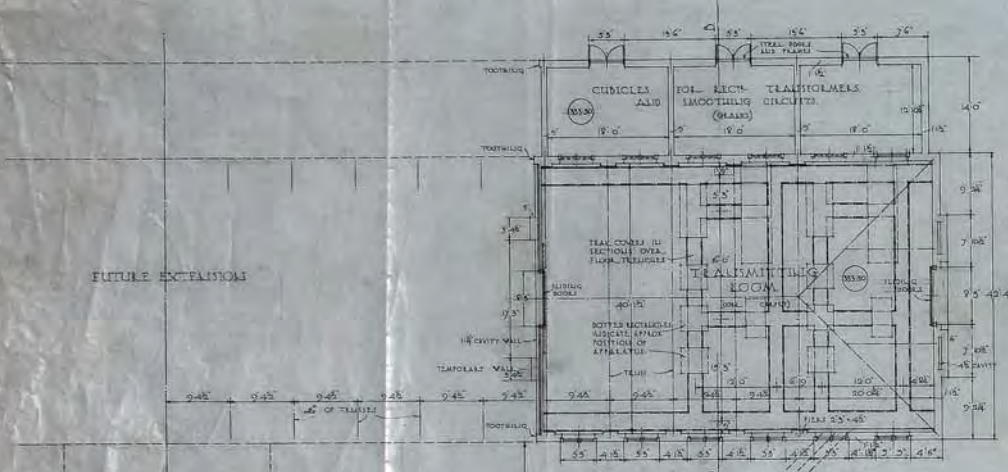
· BASEMENT · & · FOUNDATION · PLAN ·

1/8" = 1' SCALE
 Scale of 1" = 10' Feet

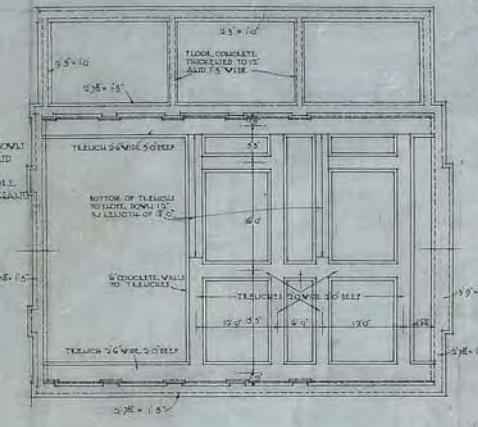
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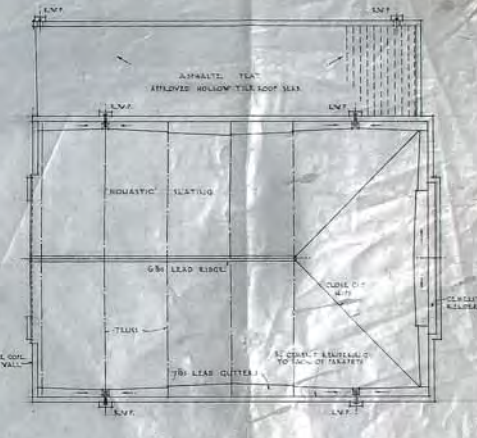
CONTRACT DRAWING NO. 2



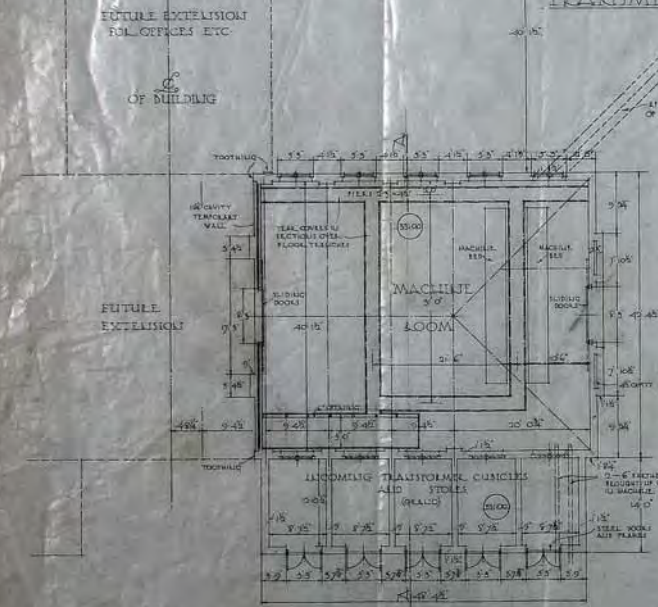
GROUND FLOOR PLAN
TRANSMITTING ROOM BLOCK



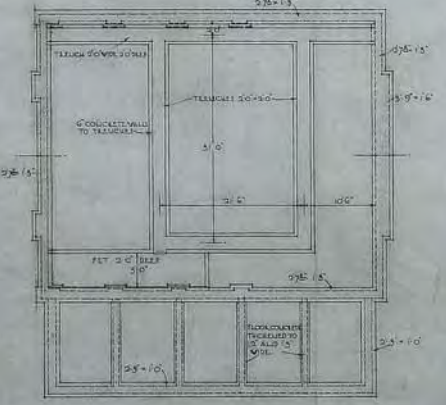
FOUNDATION PLAN



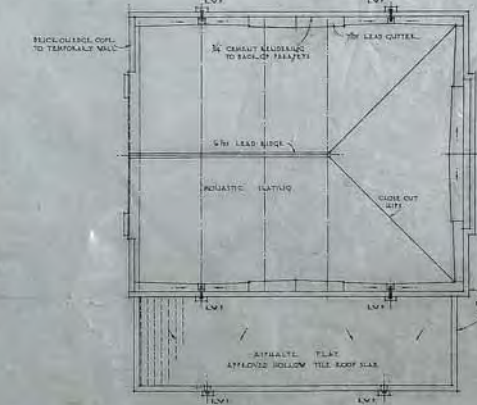
ROOF PLAN



GROUND FLOOR PLAN
MACHINE ROOM BLOCK



FOUNDATION PLAN



ROOF PLAN



NOTE FLOOR LEVELS SHOWN WITH THIS SYMBOL

NOTE LEVELS ARE REFERABLE TO 50'-00" WHICH IS THE FINISH LEVEL OF THE EXISTING WILKINSON STATION

L. M. RADIO STATION, RUGBY, TRANSATLANTIC TELEPHONE BUILDING. 1/8" SCALE PLANS. DRAWING NO. 3/2529

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VEGETARIAN - 14

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