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Bonnington Mill, 70-72 Newhaven Road Edinburgh, Historic Building Survey & Architectural Watching Brief

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**Bonnington Mill,
70-72 Newhaven Road, Edinburgh
Historic Building Recording
&
Architectural Watching Brief**

Report No.3814

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1. INTRODUCTION

This report presents the results of a Level 3 historic building survey and architectural watching brief carried out by CFA Archaeology Ltd between November 2018 and January 2019 on behalf of Queensberry Properties (Bonnington) Ltd at 70-72 Newhaven Road, City of Edinburgh (Fig 1). The proposed re-development site has had a protracted history of industrial use since the early 19th century due to its close proximity to the Water of Leith that was a primary source of water power at this period. The site had a series of extant buildings forming the so-called Bonnington Mills Business Centre. The site was demolished in January 2019 prior to being re-developed for residential use. Following the demolition of the complex an archaeological evaluation was conducted the results of which have been reported on under different cover (Mitchell 2019).

A building appraisal and desk-based assessment was carried out in 2017 (Cressey 2017) to determine the historical development of the site using map regression analysis. A building appraisal confirmed that the majority of the buildings forming the Business Centre comprised numerous individual offices and retail units converted from a paper mill associated with the last phase of manufacturing on the site. John Lawson, City of Edinburgh Council Archaeology Service (CECAS) requested in a revised planning statement that a Level 3 comprehensive historic building survey be conducted to record all the buildings prior to their demolition. A targeted watching brief was also required during demolition to record any architectural features of industrial interest brought to light during the Level 3 survey. However the main focus of the architectural watching brief was Building A the former derelict Mill House, which could not be surveyed prior to demolition as no safe access could be taken.

John Lawson purported that the mills at Bonnington formed part of the lands given to Holyrood Abbey in its foundation charter of 1128AD. Though the exact location of these early medieval mills is unknown, later mills in this location are recorded from the 15th century. The area was also affected by the 16th century sieges of Edinburgh and Leith, with the Petworth Map depicting the 1559-60 Siege suggesting that the site formed part of the area for encampment of Lord Gray and the Earl of Arran's forces. The building assessment showed that no above-ground evidence survived of the siege or camp work. Industrial activity was traced back to the late 18th century. The building complex was at one time part of a much larger industrial complex developing from an early 19th century tannery to a later 19th-20th century paper mill. All of the industrial buildings had undergone major internal refurbishment to suit the requirements of modern 20th and 21st century office and workshop use.

2. OBJECTIVES

The project's aims and objectives were:

- To undertake a Level 3 historic building survey of the complex prior to its demolition.
- Produce a phase development model of the complex.
- Carry out a targeted architectural watching brief to record any historic elevations currently hidden from view or areas not available for survey on the grounds of health and safety.

- Produce a fully illustrated building survey to include the results of the architectural watching brief.

3. METHODOLOGY

General

CFA based its methodology for historic building recording on Guidance from ALGAO Scotland (2013) and Historic England (2016). CFA followed the Chartered Institute for Archaeologists' Code of Conduct and Standard and Guidance as appropriate.

Desk-based Assessment

The detailed desk-based assessment was carried out as part of the initial site appraisal (Cressey 2017). This was considered to contain sufficient information as it stood and as such no further desk-based research was required. However the map regression record is included in this report (Fig 39) as several of the surveyed buildings are cross-referenced to the historic maps hence its inclusion.

Historic Building Survey

The survey requirements for the building are listed in Table 1 and are based on the English Heritage (2016) recording parameters.

Table 1 – List of specific recording requirements at Bonnington Mills

Building	Metric survey	Photographic Survey	Drawings
A (Three storey house)	REDM of external elevations & scaled second floor plans based on watching brief results.	No interior access. Record during demolition.	Annotated drawings showing external elevations to include all openings (doors window etc) and any other features relating to phase development.
B (Two storey former mill house)	REDM wireframe of available external elevations.	Detailed shots of all interior rooms (Period features incl. fireplaces and cornices)	Annotated drawings showing external elevations to include all openings (doors window etc) and any other features relating to phase development.
C (Underpass building)	REDM wireframe of available external elevations.	Basic Interior Photographs	Measured-sketch layout plans with photographic viewpoints.
D (Four storey former mill building)	REDM wireframe of available external elevations.	Basic Interior Photographs	Measured-sketch layout plans with photographic viewpoints.
E (Two storey Building)	REDM wireframe of available external elevations.	Basic Interior Photographs	Measured-sketch layout plans with photographic viewpoints.
F (Short two storey building)	REDM wireframe of available external elevations.	Basic Interior Photographs	Measured-sketch layout plans with photographic viewpoints.
G (Rectangular two storey building)	Elevations not accessible	Basic Interior Photographs	Measured-sketch layout plan with photographic viewpoints.

H (Two storey building)	Elevations not accessible	Basic Interior Photographs	Measured-sketch layout plans with photographic viewpoints
I (Three storey building)	Elevations not accessible	Basic Interior Photographs	Measured-sketch layout plan with photographic view points

Photographic recording

CFA used a Nikon D300 camera (12 megapixels) to take high-resolution digital photographs of the buildings.

A set of photographic location plans showing the orientation at which each shot was taken have been produced (Figs 3a-3d) and each is cross-referenced to the photographic register (Appendix 1). A set of thumbnail prints is also provided at the rear of the report.

Each individual room within Buildings A-J has been afforded a unique identifying number with the exception of Building A that was a condemned building.

Metric Survey

Control points on each external elevation were captured using an industry-standard, reflectorless Total Station. The infra-red beam from this instrument enabled points to be recorded in 3D to an accuracy of 1mm. The data was imported to AutoCad. The resulting images were then processed to produce wire-frame elevations to create the final elevation drawings. Where there was a high level of detail surviving on a given elevation auto-photographic software (Agisoft Photoscan Professional V.1.3.1) was used to rectify multiple overlapping photographs.

The architect's ground plan was assessed for accuracy and was considered to be sufficient to use as template to create interior ground, first and second floor room plans of the complex (Figs 3a-e). Measured sketches were created using a hand held Lieca distometer with an accuracy of +/-50mm over 25m.

Fabric recording

CFA pro-forma building survey recording forms were completed to record fabric detail, repair work, finishes and fixtures and fittings. The forms also included notes on architectural phasing.

Recording Constraints

Building A was condemned and considered unsafe to enter thus no recording work could be done on its interior. However this building was subjected to an architectural watching brief during demolition. The east and west-facing elevations between buildings I and J were within a narrow gap with no face-on access to allow drawings to be made. However, these elevations along with the main overgrown south-facing elevation were photographed.

4. BUILDING SURVEY RESULTS

4.1 Descriptions of the External elevations

The external elevations are now described and listed in the summary table below (Table 2). These are also cross-referenced to Fig 1 the general layout plan of the complex.

Building	Location	Figure
Underpass wall with pillars supporting (C) and (A-B)	North-facing elevation facing the Water of Leith	Figures 2a & 4
Underpass wall with pillars below (C) and the long walls of (A-B).	South-facing elevation within the main courtyard	Figures 2a & 5
Long wall of (J) and gable of (B)	East-facing elevation fronting a car park.	Figure 2a-b & 8
Long wall of (D) facing the main courtyard and Gables (I) and (J)	North-facing elevation within the main courtyard	Figures 2b & Fig 6
Gables (A-C, D) and long wall (E)	West-facing elevation facing onto Newhaven Road	Figures 2b & Fig 7

Table 2: The external elevations recorded to Level 3 specification.

4.2 North-facing elevation of Buildings A-C facing onto the Water of Leith (Fig 2a)

Building A (Fig 2a)

Building A was a three storey stone-built mill house covered in blue-painted wet-dash render and set back from main street frontage by about 10m at its west end. It contained no ground floor windows on its north-facing elevation. A plank-built door was situated at its west end that led to an undercroft. The first floor windows were all boarded. At first floor level there was four boarded windows and a central doorway that must at one time been accessed by an extra-mural staircase. The second floor had three windows two of which had also been boarded. At the west end of the building a distinct change from a pitched roof to a hipped roof was marked by a stone-built ridge capped with sandstone copings. Both slate roofs shared the same roof line at the ridge. The ridge marked the position of a later extension to the main block of Building A. The footprint of this extension is shown on the 1876 OS map (Fig 39g).

Building A, west-facing gable (Fig 2a)

The west-facing gable had a hipped slate roof with a tall chimney stack. The gable wall had two bays one of which was asymmetrical with non-aligned windows. At ground floor level there was a small square opening with a missing window frame. On its right hand side (facing) was a boarded window. The first floor level had two boarded sash-and-case windows and the second floor had smaller sash-and-case windows one of which was only partly boarded.

Building B (Fig 2a)

Building B a former two storey house had been converted into offices. Its external walls had been rendered and painted cream. It had two large sash-and-case windows and a small two-paned toilet window on the ground floor. A central four panelled door with a grilled hall light had moulded stone surrounds and curved lintel. The wall in which the door stood was slightly advanced and had a narrow slate lean-to roof. At first floor level were two dormers with pitched gabled roofs. The windows were sash-and-case. The gable wall adjoining Building B and its gable had a chimney stack. The roof had a lower roofline than Building A. The roof was covered with grey slate.

Building C (Fig 2a)

Building C was last used as a gymnasium that formed a second floor level building and was set back from the long wall of Building A. The main elevation contained three large mullioned casement windows (2 over 6). At eaves level was a brown painted barge board above which were two hipped roofs clad with steel sheeting. The elevation was supported on a series of concrete columns that had been built into a rubble-built boundary wall that was about 4m high at its west end. An underpass was present below Building C. Judging by the contrasting unaltered stonework at the base of the boundary wall it was clear that the top half had been partially rebuilt to accommodate the columns holding up the gymnasium building.

4.3 South-facing elevation Buildings A and B

Building A (Fig 2a, 4-5)

Building A comprised the aforementioned mill house which was stone-built with blue-painted render and a hipped and pitched slate roof. A modern panelled doorway set within a earlier large opening led into the buildings undercroft situated on the ground floor. A second doorway was situated below a concrete landing accessed by an external staircase with a cast-iron hand rail. The doorway provided access to the first floor of the building including Below the stairs was a boarded opening flanked by a boarded window.

A single sash-and-case window was present at the first floor level. On the second floor there were four sash-and-case windows set within painted raised margins. Only two of the windows were the same size. The westernmost window was flanked by a timber-clad wall of the former gymnasium (Building C)

Building B (Fig 2a)

Building B was the aforementioned two storey house/offices set back from the wall line of Building A by about 3m. A timber framed glass porch covered half the elevation. Within the porch was the main door into the building and a former exterior stone staircase that led to the first floor. Outside the porch at the east end of the building was a ground floor sash-and-case window. At first floor level was a single pedimented dormer with a sash-and-case window. A small four-paned window overlooked the staircase landing near the first floor.

4.4 East-facing elevations Buildings B and J (Fig 2a & 2b)

The east-facing elevations included the gable of building B (8m wide) and the long wall of a single storey garage and office (Building J) that had a combined length of 27m.

The rendered gable of Building B contained a central ground floor sash-and-case window with two additional slightly wider windows of the same type seen on the first floor. A central chimney stack contained four chimney pots.

The elevation of Building J (a garage) was covered with cream-painted wet-dash render. Two wide roller workshop doors and two ordinary doorways were present on the main wall of the garage. At the north end was a four-paned window that lit a mezzanine floor within a former office. The roof was pitched and covered with corrugated metal.

4.5 North-facing elevation of Buildings D, I and J (Fig 2b & Fig 6)

This long elevation including the three-storey block of Building D, and the gables of Buildings I and J. (Fig 2b). Starting from west to east at ground floor level, below the underpass was a single doorway. Above the ground floor doorway was a double-leaved UVPC door with a small railed balcony. Just above the level of the double-leaved door were three square windows set within painted margins.

On the main three storey block (Building D) at ground floor level was a barred window set within painted margins. At first floor level, four casement windows were present, one of which was a different size to the other three. Above these at second floor level were three more casement windows of equal size. The third floor had two single-paned windows. At this level part of the wall was not rendered and comprised rusticated ashlar blocks surmounted by a sill course above which was a brick-built wall head.

At the east end of the elevation a steel staircase provided the main access to a double-leaved doorway into the building. Above the door was a protruding I-beam with a crane hook wrapped around it placed for purely for aesthetic reasons. This part of the elevation was completely harled with wet-dash render. The staircase covered the main entrance into the inner courtyard and provided the main access to a series of retail units and access to the interiors of Buildings E, F G and H (Figure 1).

The pitched gable wall of Building I that was set back about 1m from the line of the main elevation. Apart from a steel roller-shutter door on the west side of ground floor the rest of the gable was harled and featureless.

A 1.5m gap separated Building I from Building J. The pitched gable of Building J was also harled and featureless (Fig 8).

4.6 West-facing elevations of Building's C, D & E-facing onto Newhaven Road (Fig 2b & Fig 7)

The west-facing elevation fronting Newhaven Road (Fig 7) incorporated the pillar supported side wall of Building C, the hipped gable of Building D and the long wall of Building E (Fig 2b).

Building C comprised a harled cream painted side wall with a central slightly bowed window set above a wood panelled fascia. The gated entrance was surmounted by a corbelled concrete lintel. The entrance into the underpass was c.5m wide. The roof was hipped and covered with corrugated steel sheeting.

Building D was a two storey structure with a hipped roof. It contained a six paned window at first floor level with a pair of four-paned mullioned windows on the second floor. The un-weathered appearance of the top floor suggested that this level was a more recent addition.

Building E (Fig 7) was a long wall two storey structure with eight bays. At street level at the north end (left-hand side facing) there was a green-painted door set within square door surrounds and pointed lintel. Two ground floor rectangular boarded windows with cream-painted surrounds occupied the centre of the elevation. At first floor level three two-paned casement windows were present, the first or northernmost was boarded by an advertisement board. The rest of the windows (five) were larger four-paned office windows. The pitched roof was covered with steel sheeting.

4.7 South-facing elevation fronting the former mill lade (Fig 9)

The south-facing elevation incorporated the gables of buildings E, and G-J. Building E and G were masked by a boundary fence and thick vegetation and could not be surveyed. Buildings H and I were better exposed and were brick built with paned windows on the ground floor and modern casement windows on the floors above. Both the ground and first floor had continuous sandstone lintels and polychrome header and stretcher banding. The gable of Building J was cement rendered and otherwise featureless.

4.8 Elevations between Buildings I and J

The east and west-facing elevations between Buildings I and J were not surveyed owing to the close proximity of the buildings that were less than 1.5m from each other with no line of site between each end. The main features included cast-iron workshop windows on the ground floor of building I above which were first and second floor modern office windows. The rear of Building J the garage had no fenestration and the walls were colonised by vegetation.

4.9 Descriptions of the building interiors

Table 3 provides a summary description of the interior of the mill complex and where 'industrial' features were exposed these are also described along with the relative construction period of each block.

Table 3: Summary description of the building interiors and relative period of construction based on fabric character and historical map-based evidence.

Building	Summary Description of building interiors	Period
A (Figs 3a-3e Figs 37-38)	The interior of the building was not seen until its demolition. Nine interior rooms were recorded. The watching brief results are described in Section 6 supported by the relevant photographs (Figs 37-38). Period features included an ornate stair light window, blocked fireplaces and cupboards.	Early 19 th century with mid-19 th century enlargement. 20 th century internal open plan offices installed.
B (Fig 3a-b, 10-11)	The interior of the building had been converted into modern offices over two floors (Rooms B2-4, B7-12). Period features included four first floor panelled doors with brass door knobs. Fenestration included mainly sash-and-case windows. Three fireplaces were present within Rooms B3 and 4 and B12 These included two late 19 th -early 20 th century cast iron fireplaces with corbelled mantelpieces. A smaller cast-iron mantelpiece seen during the earlier buildings appraisal (Cressey, 2017) probably dated to the Edwardian period had been since been removed.	Late 19 th century refurbished as offices in the 20 th century.
C Fig 3e, 12 & 13	The building comprised a large open plan well lit gymnasium (Room C1). The building was an extension to Building D. Its internal south wall was an earlier exterior wall of the paper mill. The wall was thick (0.5m) and had been reinforced with a series iron tie-plates typical of the late 19 th century. It also had two blocked-up north-facing windows.	Late 19 th century footprint with recent 21 st century refurbishment.
D Figs 3c-d, 14-15	At ground floor level Room D1 was the least altered room within the complex. It comprised a rectangular room with riveted iron columns and load-bearing beams. The walls were rubble built and clad with plaster. Still on the ground floor was an office and kitchen (D2-D3). At floor of the block were a series of modern offices (D3-D4). The second floor contained another smaller gymnasium fronting Newhaven Road (D4) and an open plan office (D5).	Late 19 th century with major office conversions in the late 20 th century.
E Figs 3c, 16-17	The interior of Building E had been converted in the recent past into a large suite of offices (E1-E9). The largest being over 13m long (E4). The main corridor (E7) provided access to other ancillary offices (E5-6 and E8-E9). In Room E1 situated on the west wall was a central cast-iron bearing box. The bearing box would have held a brass drive-shaft bearing that was regularly oiled resulting in a heavily oil stained wall immediately above it.	Late 19 th century mill footprint converted to modern offices early 21 st century.
F Figs 3d 18 & 19	The ground floor of Building F contained a plant room with no access. The first floor level comprised an engravers open-plan workshop, kitchen and office (F1-4). Noteworthy features included a blocked doorway on its south wall and a series of steel pillars supporting a large load-bearing steel beam. This room was lit by windows on its north wall overlooking the main and inner courtyard.	Late 19 th century last used as an engravers workshop.
G Fig 3c, 20-21	Building G had been converted to suit the requirements of a lock-smith company and was compartmentalised into a series of corridors (G1-G2) and offices (G3-5) and workshop (G6) and a shop (G7 & 8). The shop entrance was via the inner courtyard.	Late 19 th century footprint converted in the early 21 st century as a lock-smiths. c

H Fig 3e & 22	<p>The ground floor of Building H was part of complex rented by the aforementioned locksmiths company. The first floor of Building H was formerly part of the larger Building I office complex and was heavily compartmentalised into an office (I10) and toilet block (I11 and I12) all accessed from a corridor (I13). The second floor of the building was a single plan office (H1) with a timber-framed mezzanine floor Fig 22. A set of double doors at its north end formerly connected to a gantry walkway over the inner courtyard to connect with Building F.</p>	Late 19 th century footprint converted as part of the locksmiths with first and second floor offices.
I Fig 3c-3e, 24-28	<p>Building I was a large rectangular brick-built steel-framed three storey building with a pitched roof. The ground floor was more or less split into two units with a large garage (I1) on the north side (no access) and the former workshops (I2-I3) on the south side. The workshop was lit on two sides by wide steel windows. Another early feature was the steel frame that included four I-beams that supported large steel load-bearing beams (Figs 24-25). This construction type is typical of mill and factory construction. In this case Building I incorporated bolted rolled steel that was stamped <i>Dorman of Middlesbrough British Steel</i>. Although the company was founded in 1875 and was only nationalised in 1967 this showing that the steelwork is a later introduction when the building was converted to largely open plan offices that required more support at ground level.</p> <p>The first and second floors contained numerous connecting and singular offices (Fig 26), the largest being I 20 on the second floor which was open-plan Fig 27). The exposed composite roof trusses were of the so-called <i>double fink</i> types which are capable of wide roof spans as was the case here. The trusses were made of L-shaped angle steel and fixed to the top of the wall stanchions using bolted shoes. The roof had been clad with modern steel sheeting supported by steel purlings that ran parallel with the outside walls. A steel valley (wide rainwater gutter between two pitched roofs) was supported by columns fixed with bolted fish-plates (Fig 28).</p>	Late 19 th century construction with major 20 th and 21 st century refurbishments.
J Figs 3c, 29 & 30	<p>Building J was a large rectangular brick-built structure forming a modern office with mezzanine floor (Fig 29) at the north end (J1). Approximately two thirds of the block was a single storey garage incorporating a storeroom (J2), a service area (J3) with counter and the main drive-in workshop (J4) accessed by a large roller door. A small oil storage room was also present (J5)</p>	Early 20th footprint century with later compartments dating to the late 20 th century.

5. ARCHITECTURAL WATCHING BRIEF RESULTS

5.1 General

The architectural watching brief results are now discussed.

South Lade (Fig 34)

The demolition of Building J the single storey office and garage revealed the surviving portion of the south lade. It was approximately 3m wide and 2m deep. The sides of the lade were constructed using random sandstone rubble. Close to the east end of the lade as exposed on its south side was a large iron bracket (c. 0.5m high and 0.5m wide) with a holding down bolt attached to it. It is not clear what the bracket once held, but it is assumed that it was timber. The use of hexagon bolts to hold the timber in place suggest an early 20th century date for the bracket.

Building I Steel Framed mill (Fig 35)

Building I was a c.1930s brick-built former paper mill constructed using 9¾ inch frogged brick on a steel frame. The east-facing elevation was largely hidden at the time of the survey by the single storey garage (Building J). Following the demolition of the east-facing elevation this revealed four bays of the steel framing in section exposing the ground, first and second floors. The double-fink type large span roof trusses were also exposed. The steel-clad roof was much later than the core block of the building. This type of steel framing was most commonly used in this type of industrial building owing to its loading strength and fire proof quality.

Bearing Box and cast-iron column (Fig 36)

Exposed at ground floor level within a east-facing section created by the demolition of Building F and G was another cast-iron bearing box. This measured approximately 0.45m square with an internal sole-plate on which the bearing would have sat. This feature was the support for a belt-driven line-shaft providing power to machinery that was housed within the mill interior.

Above the bearing box at first floor level was a large cast iron column with moulded bracketed capital. This was seen to rest directly on a load-bearing steel I-beam below which was a jack-arch fireproof concrete ceiling.

Building A Former Mill House (Figs3a, 3b & 3e, 4)

The watching brief carried out during the systematic demolition of Building A brought to light several features associated with the domestic use of the building prior to its later use as offices for the paper mill. The individual compartments (Units 1-8) are described in ascending order. The building was divided by a spine wall separating in which several blocked doors and fireplaces were seen.

Ground floor Room A1 undercroft

Room A1 was situated at the west end of the ground floor and the only notable feature visible was a brick-blocked opening on a former gable wall that supported the junction between the buildings hipped and pitched roofs. The opening was for a door measuring c. 2m x 1m and was a later insert to allow access between Room 1 and 2.

First floor Room A2 (Fig 37)

Room A2 on the ground floor comprised a former open-plan storage area. The interior north wall contained two blocked doorways (Fig 37). The easternmost doorway measured c.1.8m high and 1.2m wide with splayed reveals. The second blocked up doorway was bricked-up and was flush with the flanking rubble walls. At the west end on the gable wall was a stone-built blocked fireplace with stone surrounds and lintel. On the right-hand side was a blocked opening which was probably a press. Three large steel I beams spanned the full width of the building and were modern (20th century) insertions.

First Floor Room A3

Room A3 was an open plan office. A blocked window was seen on the wall opposite. This was in line with an existing second floor window showing symmetry in the fenestration that was hidden as a result of blocking and exterior harling. On the north wall was a boarded-up late 19th century window with ornate decorative glass margins containing lotus leaves with intertwined borders (Fig 37). This window may have lit an earlier staircase the remains of which were no longer visible. On the east-facing wall a fireplace and blocked cupboard were present on the right-hand side of an inserted doorway (Fig 38). The boarded windows recorded on the outside were all visible within the interior of the building.

First Floor Rooms A4-5

On the west side of the building two identical sized rooms were lit by windows on the gable wall. The rooms were divided by a partition wall and accessed from the main landing at the top of the staircase.

First Floor Room A6

Room A6 was situated at the east end of Room A3 and comprised a small timber-framed office with a window facing into the main office and on the north wall.

Second floor Rooms A7-A8

A small toilet (Room A7) had been installed in the north-west corner just off the main stairs landing. Room A8 was a modern 20th century office built with stud and plaster board walls. The room was lit by windows on its west and south walls.

Second floor Room 9

Room 9 was an open plan office. The only notable features exposed was a blocked cupboard and a single fire surround on the main partition wall forming the main spine wall that separated the early 19th and mid-19th century build (Fig 38). The room was lit by windows on its south wall.

North Lade

The northern lade ran under the present Bonnington Bridge that was built in 1901-2 and is a Category B listed structure. Below its southern-most parapet bay is the aforementioned segmented arch of ashlar sandstone (Figs 31-32). Historically this cornmill lade ran eastwards under the bridge then turned right angles into the Water of Leith (Fig 39f). It seems unlikely that this lade provided water power to any of the buildings recorded within the proposed development boundary as they were first using steam and then later electricity to power the paper making machinery.

South Lade

The south lade ran directly at the foot of the south-facing elevation of Buildings E, G-J and was approximately 3m deep and 2m wide and is still visible despite it being very overgrown (Fig 33). It is likely that this was an outflow or byewash lade from the corn mill situated on the west side of Bonnington Bridge and its route shown on the 1896 map (Fig 39h) and depicted on the 1914 OS map as a corn mill (Fig 39I). The Bonnington paper mill would have needed a high volume of clean water as part of its manufacturing process. The mill could have drawn water from the lade and also discharged waste water back into the Water of Leith that was nothing less than a foul water drain at this time.

6. DISCUSSION

Historical Development of the Bonnington Mill industrial complex

The cartographic record (Fig 39) shows that the site has a protracted history of industrial expansion and contraction during the early and later 19th century. Roy's map of 1752-55 shows Bonnington existed by this time. Gauldie (1999.) refers to the engineer John Rennie's involvement at Bonnington Mill with the first installation of a new lantern wheel in 1780. This confirms that a new corn mill was under construction by this year and was probably the one that was situated upstream of Bonnington Bridge. It may have still been in existence during 1902 as the course of its lade was maintained and ran below Bonnington Bridge through a segmented arch (Fig 32).

Building A the mill house was built during the first half of the 19th century along with a series of tannery buildings and pits that were then part of the much larger Bonnington Mills complex. The grid layout of the tanning pits are shown on the 1852 First Edition map sheet (Fig 39f). By the late 19th century, Building A was enlarged at its west end and Building B was then attached to it. At the same time, the tannery had expanded with Buildings C-I forming the nucleus of the industry.

By 1896 according to the OS map of that year the tannery was converted to the Bonnington Paper Mills that continued in production up until the 1970s.

Surviving industrial features

Although the mill complex had been extensively converted to modern offices and workshops a number of industrial fixtures and fittings were still visible during the initial building survey and during the architectural watching brief.

Table 4 List of identified industrial fixtures and fittings within the mill complex.

Observed Industrial Features	Location
Former outside wall with blocked windows and tie-plates	Building C and D (C1 & D1)
Fireproof steel work	Building D, D1
Bearing Box and oil-stained wall	Building E, E1
Fireproof steel work and columns	Building F, F1
Steel frame work	Building E F/F & 2 nd F
Steel framework and composite roof trusses	Building E 2 nd floor walls and roof space
Engineering chain lifting block	Building D, D1
North Lade incorporated into Bonnington Bridge	At the base of the southern-most parapet bay.
South Lade	Base of S-facing elevation, Buildings E, G-I
Bearing box exposed during demolition	Building F
Column exposed during demolition	Building F

Four broad phases of development are proposed for the extant buildings within the proposed development boundary (colour-coded on Fig 1). These are based largely on the cartographic record and from the record of the industrial architectural remains visible within the interior of the complex.

The internal survey has shown that at the heart of the complex the mill buildings are constructed around a steel frame consisting of pillars and load-bearing I beams (Fig 35). Historically the fundamental technical change brought about by the introduction of steel into buildings was to use continuous columns extending for more than one storey. This ended the long tradition of constructing buildings floor by floor. The design of the joints between columns and floors changed significantly as a result (Jackson 1998).

The conversion of the old paper mill into modern offices saw the removal of many of the original mill walls but in some places these are particularly well exposed (eg in Buildings D and I) but less so in other parts of the complex (Buildings E,F-H) where most of the columns and the steel framing have been boxed in. This probably reflects the choices made by the different architects that have been involved with fitting out these internal office conversions. It was considered very fashionable in the 1980s and 1990s to retain 'industrial' style features within office interiors where stone and brick walls were commonly left bare and iron work fully exposed as was the case for most of Building I.

The cartographic record and the building survey suggest four main broad phases of development. It is noteworthy that the site was much larger than survived at the time of the survey and we know that the complex continued further eastwards within the proposed re-development area, now covered by a large triangular shaped car park.

The four phases are shown on Fig 1b which is a schematic colour-coded plan of the ground floor of the mill complex.

Red: Early 19th Century. The core block of Building A is dated to this period and a large proportion of Building D and dividing walls between Buildings E and F.

Orange: Mid 19th Century. Building B is built adjoining the east end of Building A.

Yellow: Late 19th Century. The Buildings E-I have their main spine walls dating to the period and much of the internal steel frame within the core of the complex dates to this phase.

Blue: 20th Century. Building J and the steel staircases fall within this phase. Most of the vast compartmentalisation of the complex occurred in the late 20th century and into the present century judging by the appearance of some of the modern fixtures and fittings.

7. CONCLUSION

The Level 3 historic building survey and targeted architectural watching brief have adequately recorded the mill complex prior to its demolition. The survey has shown that industrial activity at the site can be traced back to the late 18th century although no buildings survive from this period. The complex was at one time part of a much larger industrial complex that developed from an early 19th century tannery and later 19th-20th century paper mill. All of the buildings have undergone major internal refurbishment to suit the requirements of modern 20th and 21st century office use.

Much of the interior of the paper mill had been cleared but the surviving composite steel frame and roof trusses were very common in most factories of this type and age. The steel frame of Building I was seen to its full height and photographed during the watching brief.

The architectural watching brief also confirmed that Building A, the mill house, had been in formal domestic use and was probably occupied by the mill manager. The building had been converted to open plan offices during the 20th century with the installation of new open plan floors supported on steel I beams. The partition spine wall between the hipped and pitched roof had evidence of three blocked fireplaces and cupboards. New doors were inserted on the first and second floors to allow access from a later inserted staircase. The fine Victorian decorated window (Fig 37) may mark the position of an earlier staircase.

8. RECCOMENDATIONS

A copy of this report will be submitted to the City of Edinburgh Council SMR and the NHRE. These results will also be reported to Discovery and Excavation in Scotland and the online OASIS archaeology web site for wider dissemination following the completion of the project.

9. REFERENCES

Cressey, M 2017 Bonnington Mill 70-72 Newhaven Road. Desk-based Assessment and Standing Buildings Assessment. CFA Report No. 3357 Unpublished.

ALGAO: Scotland (2013) Historic Building Recording Guidance.

Gauldie, E 1999 'The Scottish Country Miller 1700-1900' p.142.

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Jackson, A.A. 1998 'The Development of Steel Framed Buildings in Britain 1880-1905' *Construction History* Vol. 14.

Mitchell, S 2019 Bonnington Mill, 70-72 Newhaven Road, Archaeological Watching Brief & Evaluation CFA Report No.3870.

APPENDIX 1: PHOTOGRAPHIC REGISTER

Shot No	BLD. No	Description	Facing
1	B	Exterior E-facing gable of Building B	W
2	B	Exterior E-facing gable of Building B	W
3	B	Exterior E-facing gable of Building B	W
4	B	Exterior S-facing elevation and glass porch	N
5	B	Interior staircase	E
6	B	Interior of Room B2	N
7	B	Interior main door to porch B2	SW
8	B	Part removed horseshoe fireplace B3	E
9	B	Window in Room B3 general shot	S
10	B	Doorway out of B3	NW
11	B	Fireplace in B4	NE
12	B	Fireplace and window in B4	SE
13	B	Doorway out of B4	SW
14	B	Passage to rear door B5	N
15	B	Ruined toilet B6	N
16	B	Exposed lath in the ceiling of B6	Oblique
17	B	Kitchen and barred window B7	N
18	B	Kitchen door B7 leading to main entrance	S
19	B	Office on F/F B8 general shot	NE
20	B	Office on F/F B8 general shot	NW
21	B	Office on F/F B9 general shot	E
22	B	Office entrance F/F B9 general shot	SW
23	B	F/F kitchenette B10 and toilet	N
24	B	F/F Toilet B10	N
25	B	F/F Kitchen B10 wall paneling	S
26	B	F/F Brickwork B10 below frosted toilet window	N
27	B	F/F Toilet bowl and brickwork in B10	NE
28	B	F/F Brickwork exposed in B10	NW
29	B	F/F Office B11 window, general view	N
30	B	F/F Door out of office B11	S
31	B	F/F Office B12 with robbed fireplace	N
32	B	F/F Office B12 window detail	S
33	B	F/F Office B12 robbed fireplace wall	W
34	B	F/F Office B12 cupboard and shelving	E
35	B	F/F landing B13	N
36	B	A-frame rafters viewed through the loft hatch	Vertical
37	B	Stairs from F/F to GF porch	Oblique
38	A	Forestair on S-facing elevation of Building A	N
39	A	Building A forestair and piers supporting Building C	N
40	A	Same as Shot 38	N
41	A	Same as Shot 38	N
42	A	Door to undercroft in Building A, S-facing elevation	N
43-44	A	Building A, F/F & 2F fenestration, S-facing elevation	N
45-46	A	Main doorway to undercroft on F/F Building A	N
47-48	A	End of Building A adjoin Building B	N

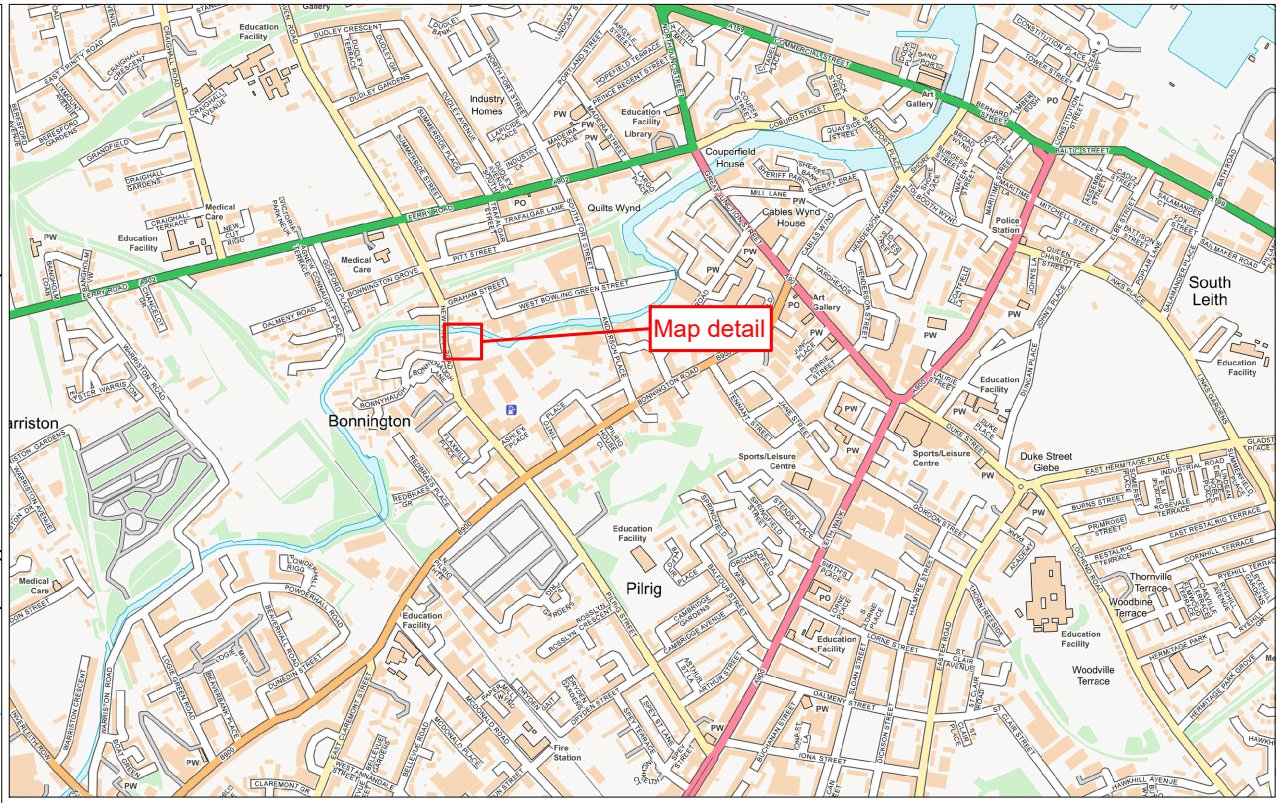
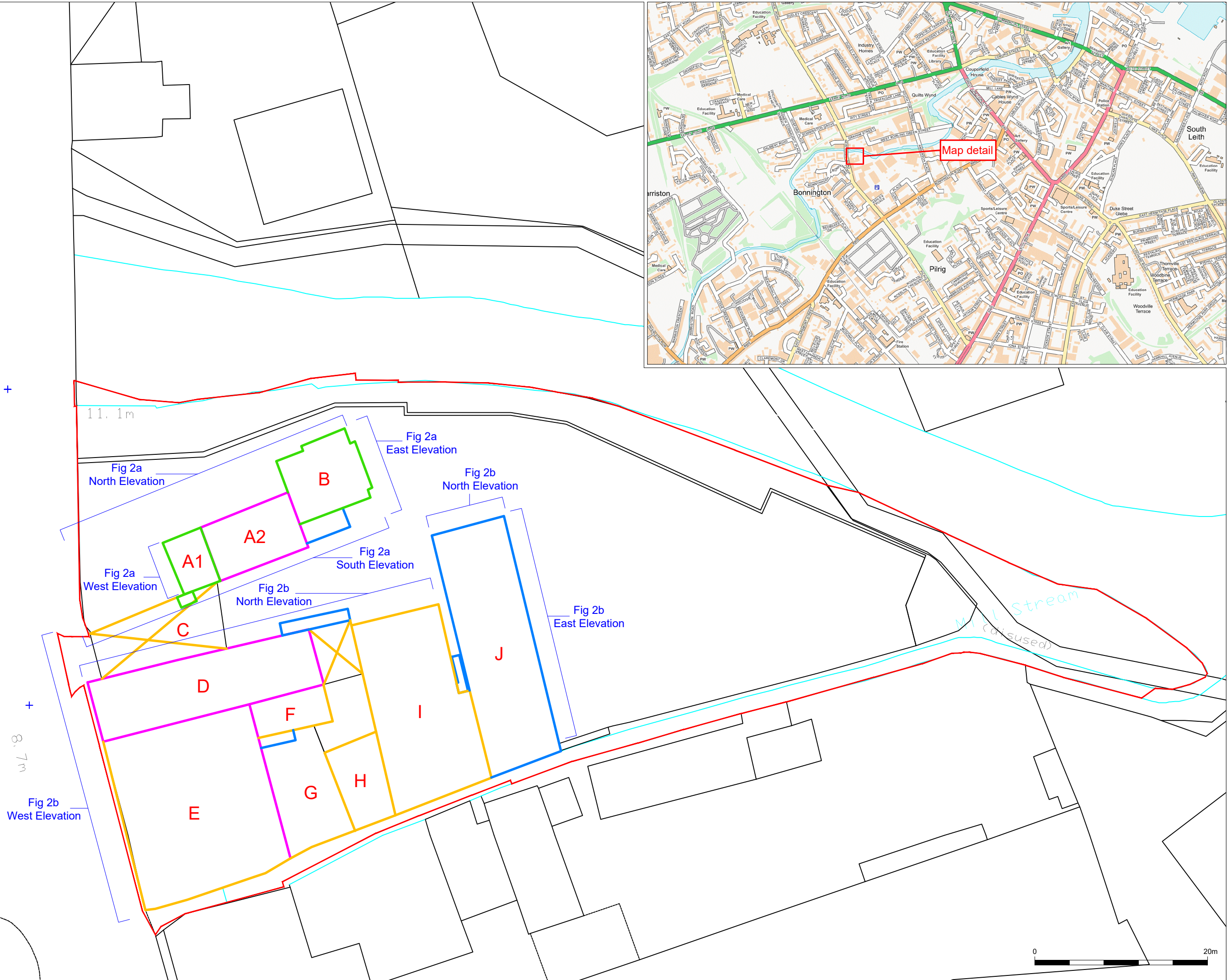
Shot No	BLD. No	Description	Facing
49	B	Glass porch on the S-facing elevation of Building B	NE
50-51	B	Glass porch on the S-facing elevation of Building B	N
52	B	East end of Building B, general view	NW
53	B	Gable wall of Building B	NW
54	B	Gable wall – N side Building B	W
55-56	B	N-facing elevation Building B	W
57	B	North-facing back door of Building B with stone surrounds	S
58	B	Wall head of Building B, N-facing elevation	Oblique
59	B	Dormer windows on Building B, N-facing elevation	Oblique
60-61	B	Building B, West-facing gable and junction with Building A	SE
62	B	Building B, Gable W-facing	E
63-64	A	N-facing elevation of Building A	SW
65	A	W-facing gable of Building A and N-facing elevations Blds A-B	SE
66	A	W-facing gable with G, F/F and 2/F fenestration	E
67-69	C	Building C supported on piers on re-built boundary wall.	S
70	N/a	Segmented arch below Bonnington Bridge above route of a lade	W
71	J	East facing elevation of Building J garage	NNW
72	J	Gable, N-facing Building J office	S
73-74	J	Main garage roller door	W
75-76	J	Office entrance on W-facing elevation	SE
77	B	Gable wall of Building B, general shot	W
78	B	Panoramic shot of the Building B	NW
79-80	I	2 nd floor windows on the E-facing elevation of Building I	S
81	I	2 nd floor windows on the E-facing elevation of Building I	N
82	G	General shot of steel staircase and entrance passage	W
83	G	Underside of the steel staircase	W
84	E	Passage leading into Block E	W
85	E	General shot of interior Room E2	N
86	E	General shot of a workshop, Room E	N
87	E	Steel cage partition within Room E	E
88-89	E	General shot of a cast-iron bearing box on the W wall	W
90	E	Close-up of the bearing box	E
91	E	Passage leading to Block D	N
92	E	Staircase leading to F/F from Block E	N
93	D	Kitchen area, Room D2	E
94	D	Interior of Room D1 general shot	W
95	D	Interior of Room D1 showing steel pillar and beam	W
96	D	General shot of an steel column at W end	S
97	D	General shot of D1 interior	E
98	D	W wall in D1 showing steel frame	S
99-100	D	N wall in D1 showing irregular alignment	N
101	D	Shuttered concrete ceiling in D1	Vertical
102	E	Passage E6 to E block	N

Shot No	BLD. No	Description	Facing
103	E	Office E7 general shot	W
104	E	Office E8 windowless	S
105	E	Office E9 general shot	S
106-107	E	Office E5 general shot	E & W
108	E	Office E4 large open plan area	NW
109	E	Office E4 large open plan area	SW
110	E	Office E4 large open plan area, fire escape	SW
111	E	Kitchen in Office E4	E
112	G	Kitchen area, locksmiths	W
113	G	Toilets near to locksmiths kitchen	E
114	G	Hall to locksmiths offices	S
115	G	Locksmiths office G3	W
116	G	Locksmiths office G4	W
117	G	Locksmiths office area G5	W
118	G	Passage and door to locksmiths shop G5	N
119	G	Locksmiths workshop G6	W
120	G	Locksmiths shop counter G8	W
121	G	Locksmiths shop door to office passage G7	SW
122	G	Looking up the iron staircase in G1 to F/F	S
123	I	Looking into Room I3 a newly unfinished room with stud walls	S
124	I	Workshop interior I2 with steel columns and beams	W
125	I	Riveted stanchion and beam in workshop I2 general detail	Vertical
126	I	Steel work and columns in workshop I2	NE
127	I	Steel window frames on S wall of workshop I2	S
128	G	Entrance door to Building G	W
129	G	Locksmiths ext elevation and pitched roof	S
130-132	I	Ext elevations within the courtyard with Building I entrance	W
133	G	Office G1 interior, general shot	E
134	G	Steel roof truss in Office G1	Oblique
135	G	Timber framed staircase and mezzanine floor in G1	E
136	J	Interior service area of a garage in J3	W
137	J	General shot of the interior of the garage workshop J4	W
138	J	Oil storage area J5	N
139	J	Garage stores J2 with mezzanine floor above	N
140	J	Service area with public counter in J4	N
141	N/a	General view of Bonnington Bridge on Newhaven Road	W
142	I	Red steel staircase in vestibule, Building I	S
143	I	Main entrance into vestibule area	N
144	I	Roof truss exposed in vestibule roof	Oblique
145	I	First floor office vestibule, I4	E
146	I	Main hallway through to offices I15	E
147	I	Office I5 general view	E
148	I	Office I7 general view	E
149	I	Fire exit hall and fire doors	E

Shot No	BLD. No	Description	Facing
150	I	Office I8 general shot	E
151	I	Office I9 general shot	SE
152	I	Office I9 general shot	SW
153	I	Office I16 former Green Party HQ	S
154	I	Hall to offices and toilet block	W
155	I	Office I10 general view	SW
156	I	Double doors near toilet blocks, overlooks the courtyard	N
157	I	Office I14 general view	W
158	I	Office I16 general view	S
159	I	Office I16, general view	N
160	F	Engravers workshop F1	W
161	F	Riveted steel beams and column in F1	Oblique
162	F	General interior shot of the engravers workshop F1	W
163	F	As above	NW
164	F	Engravers office F2	NE
165	F	Engravers kitchen F3	NW
166	F	A blocked doorway on the S wall of engravers workshop F1	S
167	E	Passage E4 leading to art restorers rooms	S
168	E	Staircase leading down to GF	E
169	E	Restorers storeroom E3 and office	E
170	E	Restorers workshop E6	SW
171	E	Restorers workshop E6	N
172	E	Restorers workshop, E6 boxed in beam and pillar	Oblique
173	D	Office D2 general shot	N
174	D	Office D2 with double doors to office D3	W
175	D	Office D3 general shot	W
176	D	Office D3 rubble-built wall and window detail	W
177	E	Office D3 double doors to stairs E1	SE
178-179	E	Stairs E1 general shot	S
180	E	Stairs E1 with shuttered concrete and steel beam ceiling	Oblique
181	D	Curving staircase in D1	Oblique
182-183	D	General interior view of E1	S
184	D	Moving block hook and chain mechanism in D1	Oblique
185	D	Door surround remains off in D1	N
186	D	General shot of the interior of D2	W
187	D	Wall tie plates and load bearing beam in D2	N
188	D	Wall tie plate, star shaped in spine wall D2	NE
189-190	C	General shot of the interior of the former gymnasium C1	W & E
191-192	C	Blocked windows on former outside wall predating C1	S
193	C	Close up of a tie plate on the former outside wall in C1	S
194	F	Open sided office general shot F1	S
195	F	Timber framed mezzanine floor F1	N

Shot No	BLD. No	Description	Facing
196	F	Corner supporting post of mezzanine floor F1	NW
197	F	Underside of the mezzanine floor F1	W
198	F	Steel roof truss in F1	Oblique
199	F	N wall in F1 showing primary and secondary build	N
200	F	Mezzanine floor and roof joist	S
201	F	Mess room, general shot	S
202	F	General shot of the roof space between Buildings G and H	S
203	I	Interior of I17 showing exposed roof truss	Oblique
204	I	General shot of the roof truss in I17	S
205-206	I	General shot of the interior of I18	N & E
207	I	Shot of truss F19	Oblique
208	I	Floor and roof truss in I20	S
209	I	Floor and roof truss in I20	E
210	I	Floor and roof truss in I20	W
211	I	I-beam and column collar and valley plate	Oblique
212	Ii	Corridor I21	N
213	H1	Office general view H1	S
214	H1	Office general view H1	W
215	H1	Steel roof truss and purlins in Office H1	Oblique
216	N/a	Exterior shot of the N-facing elevation Blocks D, I & J	W
217	N/a	Exterior shot of S-facing elevation Block I	N
218	N/a	Looking down into the lade at the rear of Block I	Vertical
219	N/a	Looking W along the lade at the base of Block I	W
220-221	N/a	Exterior shot of the S-facing elevation, Blocks G, H and II	N
222	E	Exterior W elevation	E
223	A-B	South-facing elevations of the former mill house and offices	S
224	A-B	N-facing elevation of the former mill house	W
225	N/a	The N mill lade arch below Bonnington Bridge	S
		Architectural Watching Brief	
226-227	H	Exposed queen post A-frame roof rafter exposed in section	S
228	F & G	Exposed sections following partial demolition	SW
229	N/a	Panoramic view of the site following partial demolition	W
230	B	Start of demolition of the E-facing gable	N
231-233	B	Part removal of the upper gable	W
234	B	Partial demolition of the roof and E gable	N
235	B	Detail of Building B in section, partition wall	NW
236-237	F	Exposed bearing box and first floor cast iron column	NW
238	F	Detail shot of the bearing box	W
239	F	Exposed bearing box and first floor cast iron column	NW
240	H	Detail shot of the queen post A-frame rafters	S
241	A	Building A prior to demolition	N

Shot No	BLD. No	Description	Facing
242-245	B	Building B nearing full demolition	N
246	B	Building D & E in section during demolition	W
247	B	Building B nearing complete demolition	W
248	N/a	Site plant general shot back lit by low sun	SW
249	A	Start of the demolition of Building A E-gable wall	N
250	A	Gable wall thickness exposed at first floor level	N
251-255	A	Sequential shots of the demolition of the first and second floors	N
256	A	Section exposed following the removal of the E gable	W
257-260	A	Part demolition of the building	NW
261-268	A	Exposed interior S-facing wall within the building showing a blocked door and window	N
261-262	A	Steel I beams exposed in section during demolition	W
263	A	Ground floor blocking work and FF ornate window	NW
264	A	The remains of the interior S-facing elevation at Ground and first floor level	NW
265	A	Ground, first and second floor exposed in section	W
266-268	A	Ground floor interior S-facing elevation showing bricked-up openings	NW
269-270	A	Ornate boarded-up window on the S-facing interior elevation	N
271-272	A	General view of Building A during partial demolition	W
273	A	Remains of Building A as seen from the Bonnington Bridge	SE
274-275	A	Close up on the remains of a first floor fireplace and blocked door	W
276-277	A	Rubble built wall and I-beams within the interior of Building A	SW
278-280	A	Blocked fireplaces and doorways on the E-facing partition wall	W
281-282	N/a	Test pit in the car park to determine the foundations of a low boundary wall	Oblique
283	A	Exposed partition wall and blocking work	NW
284-294	A	Demolition of the W end of the building, sequential shots	W



Key:

- Site Boundary
- Building Number
- Early 19th Century
- Mid 19th Century
- Late 19th Century
- 20th Century



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Title:
Location map of the Bonnington Mills complex and building layout

Project:
Bonnington Mill, 70-72 Newhaven Road. Level 3 Historic Building Survey

Client:
Queensbury Properties (Bonnington) Ltd

Scale at A3:
1:400

Drawn by: GC	Checked: SW	Date: 11/07/2019
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Report No: 3814	Fig. No: 1
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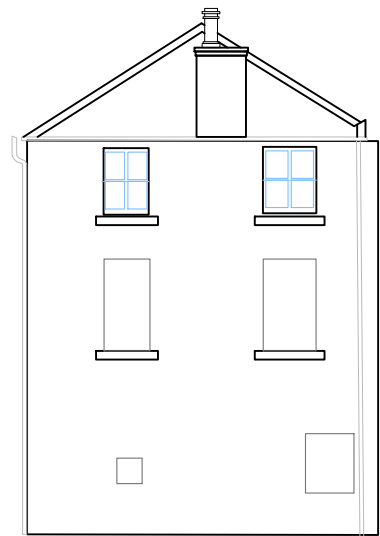


East Elevation
Building B Gable

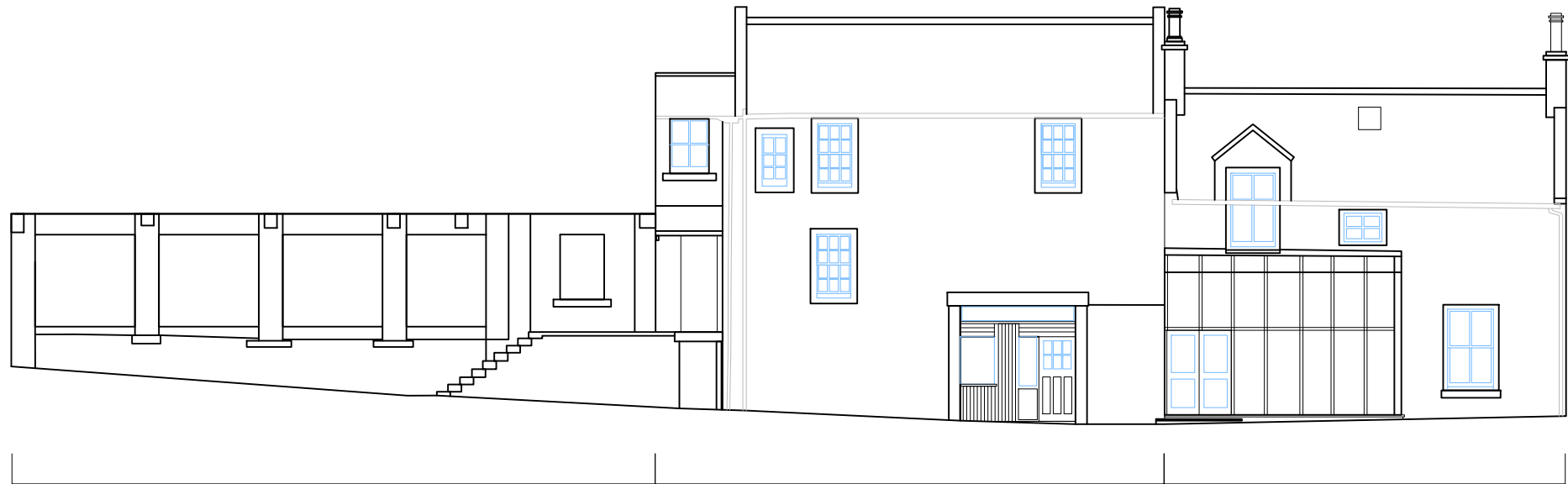
North Elevation
Building B

North Elevation
Building A

North Elevation
Building C



West Elevation
Building A Gable



Underpass
Building C

South Elevation
Building A

South Elevation
Building B

Key:

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Title:
Elevation drawings
Buildings A and B

Project:
Bonnington Mill, 70-72
Newhaven Road. Level 3
Historic Building Survey

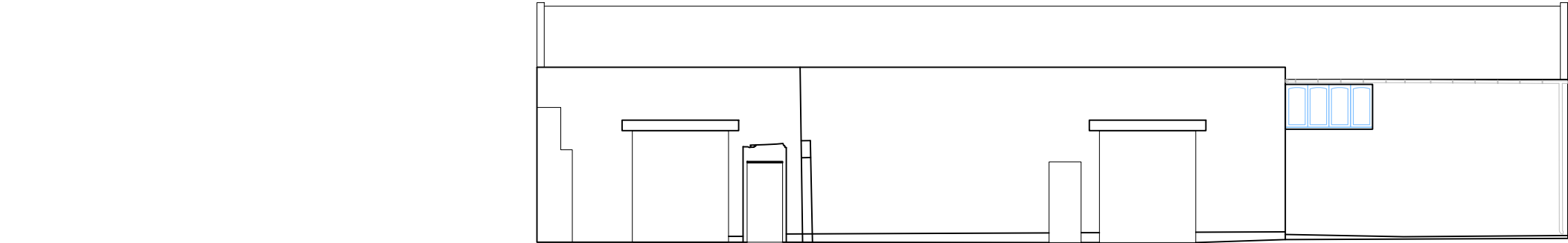
Client:
Queensbury Properties
(Bonnington) Ltd

Scale at A3:
1:150

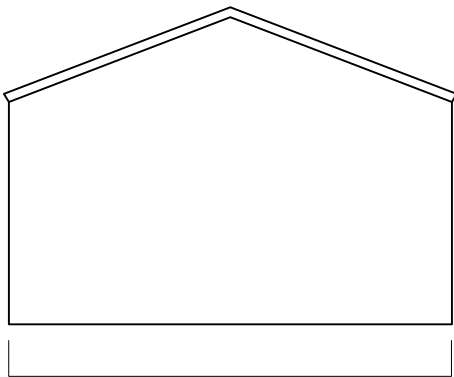
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Report.No: 3814	Fig. No: 2a
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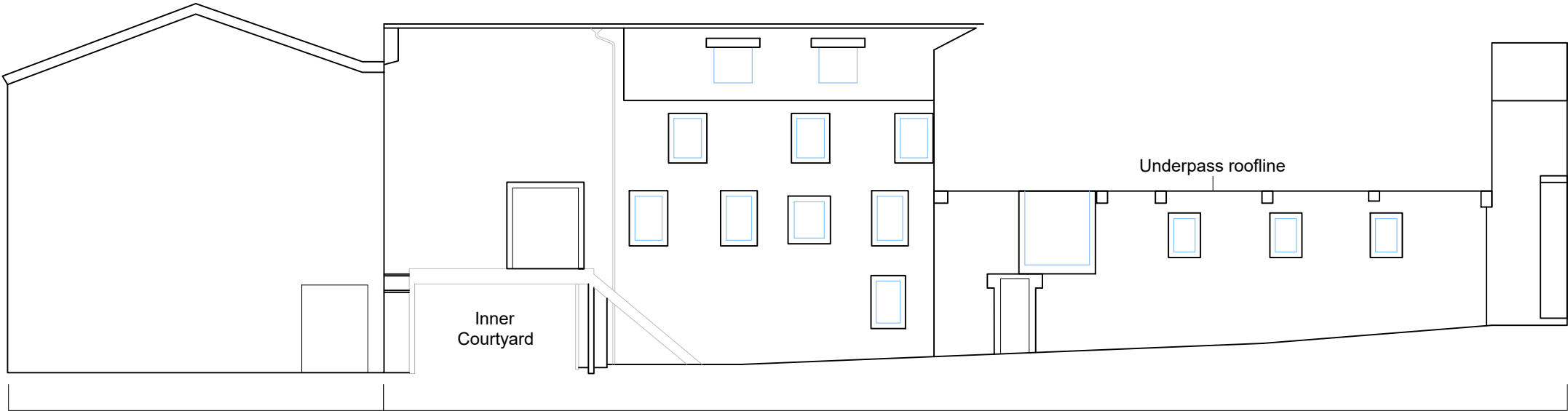




East Elevation
Building J



North Elevation
Building J Gable



North Elevation
Building I Gable

North Elevation
Building D



West Elevation
Building C

West Elevation
Building D

West Elevation
Building E



Key:

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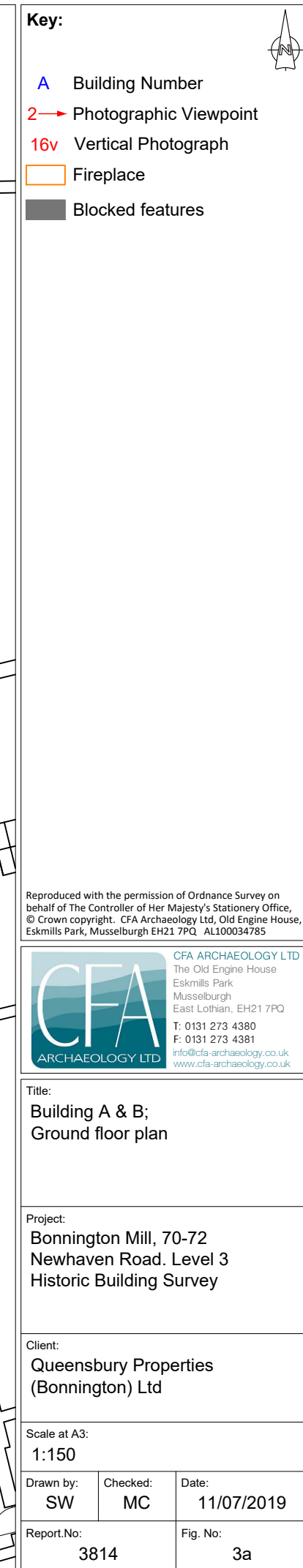
Title:
Elevation drawings

Project:
Bonnington Mill, 70-72
Newhaven Road. Level 3
Historic Building Survey

Client:
Queensbury Properties
(Bonnington) Ltd

Scale at A3:
1:150

Drawn by: SW	Checked: MC	Date: 16/05/2019
Report.No: 3814		Fig. No: 2b





Key:

- 1 Room Number
- 2 → Photographic Viewpoint
- 16v Vertical Photograph
- Beam
- Fireplace

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Title:
**Building A & B;
First floor plan**

Project:
**Bonnington Mill, 70-72
Newhaven Road. Level 3
Historic Building Survey**

Client:
**Queensbury Properties
(Bonnington) Ltd**

Scale at A3:
1:150

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Report.No: 3814	Fig. No: 3b
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Key:

- 1 Room Number
- 2 → Photographic Viewpoint
- 16v Vertical Photograph
- Beam
- Fireplace

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Title:
**Buildings C - J;
Ground floor plan**

Project:
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Client:
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Scale at A3:
1:200

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Key:

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Title:
**Buildings C - J;
First floor plan**

Project:
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Title:
**Buildings A and C - J;
Second floor plan**

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Client:
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Scale at A3:
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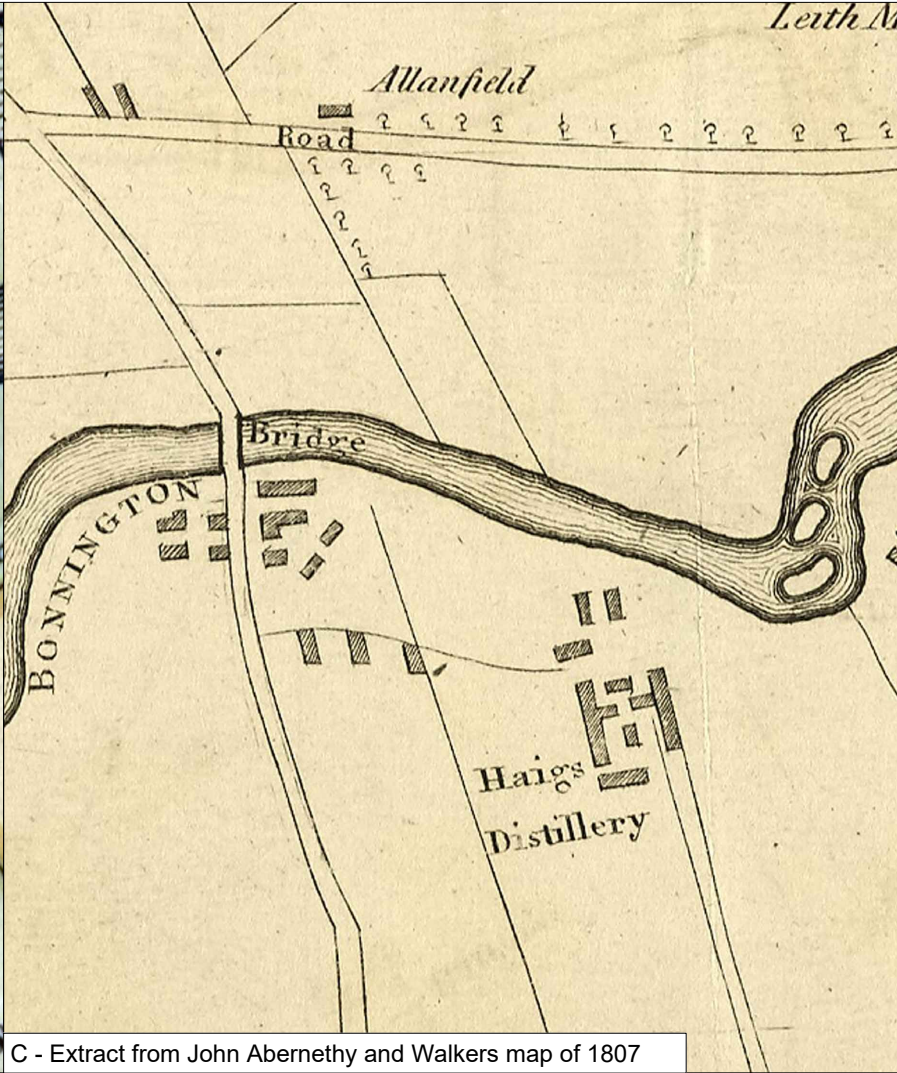




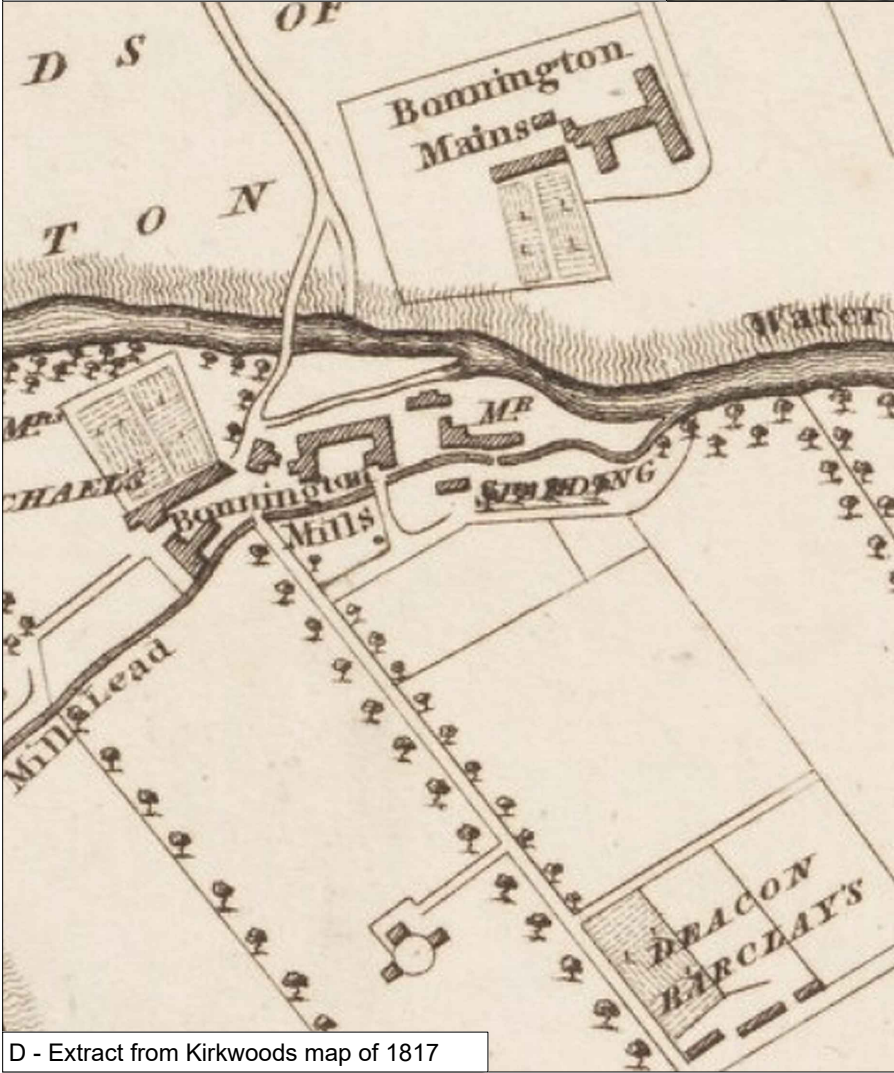
A - Extract from Roy's Map 1752-55 showing Bonnington



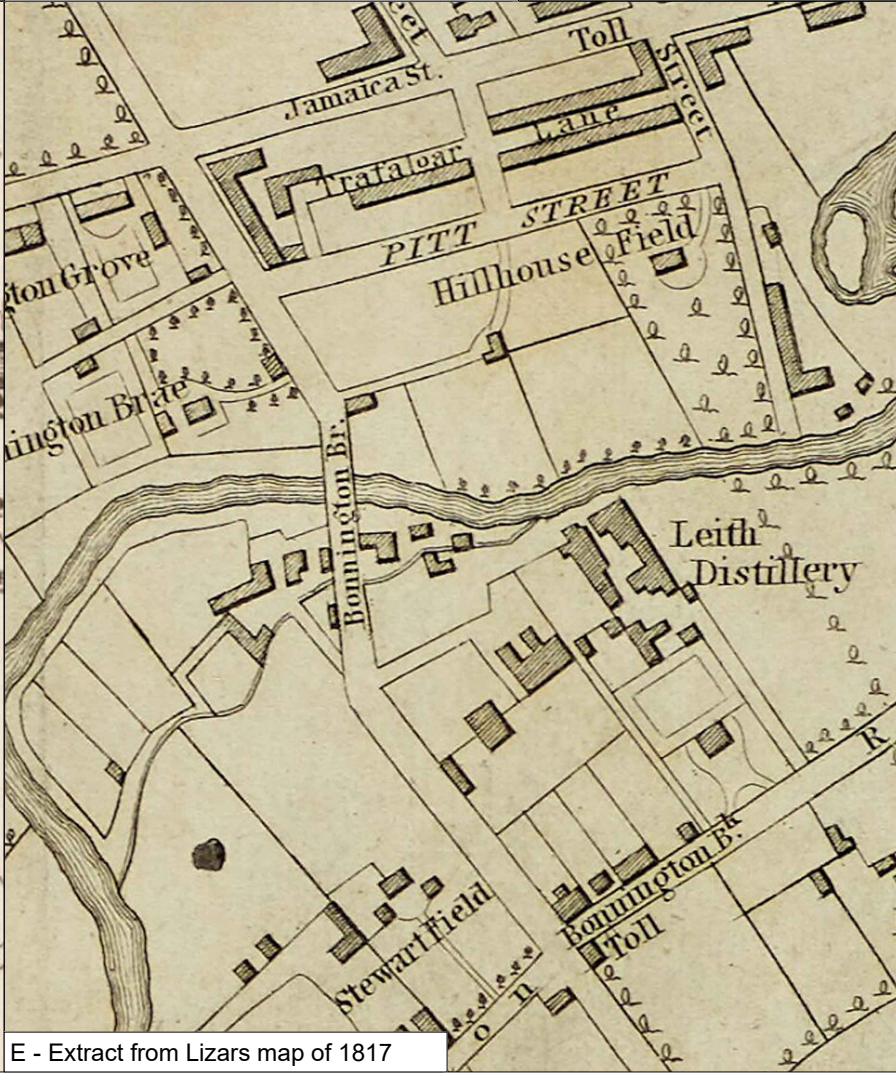
B - Extract from John Ainslies map of 1804



C - Extract from John Abernethy and Walkers map of 1807



D - Extract from Kirkwoods map of 1817



E - Extract from Lizars map of 1817



F - Extract from 1852 First Edition Ordnance Survey map

Key:

Site Boundary

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Title:
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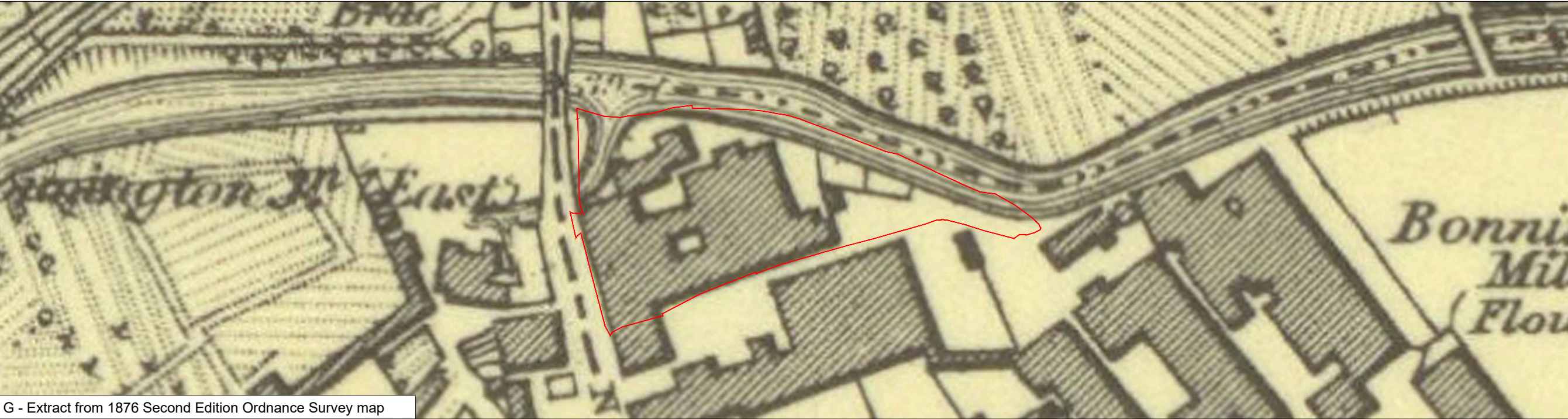
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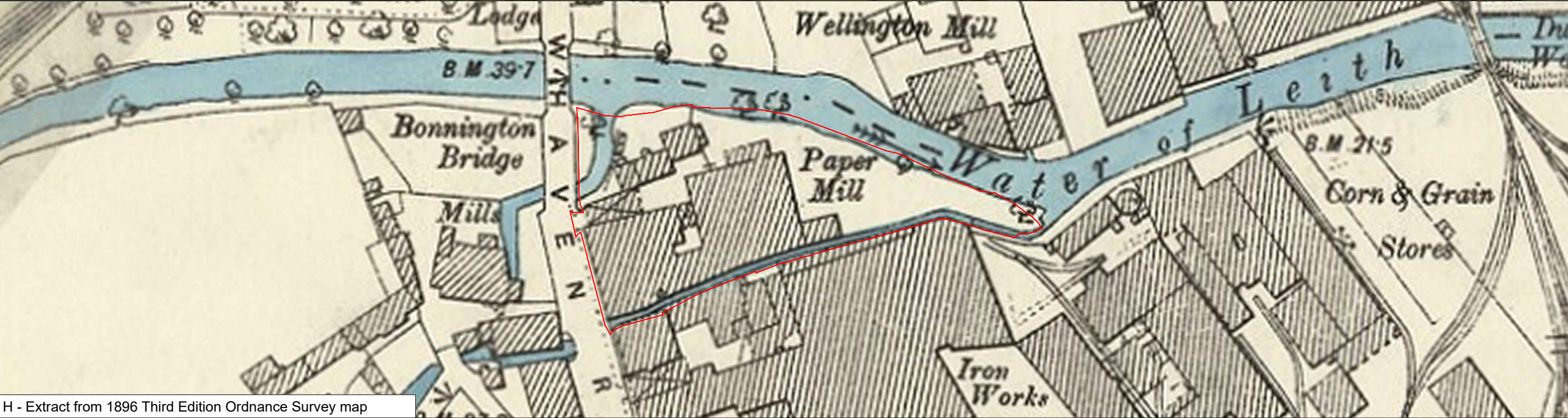
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A - E nts; F @1:2000

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Report No:	Fig. No:
3814	39a - 39f



G - Extract from 1876 Second Edition Ordnance Survey map



H - Extract from 1896 Third Edition Ordnance Survey map



I - Extract from 1914 Ordnance Survey map

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Fig. 4: General shot of the west-facing elevation fronting Newhaven Road (Buildings A-C)



Fig. 5: South-facing elevation overlooking the main courtyard (Buildings C, D and I)

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Fig. 6: North-facing elevation overlooking the main courtyard (Buildings A-B)



Fig. 7: General shot of the west-facing elevation fronting Newhaven Road (Buildings D-E)

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Fig. 8: East-facing elevation and north-facing gable overlooking the carpark (Building J)



Fig. 9: South-facing elevation overlooking a former lade (Building I)

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Fig. 10: Interior ground floor office and broken fire place (Building B, Room B3)



Fig. 11: Interior first floor office with robbed fireplace Building B, Room B12)

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Fig. 12: Interior of Building C the former gymnasium utilizing the outside wall of Building D



Fig. 13: Detailed shot of one of the tie-plates on a former gable wall of Building D

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Fig. 14: General shot of the interior of the ground floor in Building D, Room D1



Fig. 15: Part of the load-bearing steel frame at the west end of Building D, D1

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Fig. 16: Central cast-iron bearing box and blocked window on the ground floor of Building E, Room E1



Fig. 17: Detailed shot of the bearing box in Building E1

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Fig. 18: Open plan workshop and office suite on the first floor of Building F showing riveted steel frame (Room F1)



Fig. 19: Earlier blocked doorway on the south wall of the engraving workshop (Building F, Room F1)

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Fig. 20: Former locksmith's workshop (Building G Room G6)



Fig. 21: Former locksmiths shop in Building G (Room G7)

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Fig. 22: Timber-framed mezzanine on the second floor in Building H, (Room H1)



Fig. 23: Composite steel roof truss in Building H (Room H1)

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Fig. 24: Ground floor showing load-bearing steel frame Building I, Room I3)



Fig. 25: Detail shot of the I-beams and shoes on the pillar heads that support them (Building I, Room I3)

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Fig. 26: A typical first floor office in Building I (Room I9)



Fig. 27: Second floor of Building I showing composite double-fink wide span joists (Building I Room I20)

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Fig. 28: Load bearing pillar with fish-plates supporting the a steel roof valley (Building I, Room 20)



Fig. 29: Interior view of the office at the north end of Building J (Room J1)

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Fig. 30: Interior view of the garage work shop at the south end of Building J (Room J4)



Fig. 31: General view of the North Lade at the base of Bonnington Bridge

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Fig. 32: Detailed shot of the segmented arch of the North Lade



Fig. 33: General shot of the South Lade running at the foot of the main south-facing elevation of the Bonnington Mill complex prior to demolition

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Fig. 34: The South Lade exposed during the demolition



Fig. 35: Building I during demolition showing its exposed steel frame

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Fig. 36: Exposed cast-iron bearing box and cast-iron column on the floor above (Building F, Room F1)



Fig. 37: Blocked ground floor doorways and ornate glazed window on the first floor (Building A, Room A3)

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Fig. 38: Section exposed through Building A revealing its gable wall below the pitched roof. Blocked fireplaces and cupboards can be seen to the right of the later inserted doorways

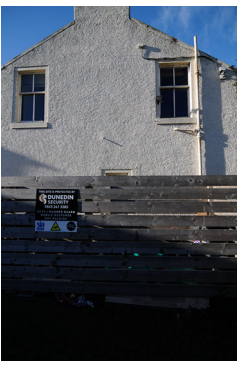
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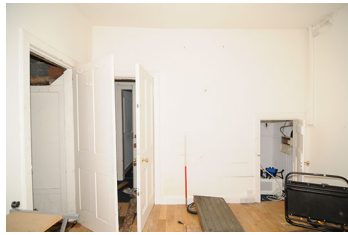
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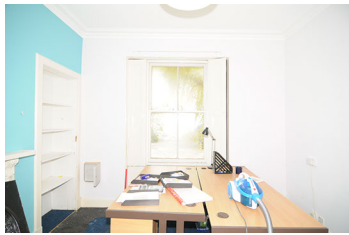
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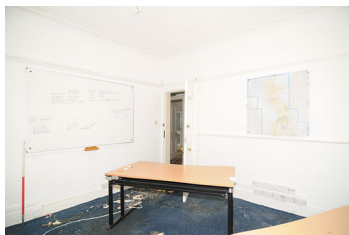
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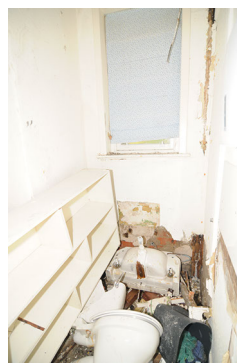
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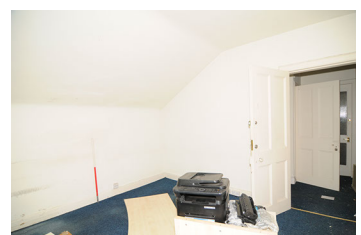
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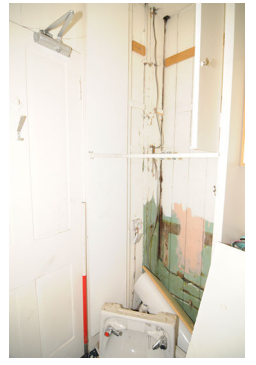
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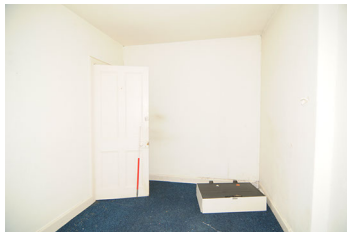
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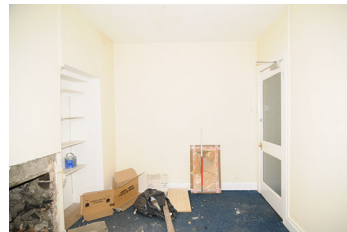
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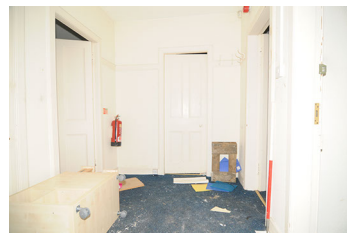
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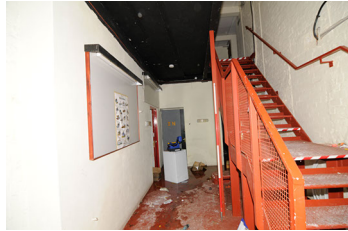
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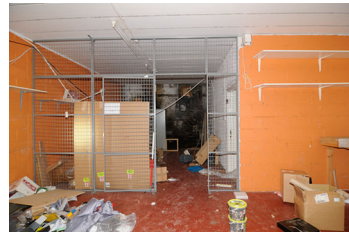
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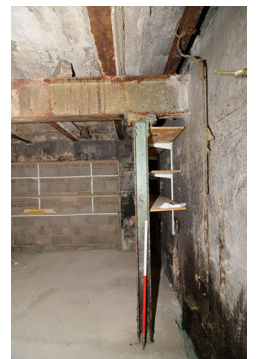
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BONN2_099.JPG



BONN2_100.JPG



BONN2_101.JPG



BONN2_102.JPG



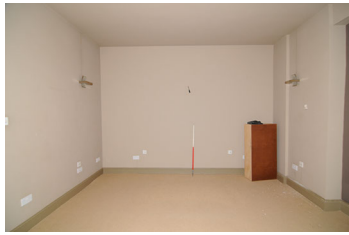
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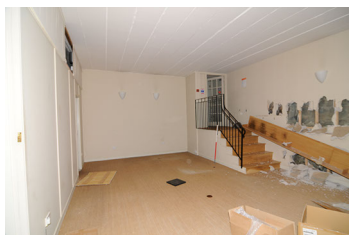
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BONN2_109.JPG



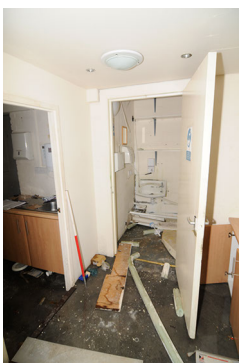
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BONN2_114.JPG



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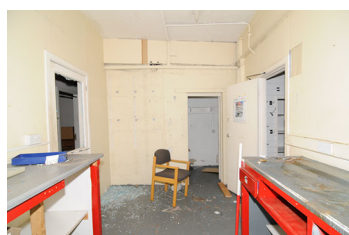
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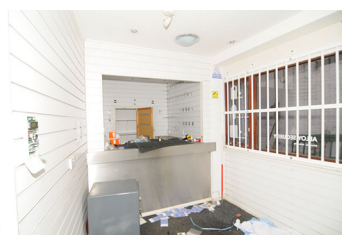
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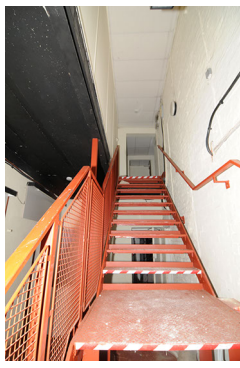
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BONN2_122.JPG



BONN2_123.JPG



BONN2_124.JPG



BONN2_125.JPG



BONN2_126.JPG



BONN2_127.JPG



BONN2_128.JPG



BONN2_129.JPG



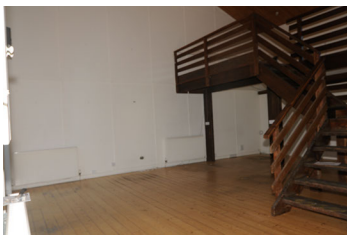
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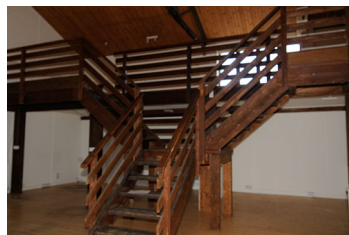
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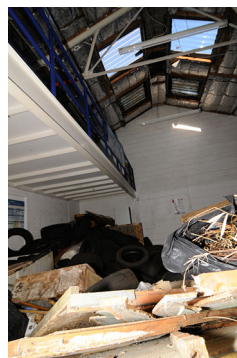
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BONN2_139.JPG



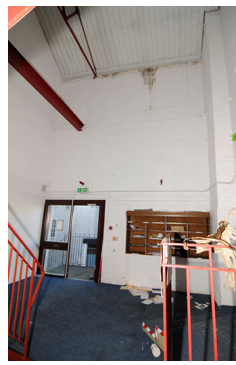
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BONN2_146.JPG



BONN2_147.JPG



BONN2_148.JPG



BONN2_149.JPG



BONN2_150.JPG



BONN2_151.JPG



BONN2_152.JPG



BONN2_153.JPG



BONN2_154.JPG



BONN2_155.JPG



BONN2_156.JPG



BONN2_157.JPG



BONN2_158.JPG



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BONN2_163.JPG



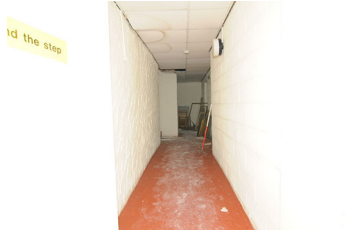
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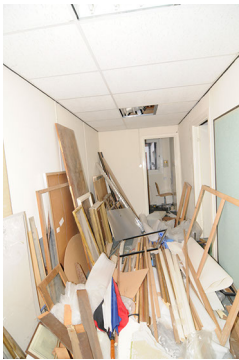
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BONN2_172.JPG



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BONN2_175.JPG



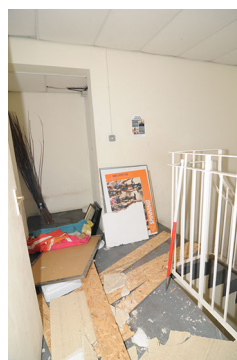
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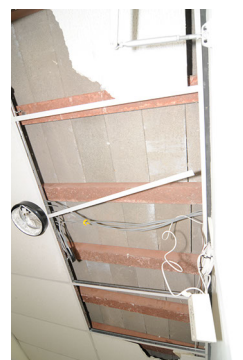
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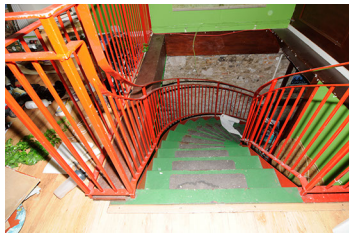
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BONN2_181.JPG



BONN2_182.JPG



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BONN2_184.JPG



BONN2_185.JPG



BONN2_186.JPG



BONN2_187.JPG



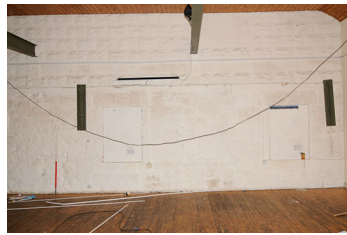
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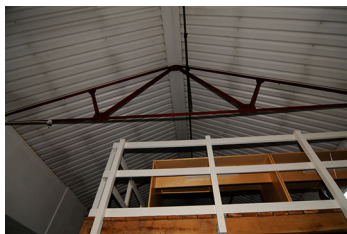
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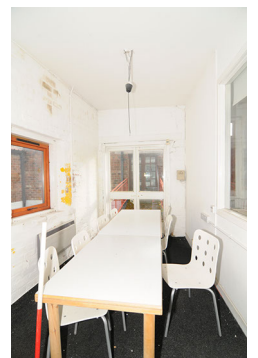
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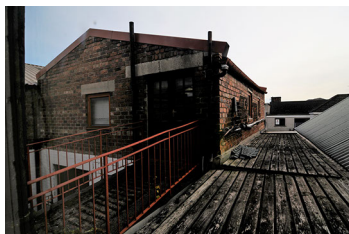
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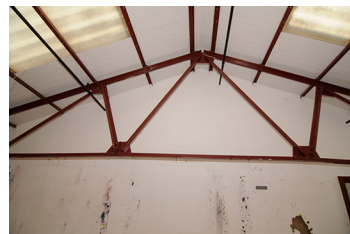
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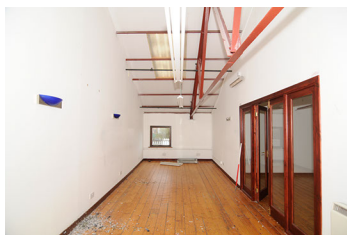
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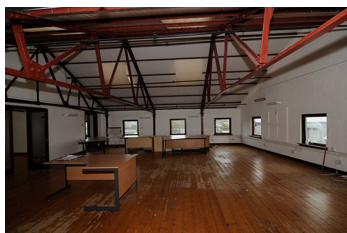
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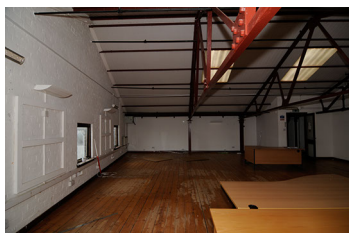
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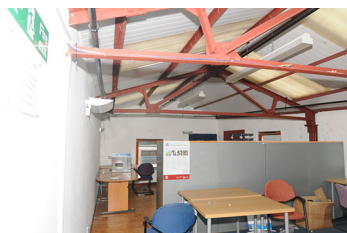
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BONN2_217.JPG



BONN2_218.JPG



BONN2_219.JPG



BONN2_220.JPG



BONN2_221



BONN2_222



BONN2_223



BONN2_224



BONN2_225



BONN2_226



BONN2_227



BONN2_228



BONN2_229



BONN2_230



BONN2_231



BONN2_232



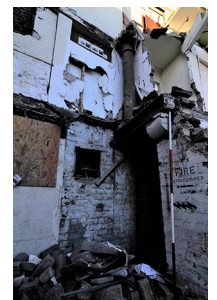
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BONN2_234



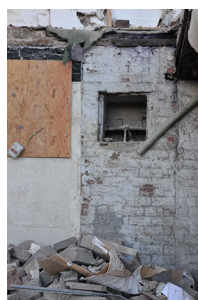
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BONN2_236



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BONN2_238



BONN2_239



BONN2_240



BONN2_241



BONN2_242



BONN2_243



BONN2_244



BONN2_245



BONN2_246



BONN2_247



BONN2_248



BONN2_249



BONN2_250



BONN2_251



BONN2_252



BONN2_253



BONN2_254



BONN2_255



BONN2_256



BONN2_257



BONN2_258



BONN2_259



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BONN2_261



BONN2_262



BONN2_263



BONN2_264



BONN2_265



BONN2_266



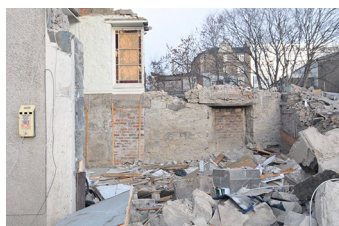
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BONN2_268



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BONN2_270



BONN2_271



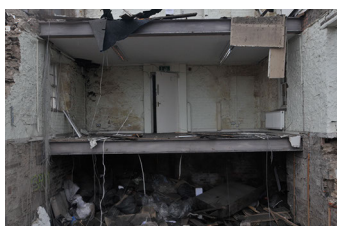
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BONN2_277



BONN2_278



BONN2_279



BONN2_280



BONN2_281



BONN2_282



BONN2_283



BONN2_284



BONN2_285



BONN2_286



BONN2_287



BONN2_288



BONN2_289



BONN2_290



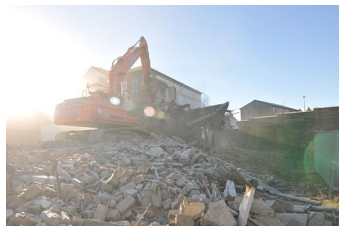
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