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ARCHAEOLOGY | CONSERVATION | HERITAGE | PLANNING

Architectural Heritage Impact Assessment
(incorporating conservation survey)

St Kevin's Strategic Housing Development, Shanakiel, Cork City

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1. Introduction

This report provides an architectural heritage impact assessment (incorporating a conservation survey) of a proposed strategic housing development on the former institutional lands of St. Kevin's Hospital in Shanakiel, Cork City.

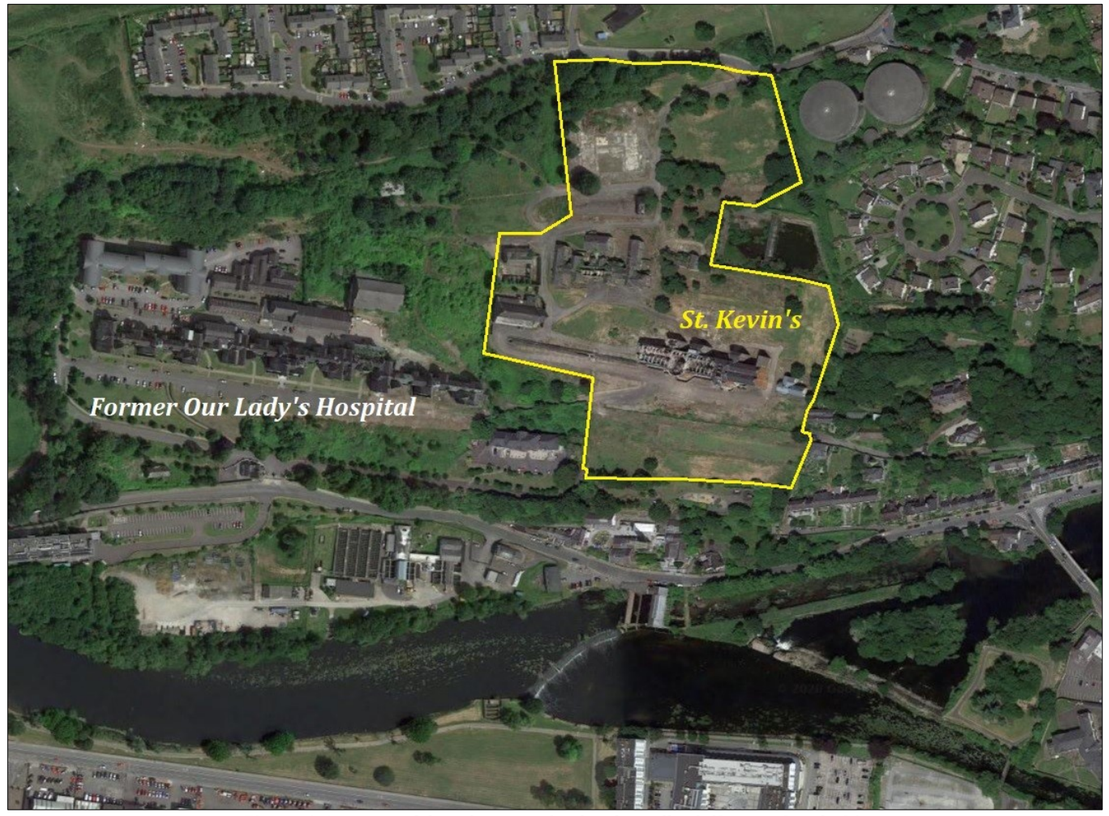

***Figure 1**: Location of the subject site (outlined in yellow) (Source: Google ©)*

The Land Development Agency intend to apply to An Bord Pleanála (the Board) for permission for a Strategic Housing Development with a total application site area of c. 5.7 ha, on lands located at the Former St. Kevin's Hospital and Grounds, Shanakiel, Cork (A Protected Structure, 'Our Lady's Hospital' RPS Ref. PS620). The development, with a total gross floor area of c 24,344 sq m, will provide 266 no. residential units, a crèche and office enterprise centre. The development will consist of 46 no. town houses (32 no. 3 bedroom units and 14 no. 4 bedroom units) arranged in 11 no. two storey blocks; 54 no. ground floor 2 bedroom duplex apartments and 36 no. 3 bedroom and 18 no. 4 bedroom duplex townhouses above arranged in 7 no. three storey blocks and 52 no. walk-up apartments (11 no. 1 bedroom apartments and 41 no. 2 bedroom apartments) arranged in 3 no. four storey blocks. The development will also include the stabilisation, conversion, renovation and internal reordering (including new structural frame and floors) of the former St. Kevin's Hospital building to provide 60 no. apartments (26 no. 1 bedroom and 34 no. 2 bedroom apartments) a 440 sq m crèche at ground floor level, with ancillary outdoor play area and the conversion of the 630 sq m former chapel building to provide a new Office Enterprise Centre. The proposed development will include 241 no. surface car parking spaces and 563 no. bicycle parking spaces.

The development will also consist of the demolition of 2,901 sq m of former hospital buildings and associated outbuildings (including the demolition of the 1,129 sq m former two storey St. Dympna's Hospital block; 672 sqm of the rear toilet blocks and contemporary stair cores to the side and rear of the St. Kevin's Hospital building; the 220 sq m two storey former Doctors House; the 50 sq m one storey hospital mortuary building; 480 sq m of shed buildings to the rear of the Chapel; the 151 m retaining wall to the immediate south of the St. Kevin's Hospital building and the partial demolition of the existing 350 sq m link corridor structure, to be replaced with an integrated landscaped amenity area in the footprint of the original structure.) 2 no. new 228 sq m extensions with bridge access are to be provided to the rear of the St. Kevin's Hospital Building and 2 no. 31 sq m new glazed porch extensions to the south.

The development will also include the provision of a play area to the immediate east of St. Kevin's Hospital; private, communal and public open space (including all balconies and terraces at all levels); internal roads and pathways; pedestrian access points; hard and soft landscaping; boundary treatments including the repair of some existing boundary walls; the provision of new surface water and foul drainage pipes and any associated pipe diversion works; new retaining walls; a new internal access road; changes in level; services provision and related pipework; electric vehicle charging points; attenuation tanks; SUDS; signage; the upgrading of the existing access from Beechtree Avenue; public lighting and all site development and excavation works above and below ground.

This report was prepared by John Cronin BA MRUP MUBC, a conservation consultant with over twenty-years' postgraduate experience in building and heritage conservation and in the appraisal of architectural heritage impacts. Additional research and assessment were undertaken by Eamonn Hunter BSc, Ita O'Brien BA Dip. Cons. Studies, and David Murphy BA. The assessment is based on desktop research and a programme of site inspections. It should be noted that many of the buildings are in a poor state of repair and it has not been possible to enter and inspect the interior of a number of the buildings due to collapsed roof material and the blocking up of a number of buildings for security reasons.

The authors have provided advice to the wider design team in relation to the treatment of buildings to be retained. This report should be read in conjunction with the following reports that form part of the St Kevin's Strategic Housing Development application:

- AECOM (2020) "St Kevin's Strategic Housing Development, Cork City: Landscape Design and Public Realm Report", an unpublished report prepared by AECOM.
- Barrett Mahony Consulting Engineers (2020) "Structural Report on South Retaining Wall", an unpublished report prepared by Barrett Mahony Consulting Engineers in relation to , St Kevin's Strategic Housing Development (Document No 19.305-SR-01/PL2)
- Reddy Architecture + Urbanism (2020) "St Kevin's Strategic Housing Development at the former St. Kevin's Hospital and Grounds, Shanakiel, Cork – Design Statement", an unpublished report by Reddy Architecture + Urbanism
- Reddy Architecture + Urbanism (2020) "St Kevin's Strategic Housing Development at the former St. Kevin's Hospital and Grounds, Shanakiel, Cork – Material and Finishes", an unpublished report by Reddy Architecture + Urbanism

2. Context

The St. Kevin's complex is located on a series of terraces constructed on the south-facing slope of the Lower Lee valley above the Cork City Waterworks and the Lee Road on the western outskirts of Cork City. The site is located *c.*2km to the west of the historic core of Cork. The St. Kevin's building itself comprises a large red bricked, four-storey over basement building, designed by William Henry Hill and constructed c.1893. The building formed an annexe to the wider Cork District Lunatic Asylum complex which included the larger and pre-existing Eglington Asylum. Prior to development the of St. Kevin's complex, the subject lands were occupied by 'Carrigmore House' and demesne. As well as the early 19th century 'Carrigmore House', the demesne also contained gate lodges, a summer house, access avenues and formal gardens. The main house itself was located where the former Catholic church, constructed to the west of St. Kevin's, now stands.

There were a number of access points to the house and grounds with entrances to its northeast, southeast and south depicted on the first edition Ordnance Survey (OS) map of *c.*1840 (**Figure 1**). The primary entrance to the house and grounds appears to have been to the southeast where a gate lodge guarded access from a road approaching from Shanakiel. Beyond the gate lodge (which is no longer extant), the access route veered north-westwards, through the landscaped demesne, towards Carrigmore House. Although the access route within the curtilage of the historic demesne was destroyed during the landscaping of the grounds to the south of the main St. Kevin's Hospital building, the road which led to the gate lodge, external to the grounds of both the historic demesne and the boundaries of St. Kevin's, remains in place. Formerly known as Hyde Park, the road is now known as Rose Hill Upper.

A smaller property called 'Lee View', and its associated formal gardens, was located to the immediate southwest of the above described entrance, in an area which today comprises sloping waste ground. The first edition OS map appears to show that access to Lee View was not via this entrance but instead via a long tree-lined avenue which branched off the southernmost of the access routes into the Carrigmore Demesne.

'Lee View House' appears to have been demolished by the late 1860's to accommodate the laying of a rising main from the newly reconstituted Waterworks to the new Lower Reservoir which was constructed *c.*70m upslope of where St. Kevin's was to be built. No surface trace of either 'Carrigmore House' or 'Leeview House', or any associated structures, survive within the proposed development site. A north-south aligned flight of steps which connect the eastern ends of Rose Hill Upper and Rose Hill, to the immediate east of the historic curtilage of Lee View, and subsequently to the immediate east both the old, lower reservoir of the waterworks and the vegetable gardens of St. Kevin's, are depicted on both the first edition and 25-inch edition OS maps. These steps remain *in-situ* and are bounded by random rubble masonry walls which post-date any of the historic houses and associated grounds which once existed in this area.

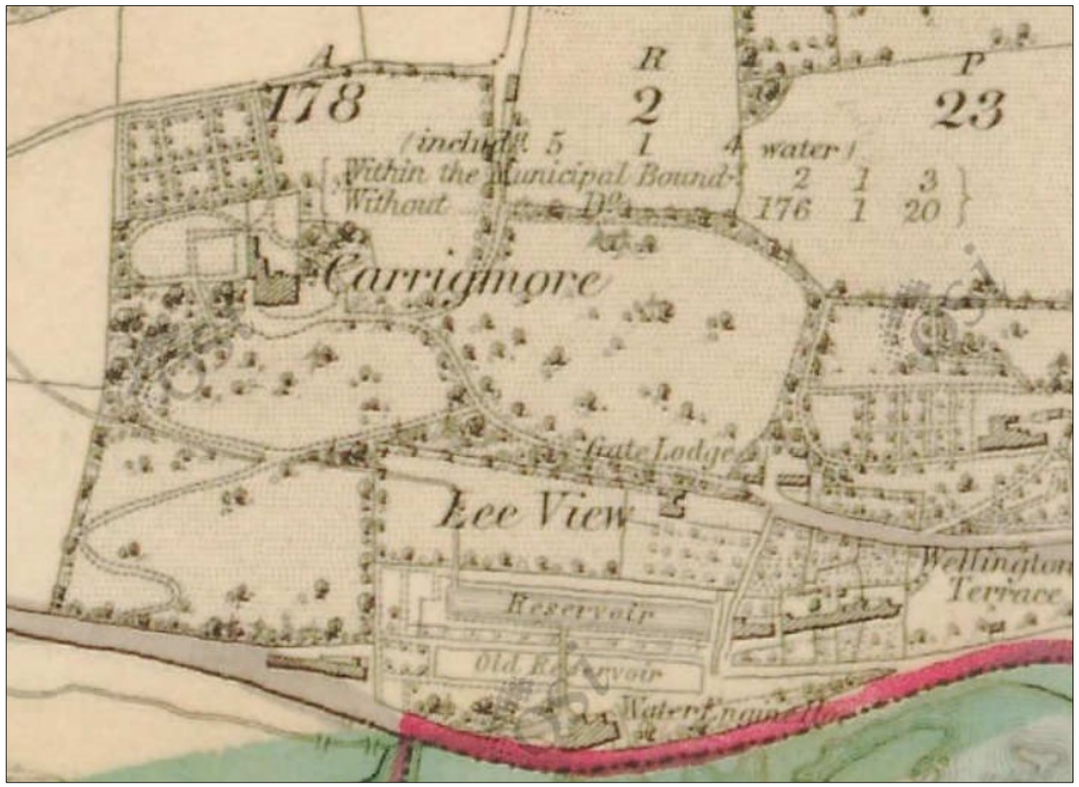

***Figure 2**: Extract from the 1st edition OS map (surveyed c.1841) depicting the subject lands prior to the development of any mental health facility at the subject lands. The extant former chapel building now occupies the footprint of Carrigmore House shown here.*

The primary access point to the proposed development site is via an entrance off Shanakiel Road in the northeast corner of the site. A gate lodge contemporary with the development of the Eglington Asylum c.1850 is still partially extant to the immediate northwest of the entrance (see 1899 OS map in **Figure 4** below). The heavily overgrown ruin, which is not listed on the RPS or NIAH, is situated within the grounds of the St. Anne's Pitch and Putt course. The northeast portion of the proposed development is situated adjacent (west and northwest) to the old 'Lower Reservoir' of the Cork City Waterworks. The reservoir, which survives intact, is located outside the boundaries of the subject site. It was designed by architect Sir John Benson and its construction commenced in June 1857. This reservoir covered approximately one acre and, according to Rynne (1999, 231) "in accordance with Benson's specifications, was to be 15ft deep and be capable of holding up to 4 million gallons". A 10ft thick rubble masonry wall divided it into two almost equal compartments, which allowed for one to be drained and cleaned when necessary, whilst enabling the other to remain in commission. Approximately 100 navvies were employed in the excavation of the reservoir, the earth from which was used to form an embankment. Cut-stone blocks from Foynes, County Limerick, were used in the construction of the reservoir basin, which was lined with local slob brick and 2-3000 Belvelly bricks. This new low-level reservoir had a capacity of 3.5 million gallons, with a top water level of 196ft OD, and supplied the low-level areas of the city. A second, high-level reservoir, with a capacity of 0.75 million gallons and a top

water level of 386ft OD, designed to supply the higher districts of the city, was constructed at Holly Hill in 1860. Both the 19th century high and low-level reservoirs were phased out in the mid-1980s, with the latter replaced by the twin reservoirs which are situated to the immediate southeast of the site entrance off Shanakiel Road.

While sparse settlement in the Shanakiel and Sunday's Well areas is recorded on cartographic sources from the 18th century, the majority of the existing streetscape dates to the 19th century. These areas developed as wealthy residential locations and were characterised by a large number of fine 19th century villas, such as Carrigmore House and Shanakiel House. The wider area was also the setting for a number of striking public and religious buildings. These include: the former Vincentians church (constructed 1851-6); the former City Gaol (constructed 1820's), the former Good Shepherd Convent and Magdalene home (constructed 1870-73) and the Cork City Waterworks (commencing 1770's).

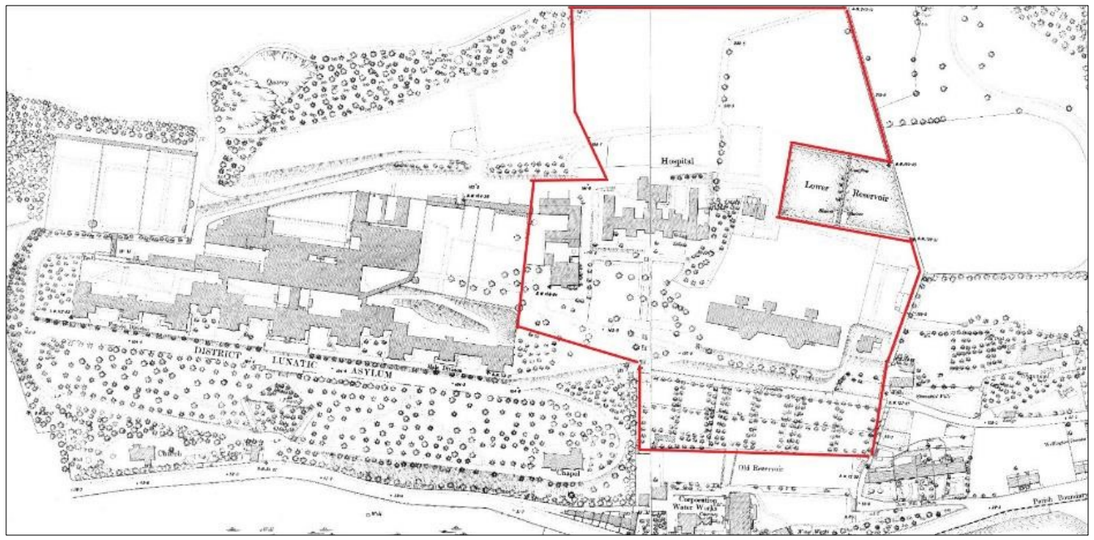

***Figure 3**: Composite of OS map sheets 52 and 53 (surveyed 1893) showing the development of the subject former hospital site (approximately outlined in red) which was ongoing at this time. The existing mortuary and associated structure west of this had not yet been constructed and the chapel had yet to replace the extant Carrigmore House. The communication corridor has also not yet commenced at this time. Outbuildings north of Carrigmore House were probably constructed earlier than the St Dympna's and St Kevin's buildings shown here.*

Consultation of the historic mapping shows the area immediately adjoining the main proposed access point to the subject site largely comprised enclosed agricultural land until the development of the northeast suburbs in the 1970's. The NIAH records no structures or features of architectural heritage interest in the immediate vicinity of this area. However, a number of 19th century features still exist in this area. Landscape House, which is depicted on the first edition OS map, and as such, likely dates to the early to mid-19th century (also see *c.*1899 OS survey in **Figure 4** below)is still extant within its own grounds on the northern side of Shanakiel Road, opposite the modern twin reservoirs. The route of a rope walk, which is also depicted on the historic map editions, is also still in place immediately north of Landscape House. A rope walk is a long straight narrow lane, or a covered pathway, where long strands of material are laid before being twisted into rope. These post-medieval features were in use until the early 20th century. This rope walk extended from Strawberry Lane to Shanakiel Road, a distance of c.400m.

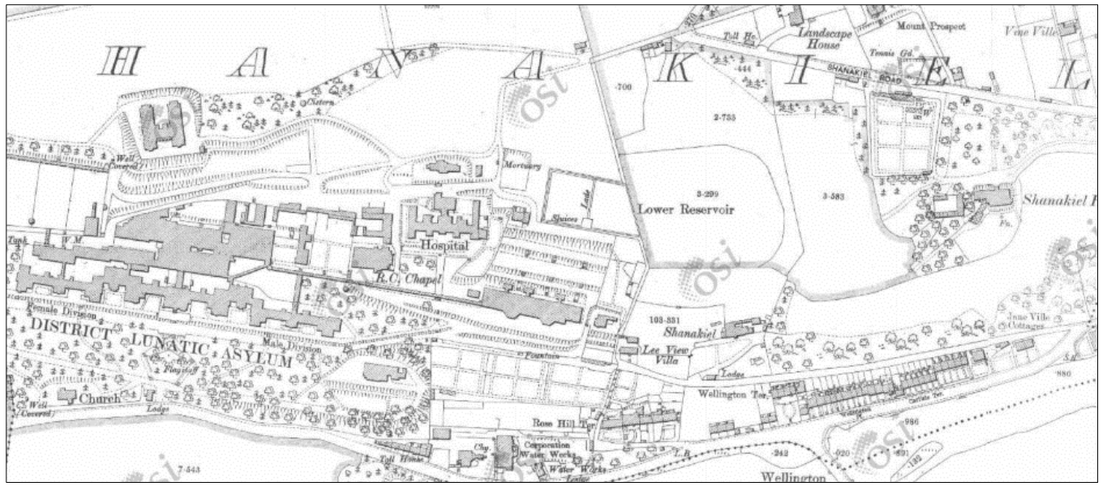

***Figure 4**: Extract from the 25-inch edition OS map (surveyed c.1899) depicting the subject lands subsequent to the development of Cork District Lunatic Asylum, including the St. Kevin's block (centre of frame). Note mortuary and associated structure as well as chapel and communication corridor had been constructed by this time. Ruined remains of rectangular lodge building immediately north of entrance to proposed development off Shanakiel Road (top centre of above map) are still extant within the grounds of the pitch-and-putt facility north of the subject site.*

Mental health care in Cork City

The first asylum for the insane in Cork opened in 1791 and was located on the Old Blackrock Road at the site of the South Infirmary. Implementation of the Irish Lunatic's Asylum Act in 1845 provided legislation for two new asylums in Ireland, a criminal one in Dundrum, County Dublin and a 500-bed district lunatic asylum in Cork. An advertisement for tenders for an appropriate site for the Cork District Lunatic Asylum required that it should be within two miles of the city and that there should be sufficient ground around it for patients to exercise. Following consideration of a number of sites, lands on the northern side of the Lee Road, adjacent the City Waterworks and totalling *c.*53 acres, were chosen as the preferred site.

The original asylum, which was known as Eglington Asylum (named after the Earl of Eglinton, Lord Lieutenant of Ireland) (later renamed Our Lady's Hospital) was designed by local architect, William Atkins, in 1846, and constructed by Alexander Deane from 1849 to 1852. This building (known locally as 'The Grey Building' due to its dark grey sandstone and limestone façade) was constructed on an artificial terrace to the west of where the later St. Kevin's building was to be built. Originally three separate blocks, male to the east and female to the west flanking a central block, the need for additional accommodation resulted in their linking in 1861, which led to the creation of an extremely long building. When completed, it formed the longest facade of any building in the country.

Despite the significant scale of the Eglington Asylum, by the 1880's there was a requirement for more accommodation capacity, and facilities, within the District Lunatic Asylum complex. Following design disagreements between William Atkins and the relevant authorities, William Henry (W.H.) Hill was appointed to design and oversee the construction of the new facilities. Between the years of 1888 and 1894, building contractors E & P O'Flynn and Samuel Hill constructed the new accommodation block which subsequently became known as St. Kevin's, as well as additional buildings such as the mortuary, the Catholic church, the St. Dympna's block and a number of ancillary buildings such as staff residences and outbuildings. Also constructed was a 'communication corridor' which linked the new, red brick-built accommodation block with the pre-existing asylum building. The single storey communications corridor, a western section of which

extended underground, comprised a near 200m long link between the pre-existing asylum buildings and the new accommodation block to the east. The additional developments, designed by W.H. Hill, raised the accommodation capacity of the combined asylum facilities to 1430. Further late 19th century works designed by William Henry Hill included temporary buildings and dining halls, constructed in 1897-8, for which the contractor, P. Murphy, was paid £2097.

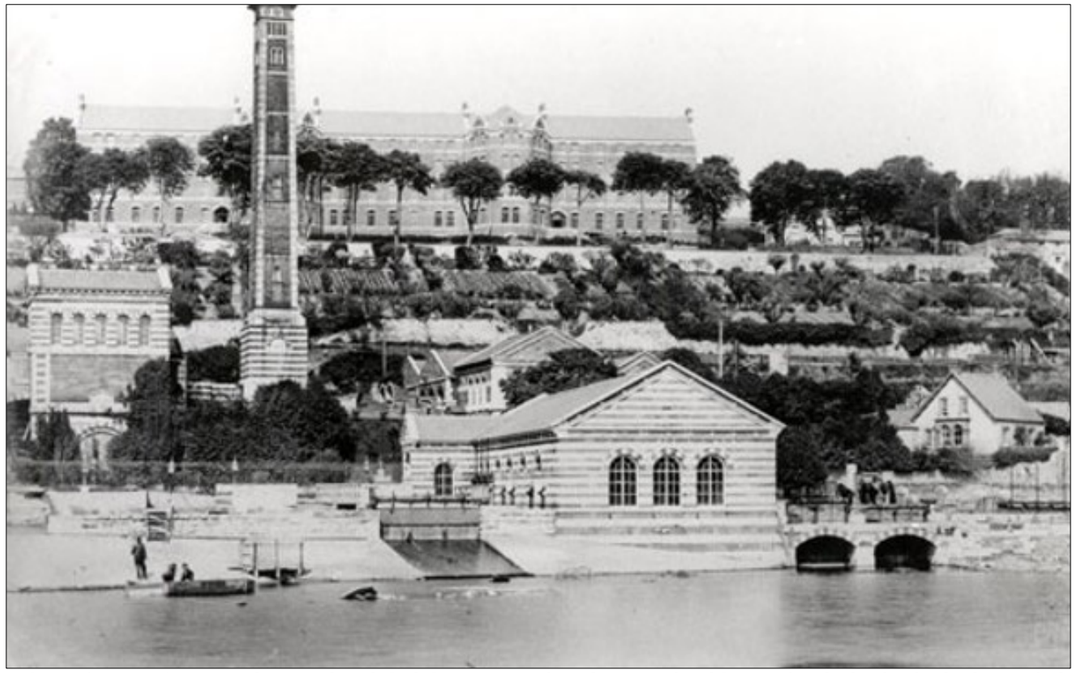

***Figure 5**: Late 19th century photograph with Cork City Waterworks in foreground and St. Kevin's at higher level in background of frame. What appears to be vegetable gardens occupy the sloping ground to the front of the St. Kevin's building*

William Henry Hill died in 1911, however his son and namesake, also an architect, carried on the business under the same name. William Henry Hill Jnr had served a pupillage under his father who took him into partnership in 1899. The younger Hill continued as architect to the Cork District Lunatic Asylum and he supervised a range of additional ancillary developments during the early 20th century. These works included: additional accommodation, structural improvements and alterations to the west wing which were undertaken in 1913 by contractor Daniel Kelleher for £732; works to the laundry carried out in 1920; the development of a drying chamber in connection with the laundry in 1939 and the construction of a temporary building containing dormitories and day rooms in 1940. Furthermore, a new hospital and admission block within grounds of the asylum, as well as other ancillary works, appears to have been constructed under the supervision of architect Henry Houghton Hill between the years of 1933 and 1940. Finally, a new gate lodge was constructed in 1955 and an admissions unit, along with landscaping works to the grounds, was constructed to the design of James Rupert Edward Boyd Barrett between 1959 and 1962.

Latterly, St. Kevin's housed the Southern Health Board's Metal Health Services, as well as an intensive care unit for mental health services for Cork City and County. The unit was permanently shut in 2002 and its remaining patients were transferred to the Carraig Mór Centre located to the north of the subject site. The St. Kevin's building had been considered for conversion to Southern Health Board offices, however, an alternative site was chosen, and the building was abandoned and fell into disrepair. A major fire gutted approximately two thirds of the building in 2017. Only the eastern third of the building remains roofed and relatively intact.

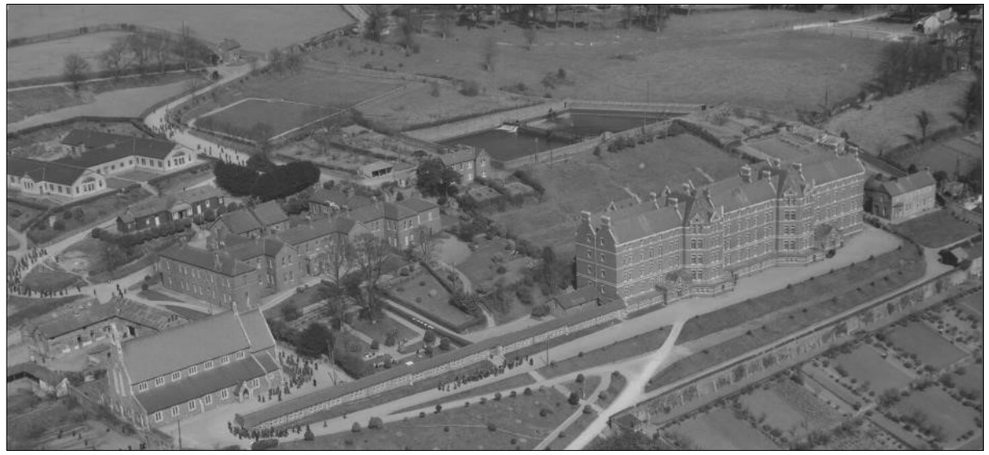

***Figure 6:** Historic aerial view of St Kevin's hospital site when operational in 1955. Note that site appears to have developed historically in a somewhat ad hoc manner with a range of different building styles from one to four storeys that responded to the terraced site but maintained their own individual character with different façade treatments and architectural styles within the combined complex which was in constant, quite intensive use for over 100 years (Source: National Library of Ireland digitised catalogue)*

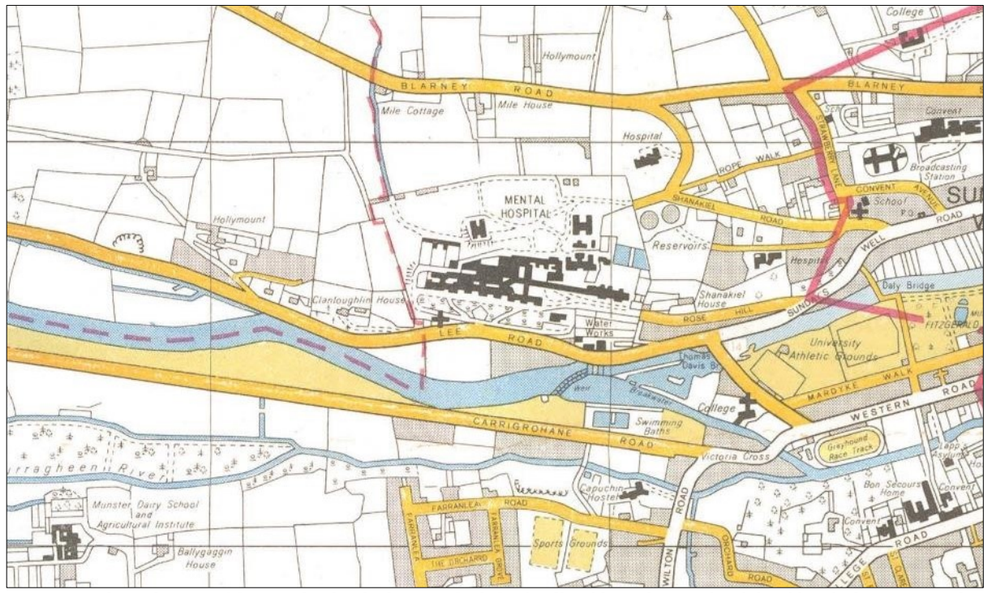

***Figure 7:** Extract from the 1964 OS map of Ireland[1] showing Cork City's official boundary with solid red line before new city boundary with dotted red line came into effect in 1965. Map shows H-plan infirmary building to north part of subject site was constructed between 1951 and 1965 and was demolished after 2005.*

[1] http://www.corkpastandpresent.ie/mapsimages/corkinoldmaps/1964osimapofcorkcity/

Legal & policy framework

The National Inventory of Architectural Heritage (NIAH) was established under the Architectural Heritage Act (1999), to record architectural heritage structures within the State and to advise local authorities in relation to structures of architectural heritage significance within their administrative areas. **The former Roman Catholic chapel, communication corridor, St Kevin's Hospital and its associated doctors' residence are all separately recorded on the NIAH database**. The conservation principles of care and protection of architectural heritage and the facilitation of the listing of significant buildings of architectural merit are set out in Part IV of the Planning and Development Act (2000). This requires Local Authorities to maintain a Record of Protected Structures (RPS) of structures with special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, to be included in City/County Development Plans. **Our Lady's Hospital and St Kevin's Hospital are listed on the RPS** for Cork City. In addition, Local Authorities must provide for the preservation of townscapes etc. through designation of Architectural Conservation Areas (ACAs). Any changes that materially affect the character of a protected structure require planning permission. No part of the proposed development site is within an ACA.

The Cork City Development Plan (2015-2021) includes the following relevant objectives in relation to the protection and promotion of the architectural heritage resource within the City:

> ***Objective 9.24*** *Demolition of Protected Structures Proposals for demolition of a Protected Structure shall not be permitted except in exceptional circumstances and where it can be showed that a greater public interest will be served which outweighs the loss to the architectural heritage.*
>
> ***Objective 9.25*** *Recording of Protected Structures Any alteration or demolition of a Protected Structure shall require a full record to Best Conservation Practice.*
>
> ***Objective 9.35*** *Elements of the Built Heritage To ensure the protection of important elements of the built heritage and their settings as appropriate.*

Protected Views

There are a number of protected views and prospects designated in the *Cork City Development Plan 2015-2021* which have relevance to the proposed development site (see **Figure 8** below). These include protected linear views to landmark buildings, protected views and prospects and protected landscape and townscape views. While the St. Kevin's Hospital building itself is not designated as a landmark building, the adjacent Our Lady's Hospital (Atkins Hall) is designated as such and is the subject of two protected linear views. These consist of the northwards view from the junction of Model Farm Road and Farranlea Park (**View OL1**) which provides a line of sight to Our Lady's Hospital (Atkins Hall), and the northwards view from Bishopstown Avenue (**View OL2**) which provides a line of sight to Our Lady's Hospital (Atkins Hall). There will be no impact to either of these protected linear views as a result of any proposed works within the subject site.

While not designated as a landmark structure, the view from Wilton Road to the Shanakiel Water Reservoir (**View WT1**) is also a protected view/prospect within the development plan. While the direct line of sight of this view will not be impacted by the proposed development, aspects of the landscape to the immediate west of the reservoir will be altered as a result of the proposed development.

Furthermore, the *Cork City Development Plan 2015-2021* identifies a number of protected landscape/townscape views which have relevance to the subject site. These include the view to Our Lady's Hospital (Atkins Hall) and the Shanakiel ridge from the Lee Fields/Carrigrohane Road (**View LT15**), the view towards Our Lady's Hospital (Atkins Hall) and the Shanakiel ridge from the junction of Model Farm Road and Farranlea Park (**View LT16**), the view towards Our Lady's Hospital (Atkins Hall) and the Shanakiel ridge (**View LT17**) from Bishopstown Avenue, and the view towards Our Lady's Hospital (Atkins Hall) and the Shanakiel ridge from the Western Road and Thomas Davis Bridge (**View LT17a**). There will be minimal impact to views **LT17** and **LT17a** as a result of any of the development proposed within the subject site. However, in relation to views **LT15** and **LT16**, aspects of the landscape, as viewed from the designated locations, will be altered as a result of the proposed development. However, retention of existing mature trees within the development site will ensure that the noticeable effects of the landscape changes are minimal in nature, with all direct lines of sight to designated landmark buildings and other important structures remaining unaffected by the proposed development.

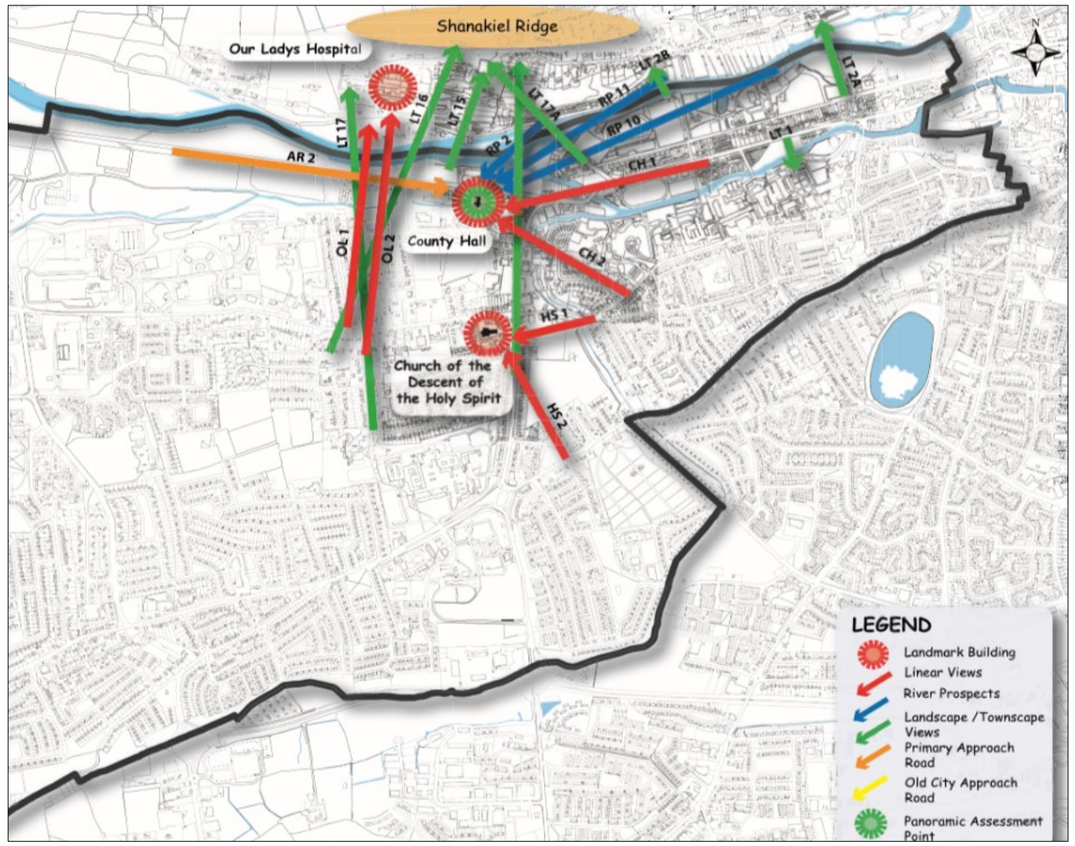

Figure 8*: Designated protected views and prospects in the vicinity of the proposed development site, Cork City Development Plan 2015-2021*

3. Description of the site

The site is located 2.5km west of Cork city centre on a prominent south facing hillside site. The site offers expansive views over the western suburbs of the city. The sites vehicular access is from Shanakiel Road which rises from the Sundays Well road, a major east west link road north of the River Lee. This provides direct access to the city-centre to east and to Wellington bridge to the west, situated below the site. The entire site extends to approximately 14 acres (5.7 hectares) and is laid out over three tiers/levels with a series of buildings including the former St Kevin's Hospital, St Dympna's Hospital, St Kevin's Church and a number of outbuildings totalling approximately 8,300 sqm. (89,340 sq ft).

St Kevin's suffered a major fire in 2017 and along with St Dympna's, although secured, both buildings are derelict. They are also in dangerous state; this limits the scope for carrying out detailed inspections. The external envelope of the Church building is intact, but again the interiors are significantly neglected. There are a number of roads on site providing access to the various buildings, but the complexes original secondary access south west of the site is no longer accessible, with the adjoining Our Lady's Hospital complex now in separate ownership.

A total of eight distinct buildings have been identified on site (see **Figure 9** below). A general description of each structure is provided below with plate references to the detailed photographic record which forms **Appendix 1** to this document. A selection of plans and elevations of these buildings are reproduced in **Appendix 2**.

Figure 9: *Aerial view of St Kevin's complex labelling individual structures*

Building No.	*Description*
1 (see ***Plates 4*** & ***6***, *Appendix 1*)	**Former mortuary building**. Constructed between 1893 and 1899, most likely to a design by W.H. Hill. Comprises a gable-fronted, two-bay, single-storey building with a small extension to the north providing an additional bay. Pitched slate roof with single brick chimney to south gable, overhanging eaves and gable barges with fragments of cast-iron rainwater goods and coursed limestone masonry walls with red brick dressings to quoins and openings. Raised timber section to ridge of roof is clad with corrugated steel sheeting. Pointed windows with limestone sills are blocked with brickwork while doorways are blocked with steel sheeting. Extensive areas of the roof are missing, and the interior was not accessed as part of the present survey. The site is located on a level platform cut into original sloping surface. An additional cross-shaped building of a similar construction date to the west was demolished in the mid to late twentieth century, before 1995, leaving a hard-surfaced area.
2 (***Plates 7 - 16***, *Appendix 1*)	**Collection of outbuildings** constructed before 1893 (but not prior to 1840), possibly associated with Carrigmore House which originally occupied site of later chapel immediately south of outbuildings. Outbuildings are arranged in horse-shoe shape open to west. Render on easternmost N-S orientated building is partially complete, exposing rubble-stone wall with brick dressings to openings and quoins; this building is roofless with ground-level windows either blocked up or otherwise open and containing no frames. At first floor-level there is a series of small square openings possibly providing ventilation to a hay loft. The double-pile northern E-W orientated structure incorporates at least four windows blocked with steel sheeting along the north side, with blocked window openings to ground and first floor-level on the western gables. Historic photographs indicate stable doors on the south elevation of the building with segmental-headed cart shed doorways to each end. This building has cementitious dashed render on some elevations and the double-pitched roof with a central valley is presently clad with a mixture of slate and corrugated fibre-cement sheeting. The roofless remains of a lean-to structure extend westwards from southwest corner of N-S orientated building. None of the building interiors were accessed as part of the present survey.
3 *(Plates 17-22)*	**Former hospital and accommodation building known as St. Dympna's**. Constructed between the years 1889 and 1893 under the direction of W.H. Hill, incorporating a main range extending along an east-west axis with four perpendicular, two-storey blocks which are bisected by the main range with hipped roofs to the ends and gable fronts to the southern projections flanking the central entrance bay. The entire south façade is constructed of red brick with a yellow brick sill course at first floor-level and yellow bricks interspersed to decorate arched window heads. There are corner buttresses in brick emphasising the multiple projections to the front façade of the building. Rear and internal side elevations have little architectural ornament and are constructed of rubble limestone with brick dressings to openings and quoins. There are various extensions to the east elevation and to the rear with a larger gabled block, three bays deep, terminating the block that extends perpendicularly from the central entrance bay of the main front range. Roofs are clad in slate with varying states of coverage or dereliction around the

Building No.	*Description*
	structure and there are multiple brick chimneys with oversailing courses. Significant decay is evident throughout the building, especially to collapsed front central portion of the roof. Window openings are square headed with stone sills and a mixture of uPVC or timber sliding sash frames where not boarded or bricked up. This entire complex structure is built on a platform cut into the steep south facing slope and incorporates the sloping ground using different access doorway heights. None of the building interiors were accessed as part of the present survey.
4 (***Plates 23*** & ***24***)	**Former Matron's residence**, most likely constructed between the years of 1889 and 1893, to designs by W.H. Hill. Two-storey limestone structure with brick surrounds to openings and quoins, built on a T-shaped plan with a catslide roofed extension to the rear. The structure is boarded up and in a state of ongoing dereliction, however the pitched slate and fibre-cement tiled roof with overhanging eaves and bargeboards is largely intact. The building and surrounding hard-surfaced area, which are largely overgrown, are located on level platform formed on the western embankment to the Lower Reservoir. The building was used as the matron's residence.
5 (***Plates 27 - 37***)	**Former Roman Catholic chapel**, dated 1898, now disused. Constructed in 1898 on site of former Carrigmore House most likely to designs by W.H. Hill, architect for most of the 1890s expansion of the asylum complex. Freestanding double-height chapel, comprising seven-bay side elevations with single-storey lean-to aisles on both sides with gabled entrance porches, and lower east chancel having lean-to sacristy to east end. Pitched slate roofs having crested terracotta ridge tiles, with ashlar limestone copings (many of which are missing) and ashlar limestone bellcote to west gable. Cast-iron rainwater goods. Roughly dressed sandstone walls with corner buttresses, having limestone quoins and dressings. Inscribed limestone plaque over entrance. Pointed arch-headed window openings, arranged in pairs to side aisles and in triples to clerestory, with three pointed stained-glass lancets having stone hood mouldings and surmounted by a circular window containing a quatrefoil opening to east gable and pair of lancets to west gable. Ashlar limestone dressings to openings. Pointed arch door opening with limestone surround leading to recessed door. Brick piers hold wrought-iron railings on top of a rubble sandstone plinth enclosing the area around the church building to the east and north. The interior of the church is open with all fittings and furniture including pews and the alter having been removed. Floors are solid concrete with suspended timber to the north and south aisles which is extensively decayed as a result of water ingress through missing roof slates. The pointed arcade separating the nave from the aisles has simple moulded plaster detail on circular columns with cusped capitals. The timber sheeted roof is held on a scissor-truss timber structure supported by timber uprights on projecting stone corbels. The mezzanine gallery to the west end of the nave is accessed by a free-standing timber spiral staircase and like the raised alter within the east chancel has distinctive wrought-iron railings to the front with shamrock motifs. A screen of turned timber spindles with pointed detail separates the nave from the area beneath the gallery.
6	**Communications corridor**, an attached, stepped, single-storey link building, built between 1893 and 1899, to connect main asylum building with the new annexe of St.

Building No.	*Description*
(***Plates 38 - 44***)	Kevin's. Pitched slate roof with cast-iron rainwater goods. Roughly dressed rubble stone walls with cut limestone buttresses and a wide segmental arch-headed opening over smooth-rendered steps which link the higher ground level to the rear with the lower level on the south front. Brick-dressed pointed window openings have limestone sills and remains of timber frames visible where openings are not blocked up. Internally, the walls comprise lime-washed plaster with tiling along bottom half and the structure has been subject to vandalism. The building is now in a state of disrepair and general decay.
7 (***Plates 44 - 56***)	**Former St. Kevin's Asylum building** designed by William Henry Hill and built by contractors E & P Flynn and Samuel Hill in the four years before 1893 to provide additional accommodation within the adjacent District Lunatic Asylum. Steps to terraced area north of asylum building constructed between 1893 and 1899. Addition of this building increased overall accommodation capacity on the combined site to 1,430 patients. A detached, double-pile, twenty-one-bay, four-storey over basement former asylum, having a pair of full height, canted, projections with paired windows on each face rising through the cut limestone eaves with lucarnes at third floor-level, flanking a central five-bay section. Full height, pitch-roofed stairwell blocks linked to rear elevation. Pitched slate roofs with central valley and sets of two red brick and ashlar limestone chimneystacks to gables and dividing walls on either side of canted bay projections. Moulded ashlar limestone eaves course holding remains of cast-iron rainwater goods with uPVC replacement elements. Red brick walls with chamfered ashlar limestone capping to slightly projecting ground floor-level and yellow brick sill courses to all other levels. Moulded terracotta cornice over projecting, flat-roofed basement parapet. Pointed arch-headed window openings, square-headed to top floor where chamfered lintels form part of ashlar limestone cornice stepped out to support eaves. Windows throughout have chamfered limestone sills, yellow brick voussoirs and eight-over-eight timber sliding sash windows with four-pane over-lights within pointed heads. Rubble limestone walls to rear elevation, with red brick dressing to openings. Up to two-thirds of building badly damaged. Eastern third of building remains largely intact, while western two-thirds of roof has collapsed following damage by major fire in 2017. This entire building is constructed on a platform cut into the steep south facing slope.
8 (***Plates 57 & 58***)	**Former residence,** constructed c.1893, likely to a design by W.H. Hill. Two-storey house, originally T-shaped in plan but a continuous five-bay façade was constructed by extending the front south elevation eastward in the early twentieth century. Painted render walls, canted bay-window on ground floor level to front with steel-sheet blocked doorway on west-facing gable. Windows and external doors have been boarded up and replacement pitched roof is clad with corrugated steel sheeting. The front south garden area to this former house contained a doorway providing a pedestrian link onto Rose Hill. The building originally as housing for resident doctors. ***(This building is subject to a grant of planning permission for its demolition (Cork City Council ref. 18/37965)***

4. Assessment of buildings

Although relatively well-maintained since the buildings on this predominantly late nineteenth-century former hospital site went out of use in the early 2000s, vandalism and decay as a result of dereliction has caused varying levels of damage to the upstanding structures. The general condition and architectural heritage significance of the eight identified historic buildings on the site has been summarised below.

Building 1 - Former mortuary

Figure 10: *Former mortuary building*

This consists of a derelict, small late nineteenth-century building with later extension to the northern end, overgrown with ivy on east elevation. Extensive loss of slate cladding from roof but otherwise limestone structure with brick dressings appears relatively sound. Associated buildings to west no longer extant. **The building is of limited architectural or historical interest but of some social interest.**

Building 2 – Outbuildings

Figure 11: *Recent aerial view of roofless*

These buildings appear to have been formerly associated with the former Carrigmore House, that used to stand on where the former Catholic chapel is now. Roofless south and east ranges of horse-shoe arranged set of stone buildings while north range has altered openings and mature tree growth within internal roof valley suggesting extensive damage to building fabric. These buildings are devoid of authentic internal fabric and were significantly altered and adapted as workshops and storage for the hospital's maintenance staff and tradesmen. **Building complex of limited architectural interest but of some historical curiosity due to its former association with the long-demolished Carrigmore House.**

Building 3 - Former St Dympna's Hospital

Figure 12: *Recent aerial view of St Dympna's Hospital*

Figure 13: *View towards the front (south) elevation of St Dympna's Hospital*

Building with complex of narrow two-storey brick projections to south and stone ranges to rear north elevation with roofless central block to front part of former hospital building. Extant sections of roof have extensive localised damage evident and building is tending towards general dereliction. Small number of un-blocked windows contain multi-pane timber sliding sash frames. **Building complex of limited architectural or historical interest.**

Building 4 - Former matron's residence

Figure 14: *View towards the south elevation of the former Matron's House*

Stone-built two-storey simply-detailed former matron's residence with extensive tree-growth to slated roof which has localised damage but appears to be in generally sound structural condition. **Building of limited architectural merit but some social significance.**

Figure 15: *Recent aerial photograph of the former Matron's House – note the level of vegetation-growth on the roof*

Building 5 – Chapel

The church was described by the NIAH in 2011 as follows:

> *Freestanding double-height Roman Catholic chapel, dated 1898, now disused. Comprising seven-bay side elevations with single-storey side aisles having gabled entrance porches, with lower chancel having lean -to sacristy to east end. Pitched slate roofs having ridge crestings, single pitched to aisles, with ashlar limestone copings and ashlar limestone bellcote to west gable. Cast-iron rainwater goods. Roughly dressed sandstone walls with buttresses, having limestone quoins. Inscribed limestone plaque over entrance. Pointed arch window openings, arranged in pairs to side aisles and in triples to clerestory, with triple of lancets with ogee heads to east gable and pair of lancets to west gable. Ashlar limestone dressings to openings. Pointed arch door opening with limestone surround leading to recess door.*

Rubble sandstone former chapel building with punch-finished limestone dressings and slate roofs which are generally in good condition notwithstanding extensive vegetation becoming established on structure which will accelerate its decay and dereliction unless redevelopment and refurbishment occurs in the medium term. South façade of chapel along with main St Kevin's façade forms significant feature of views from Carrigrohane roadway and O'Neill Crowley Bridge to south-east. Simple interior has plain plaster decoration and limited internal fabric of significance but appears to be of generally sound condition. **This is a building of architectural and historical significance with certain artistic and social interest.** The building is to be retained and converted to provide a new Office Enterprise Centre.

Figure 16: *Recent aerial photograph of the former chapel*

Figure 17: *View of the interior of the chapel*

Building 6 - Link (or communication) corridor

This derelict structure was described by the NIAH as follows:

> *Attached staggered single-storey link building, built c.1890, to connect adjoining building to east with main building to the south-west. Pitched slate roofs with cast-iron rainwater goods. Roughly dressed rubble stone walls. Pointed openings with limestone sills having remains of timber fittings.*

The NIAH appraised the significance of the structure as follows:

> *Built as part of the Eglinton Asylum, later known as Our Lady's Hospital, this building forms part of a significant group of related structures. It was built in the closing years of the nineteenth century to link the main hospital to the south-west with the attached new asylum building to the east. The link continues as an underground tunnel at the west end of the building. The slate roofs, limestone walls and pointed arch openings add colour and textural interest to the start. This large complex played a significant social role in both city and county in the nineteenth and twentieth centuries.*

There are no features of particular note within this structure's interior and it forms a very minor part of the main façade of the site visible from areas to the south. Though recorded by the NIAH as having architectural and social interest, much of its significance has diminished due to the demolition/removal of the continuation of the corridor with the remainder of the Our Lady's campus to the west. Furthermore, the fabric and structure of the corridor within the present site has become greatly compromised in recent years. Due both to its limited plan adaptability and its deteriorated condition, it has limited scope for reuse. However, in an acknowledgement of its former function and role, the footprint of the majority of the corridor is to be retained as a landscape feature within the proposed scheme and the central archway is to be retained and reroofed.

Figure 18: *Aerial view of the link corridor*

Figure 19: *Central opening in the link corridor – this buttressed opening is to be retained and made good*

Figure 20: *View of the interior of the link corridor (looking west)*

Figure 21: *View east along the rear of the link corridor*

Figure 22: *Aerial photograph of the front (south) elevation of St. Kevin's Hospital*

Building 7 - Former St Kevin's Hospital (protected structure)

The building is described by the NIAH as follows:

> *Detached double-pile thirty-three-bay four-storey over basement former asylum having pair of full height canted six-bay projections with gablets flanking central five-bay section, built c.1895, now disused. Full height stairwell blocks to rear. Pitched slate roofs having red chimneystacks, limestone eaves course and cast-iron rainwater goods. Red brick walls with limestone and yellow brick string courses. Moulded terracotta string course between basement and first floor. Pointed arch openings, square-headed openings to top floor, having limestone sills, yellow brick voussoirs and multiple-pane timber sliding sash windows. Rubble limestone walls to rear elevation, with red brick dressing to openings. Disused detached five-bay two-storey house to west, having pitched slate roof, rendered walls and square-headed openings. Disused detached multiple-bay two-storey block to north-west, having central single-storey projecting bay, flanked by full-height gabled projecting bays, with projecting terminating end bays.*

The monumental shell of the building survives after the 2017 fire that destroyed the roof and interior. The building was appraised by the NIAH as being a building of regional importance. The NIAH appraised the building as follows:

> *Designed by William Henry Hill to provide additional accommodation for up to 1,430 patients at the site, this building forms part of an extensive complex, which included a gate lodge, Church of Ireland church, Roman Catholic church, dinning* [sic] *hall, assembly room for fund raising activities and numerous related building. A link was built between this building and the main hospital to the south-west, which takes the form of an underground tunnel and a prolonged corridor like building attached to the west. Its red and yellow brick construction contrasts with the sandstone and limestone utilised for earlier buildings on the site, and makes it an eye-catching addition to the urban landscape. This large complex played a significant social role in both city and county in the nineteenth and twentieth centuries.*

Notwithstanding the derelict and dangerous condition of the majority of the interior, **the building is of considerable architectural, historical and social significance to Cork City** and it is, along with the former Eglinton Asylum (now Atkins Hall), a **significant landmark** in the western portion of the city. The significance of the building is acknowledged by its inclusion the Record of Protected Structures for the city.

Figure 23: *Fire-damaged interior of the building*

Building 8 - Former doctors' residence (former St Brigid's Hostel)

Figure 24: *Former doctors' residence located to the east of St. Kevin's*

Stone-built two-storey simply-detailed former doctors' residence with slated roof which has localised damage but appears to be in generally sound structural condition. Permission has been granted for the demolition of this building to facilitate the construction of a new rising and distribution water main at Shanakiel which will connect the Lee Road Waterworks to the Shanakiel Reservoirs (Cork City Council planning register reference 18/37965). **Building of limited architectural merit but some social significance.**

Other features of note

Several of the roadways and paths throughout the terraced site comprise routes that were extant since the late nineteenth-century with some limited planted mature trees which help to define historic roads and green spaces. In addition, there are historic masonry walls to the southern half of the eastern boundary as well as extensive historic masonry retaining walls on terraced former gardens north and south of the former St Kevin's building. These are in varying states of repair. The boundary walls are generally structurally sound and have potential to be incorporated into any proposed landscaped development with limited conservation repair and consolidation to secure their stability.

However, to the south of St Kevin's is a nineteenth-century masonry-built buttressed retaining wall; it measures approximately 160 metres in length. Up to the late twentieth century, the area to the south of this wall was used as vegetable gardens that supplied the hospital with fresh produce. Barrett Mahony Consulting Engineers have assessed the structural condition and capacity of this wall and have made recommendations

regarding its treatment in the proposed scheme. Their assessment states the “wall is in very poor condition which is unsurprising given its age and the fact that the site has been derelict and not maintained over the last few years.” Furthermore, the report states that the “stability of the wall it must be viewed as dangerous.”

Figure 25: *Recent aerial view of buttressed retaining wall to the south of St. Kevin’s*

Figure 26: *Recent aerial close-up view of the buttressed retaining wall to the south of St. Kevin’s*

5. Assessment of development proposals

The proposed development on the site of the former St Kevin's Hospital complex will result in rationalisation of the existing group of historic institutional buildings developed mostly in the late 1880s and 1890s. The development will involve the removal of a number of buildings/structures of limited architectural heritage significance but the retention and re-purposing of the most significant buildings, namely St. Kevin's and the former Catholic chapel.

Figure 25: *Proposed site layout (Reddy Architecture + Urbanism)*

Of the structures still upstanding and described in the section above, it is proposed to retain and repurpose those to the southern side of the site, namely:

- The former Roman Catholic chapel (**Building 5**)
- The fire-damaged remains of the former St Kevin's Asylum (**Building 7**) – this is a protected structure
- A small portion of the fragmentary remains of the former link/communications corridor (**Building 6**) is to be retained and the majority of the walling reduced in height to create an amenity walkway
- Many of the incidental masonry boundary walls around the site, along with much of the terraced nature of the south-sloping site, will be incorporated in the proposed new landscaped development.

The former mortuary, outbuildings, St Dympna's Hospital and a former residence (**Buildings 1-4**) will all be demolished to make way for proposed new residential accommodation as part of the planned redevelopment of the site. The former residence, described above as **Building 8** and included in this report for completeness, has already been approved for demolition by Cork City Council.

The demolition of a number of the existing historic structures will be the principal negative impact of the proposed development on the built heritage extant on the site. The appraisal of these buildings in the section above notes that although they form part of the historic hospital site and are examples of institutional structures typical of the late nineteenth-century in Cork, they are otherwise unremarkable structures that comprised somewhat incidental elements of a larger complex dominated by the landmark structures to the south of the site. It is these latter buildings, namely the chapel and the former St Kevin's hospital, which characterise the site from the main viewpoints to the south, and by retaining and conserving to a high standard their remaining historic fabric, the overall impact of the proposed development on the site's historic character and contribution to the visual amenity of the surrounding area will be **highly positive and significant**.

The fragmentary remains of outbuildings (**Building 2**) immediately north of the former chapel have been in poor condition for several decades and have not been of any particular architectural significance since their original construction. These appear to have been formerly associated with the long-demolished Carrigmore House and their original use is deemed to have been purely functional, a use that was carried over when incorporated within the expanding hospital complex. As such, their built heritage value has been assessed as **low** due to compromise of its fabric by poor preservation and because the buildings did not form part of a formal architectural treatment. This 'low' value assessment, combined with the buildings' unsuitability for conversion to a viable modern use means that their removal to allow construction of new residential accommodation is considered acceptable and will have ***neutral*** impact on the built heritage significance of the site.

The former St Dympna's Hospital (**Building 3**) is considered to be a structure of limited built heritage significance but with extensive damage and decay to extant fabric making it unsuitable for modern re-use. Its main value is inherent in its contribution to the record of the wider hospital site and as such, its proposed removal will be acceptable. The negative impact associated with loss of historic fabric from the proposed removal of this building will be effectively mitigated by an archive-quality drawn survey and photographic record of the building which will be undertaken in advance of its demolition (a baseline drawn survey has been included in an appendix to this document). There is also significant opportunity for salvage of useful architectural material, including roof-slate, ridge tiles, rainwater goods, brick and both rubble and cut stone

detail in order to repair the historic buildings to be retained on site. This will provide further mitigation for the demolition of the structure.

Buildings 1 and 4, the former mortuary and former matron's residence respectively, are each considered to be of limited architectural and historical interest. They are relatively unremarkable and variously derelict examples of late nineteenth-century architecture typical in Cork from that time, and while nonetheless well-executed, their unsuitability for re-use as part of the proposed residential development requires their demolition. As with the former St Dympna's Hospital building, each of these structures will be conserved through record with drawn survey and photographs compiled by an experienced built heritage recorder for submission to the Irish Architectural Archive. All reusable architectural fabric as outlined in the paragraph above for St Dympna's Hospital will be recovered, where applicable, during careful dismantling of the buildings and will be used in repairs of structures being retained on the site with any remaining material being offered locally for salvage.

The largely derelict single-storey former link/communication corridor (**Building 6**) which linked the main St Kevin's Hospital building with the rest of the asylum complex west of the subject site is proposed to be altered and repurposed to become a new landscape feature that creates a point of interest within the site while also acknowledging the historic footprint to the past use of the site. The southern façade of the link will be retained to the bottom of each windowsill, which is defined by a red stock brick detail. The brick surround of the existing windows will be retained and repurposed as coping to the top of wall. Due to the change in elevation along the facade, each buttress will mark the step in elevation. The northern façade of the wall will be rebuilt to retain the slope to the rear in its current location to a height of one metre allowing for passive surveillance to be retained to the space. Furthermore, the central archway is to be retained and reroofed. In this way, a structure unsuited to any viable modern use will be rationalised and incorporated in the landscaped grounds of a redeveloped site with all reusable historic material recovered and incorporated in repairs elsewhere on the site or offered locally for salvage.

The former Roman Catholic chapel (**Building 5**) on the site, constructed in the mid to late 1890s, is proposed to be retained in its entirety with conservation of its high-quality historic fabric in accordance with conservation best practice. In carrying out necessary repairs and conservation works to the upstanding historic chapel building, the proposed developments will have a positive impact on the architectural and historic significance of this structure which will continue to contribute to the overall visual amenity of the surrounding area. Initial conservation works will include all necessary repairs to the roof, rainwater goods, walls and windows, and these will be undertaken in accordance with established best practice as detailed in the accompanying method statement (see **Appendix 3**). Emerging development proposals have envisaged the potential re-purposing of this former ecclesiastical building as an enterprise hub. This will require works including the repair of internal wall surfaces using appropriate materials and techniques which allow the continued moisture permeability of the masonry as originally intended. Insertion of internal partition walls and services will be designed so as to minimise visual or material interference with cogent historic detail allowing the original form of the former chapel to remain legible and retaining the maximum quantity of historic fabric in situ. It is proposed to undertake the proposed works to the exterior of the historic church building in the initial phases of development works on the site and in the event that finishing works to the interior are not commenced until a later phase of the development, it will be necessary to establish an agreed programme of regular building inspections (on a monthly basis at a minimum) to check for defects or developing issues with the building fabric following completion of repairs to the exterior. In the case of the building not being brought into new use immediately, its continued ventilation in order to prevent the stagnating of damp air within the structure leading to decay of internal plaster, timber and other details will be ensured, while also preventing ingress by vermin, birds or intruders.

The proposed conservation of most of the surviving brick walls and fenestration as well as faithful restoration of the original roofline and southern façade of the main block which formerly housed St Kevin's Hospital (**Building 7**), is considered to have a **highly significant positive impact** on the existing derelict and fire-damaged building. A protected structure, the former St Kevin's Hospital was extensively damaged in the 2017 fire which destroyed much of the interior fabric. Proposals for this building involve conservation of most of the remaining masonry fabric in accordance with the best practice methodology detailed in the method statement that accompanies this assessment. Damaged or weathered brick will be repaired or replaced as appropriate with the correct lime mortar being applied, where necessary to masonry joints while on the interior, a suitably vapour permeable, insulated lime plaster will be applied to the historic walls facilitating the repurposing of the building for residential accommodation. The condition of existing windows to be retained will be assessed with repairs or replacement as appropriate, keeping all cogent proportion and moulded detail in accordance with the accompanying method statement. The roof will be reinstated to match the pitch, ridge, eaves and verge detail of the surviving east section of the historic slate roof with rainwater goods conserved and left in fully operational condition. All existing chimney stacks will be retained or reconstructed to match the original chimneys to the ridges at the gable and on top of internal partition walls.

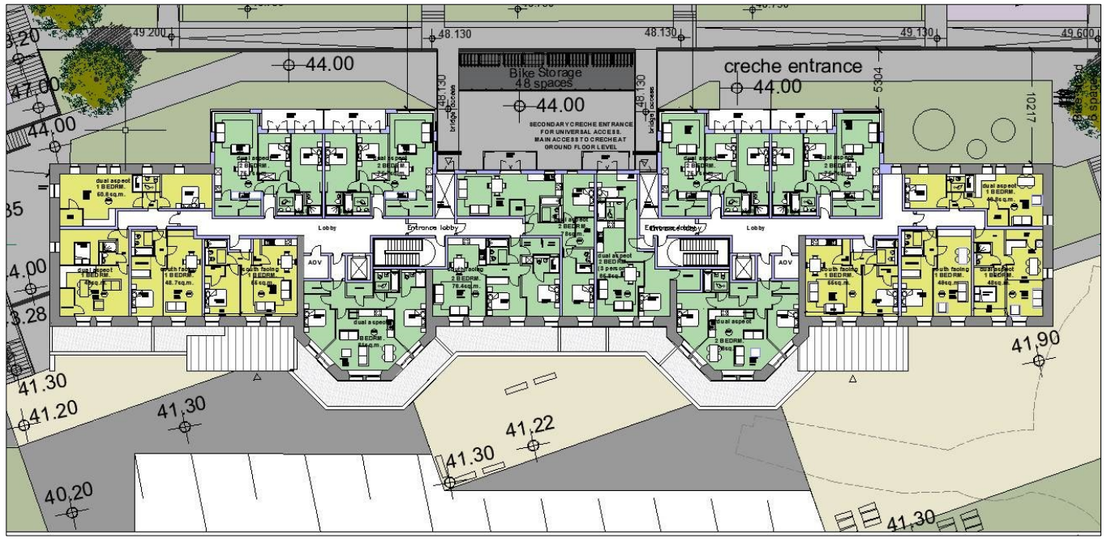

Figure 26: *Proposed first floor plan of former St Kevin's Hospital building showing proposed footprint altered to central half of rear elevation (after proposal drawings by Reddy Architecture and Urbanism)*

In order to facilitate the introduction of natural light on the northern side of the existing building for residential use, it is proposed to construct modern extensions to this rear elevation, necessitating the removal of approximately the central half of the northern elevation together with the existing stone-built rear extensions (see **Figure 26** above). It has been assessed that although the rear extensions to the St Kevin's Hospital building formed part of the historic development of the former hospital, the principal architectural interest of the structure is embodied in its imposing position and well-ordered front façade which will be conserved in its original form.

The new extensions will be an entirely modern constructions projecting approximately 5m beyond the existing rear elevation of the former hospital building and will provide east and west-facing windows as well as balcony areas for proposed apartment dwellings within the redeveloped building. Two bridges will provide pedestrian access to the first floor-level rear entrances to the building from the higher ground level

to the rear of the building. The proposed alteration to the rear elevation will result in loss of both historic fabric (windows, wall masonry, roofing material) as well as legibility of the surviving internal layout, however, with portions of the existing rear wall being retained and conserved it will remain possible for the footprint of the original main block of the former hospital to be read. The new extensions will be obvious as a contemporary intervention on the site and although the proposed new roof will break the eaves-line of the existing rear elevation, it will not rise above the historic ridge-line which is to be reinstated. The extensions as proposed will facilitate the viable re-use of the presently derelict building, ensuring the ongoing conservation and maintenance of its salient historic features. The impacts of proposed works to create new rear extensions to the former St Kevin's Hospital building will be partly mitigated through the careful salvage of all items to be removed from the rear parts of the building including window sills and frames, cut stone lintels, usable brick, rubble limestone, cut stone cornice detail, cast-iron rainwater goods, roof slates, cut-stone parapet capping and ridge tiles. These materials will be salvaged for necessary repairs of retained parts of the building or appropriate re-use elsewhere on the site. Removal of extraneous modern extension to the main building on the west gable and at the east end of the rear elevation is considered to be a positive impact of the proposed development presenting the opportunity to declutter the former hospital structure and facilitate restoration of the original wall masonry and window openings here. At the front, it is proposed to construct two new small, glazed lobbies at the basement and ground level providing proportionate and legibly modern detail in this area where there was a previous slate-roofed structure. The discrete, clean lines of the proposed new lobby which will be dominated by glazing does not detract from the uniformly arranged façade, nor does it interfere with the cut stone string course between ground and first floor level or the detail of existing window openings here which will be retained.

The proposed internal layout of the existing building to accommodate apartment dwellings will require all existing window openings on both end elevations of the main two-pile building of the former St Kevin's Hospital to be altered. All new window openings required in the brick masonry will be modern in design without attempts made to replicate the present yellow brick dressings or limestone sills of the historic window openings. Window frames too will be modern and discrete in design with appropriately restrained external embellishment. The accompanying method statement provides detail to ensure minimal damage is caused to the surrounding masonry when creating new openings. Existing openings to be blocked will be built up with brick or a rendered surface recessed within the existing opening. The existing sill and lintel or arched head will be retained to ensure legibility of the original opening and to keep the maximum quantity of original fabric in situ.

The same treatment of existing window openings to be blocked will be applied to the rear elevation where most of the historic fenestration to the four bays at the east and western ends of the elevation will be conserved and retained. Retention and repair in accordance with conservation best practice will be the approach taken with all other windows on the south façade of the former hospital building. Window frames to the retained elevations of the building will be refurbished and kept in situ with detailed assessment carried out by a historic window specialist to specify the appropriate incorporation of 'slim' double-glazing, without compromising the main proportions or moulded detail of the timber windows. Details of how this will be carried out are included in the accompanying method statement.

Although detailed survey of the interior of the fire-damaged sections of the former hospital building has not been possible for the purposes of the present assessment, none of the internal joinery, stud-wall partitions, floor or plaster detail are considered reusable. As much of the surviving internal masonry walls as possible have been retained and incorporated into the proposed layout with existing chimney stacks being retained or accurately replicated to keep the existing architectural form of the building exterior intact. New partition walls inserted to create the proposed layout of apartments and the ground-level creche have been positioned in order to respect and make good use of the existing window arrangement facilitating retention of existing window splays and reinstating historic floor and ceiling levels. Appropriate incorporation of cast-iron support columns and any other re-usable internal fabric within the building or elsewhere in the proposed development will help to maximise the retention of original fabric on the site and will help to retain much of the site's historic character.

Table 1: *Summary of architectural heritage impact for each existing feature within proposed development site.*

No.	***Existing Features***	***Built Heritage Value***	***Magnitude of Change***	***Significance of Effect***	***Quality of Effect***	***Type of Effect***	***Duration of Effect***
01	Former mortuary	Low	High	Moderate	Negative	Direct	Permanent
02	Outbuildings north of former chapel	Low	High	Moderate	Neutral	Direct	Permanent
03	Former St Dympna's Hospital	Low	High	Moderate	Negative	Direct	Permanent
04	Former residence immediately west of lower reservoir	Low	High	Moderate	Negative	Direct	Permanent
05	Former chapel	Medium	Medium	Significant	Positive	Direct	Long term
06	Former corridor	Low	High	Moderate	Neutral	Direct	Permanent
07	Former St Kevin's Hospital	Medium	High	Significant	Positive	Direct	Long term
08	Former residence (previously St Brigid's Hostel)	Low	*N/A – planning permission has been granted to Irish Water for demolition of this building to facilitate a new trunk main*				
n/a	Stone masonry boundary walls, retaining walls, steps and paths	Low	Medium	Significant	Positive	Direct	Long term

Assessment of the development proposals

Cork's city-scape is shaped by its position the harbour basin comprising low-lying flat marsh areas enclosed by steep-sloping valley ridges aligned on a generally east-west axis. The pattern of building across this characteristic terrain has for most of the last 200 years featured graduated layers of buildings whose arrangement is dictated by the topography. This has created a series of elevated structures such as St Kevin's hospital building and the associated Chapel, which animate the vegetated slopes of the ridges leading to the city centre that become steadily more developed towards the harbour. These are in notable contrast to the more superimposed terraces and grid-layout of the lower-lying riverine parts of the city but nevertheless there is a distinctive character of buildings such as those on the subject site that are 'on display', forming the backdrop to more densely arranged city core.

Building layout and approach

Elevated south-facing sites such as St Kevin's were chosen on the outskirts to urban centres in the nineteenth-century as part of a more enlightened aspect of hospital design that sought to provide as much natural light and passive ventilation as possible due to the recognised therapeutic benefits to patients. Maximising these same benefits on the range of cultural, institutional, and often high-quality residential structures on similar elevated sloping sites in Cork has resulted in a repeating character of such buildings which are primarily

addressed towards views from lower-lying areas to the south. The majority of architectural expression and material detail is focused on the elevations which project confidently to frame the views from approach routes to and from the city centre.

Figure 27: *Isometric view of the development proposal (Source: Reddy Architecture + Urbanism)*

Commonly on these sites, the rear elevations feature more restrained detailing than the prominent front façades, and they are often finished simply with exposed rubble stone or rendered elevations and less dressing of openings or wall surfaces. Given the sloping nature of these elevated spaces which have been and continue to be developed for use, plain detailing to the rear elevations enables neighbouring buildings that are sited in a tiered arrangement in front of each other, to all benefit from expansive views over the valley below as well as contributing distinctive variety to vistas of the ridge. The less-embellished nature of rear elevations on elevated structures like those proposed on the St Kevin's site, fosters a natural respect for privacy between neighbouring buildings which cannot avoid overlooking each other. This is achieved by making the distant river valley and city core the object of views from the buildings themselves and by retaining private space for occupants of the buildings to the rear of structures whose front façades are on much more public view.

Communication throughout the proposed site will utilise the existing arrangement of minor roadways emanating from a central trunk which will be flanked by smaller north-south orientated, gable-detailed structures recalling the former mortuary and doctor's residence which are proposed to be demolished from the existing site. Discrete overlapping of proposed residential blocks on the site will largely obscure the required vehicular roadways with only pedestrian routes, devoid of cars either parked or moving, punctuating long-established open green space in front of the key buildings that dominate views of the site from outside.

The strategic location of the site in close proximity to major employment and infrastructure resources has enabled a minimising of visually obtrusive car-parking and access facilities which will help to retain much of the historic character of the site dominated by pedestrian communication as illustrated in historic aerial photographs.

Building forms

The principal structures of St Kevin's and the Chapel to the southern, front portion of the site are intended to remain as dominant forms within the redeveloped complex. Their influence on the additional buildings proposed on the site will be primarily on the choice of external finish materials, orientation and massing, which will defer to the dominance of the retained structures.

While St Kevin's and the Chapel are being retained and repurposed with high-quality conservation of their robust and expressive historic fabric, the necessary demolition of St Dympna's hospital allows for the required compact density of accommodation along with restoration of a more gently layered arrangement to that upper part of the site. The creation of a level platform, raised on a terrace at the front and cut into the hillside to the rear, for the deep footprint of St Dympna's and the former infirmary building immediately north of it, broke with the convention on such sloping sites where long but narrow structures which read from a distance to the front as being stacked on top of each other as they follow the natural topography of the underlying ground. The siting of St Dympna's created a building with a diminutive identity compared with the monumental structures in front of it which dominated views of the site. Its architectural form which incorporates long elevations broken by projecting gables has been reinterpreted in the style of proposed two-storey townhouse blocks to the central and upper portions of the site. The dark slate roofs and brick elevations of the new townhouses along with generally vertically-emphasised windows subtly emulates the architectural expression of the late nineteenth-century former hospital building in a more relevant form.

Trees

The profusion of greenery, especially trees on the entire sloped valley ridge of which the St Kevin's site forms part will be continued as an integral part of the proposed development scheme. The contribution of taller native and occasional exotic tree species helps to integrate between height levels and soften the rigid terrace lines that could develop if structures were more superimposed rather than arranged organically on the sloping site. The extensive and considered planting to form part of the site layout seeks to minimise the visual impact of large hard-surfaced areas and roadways. Strategically-planned planting will also help to alleviate the impact on views from the south of increased density of buildings on the site; this factor is also mitigated by the separation of low-rise, long but narrow building ranges on a more continuous graduation of the sloped site which will be less impactful than structure with deeper footprints that would require deep cutting of the site. Additionally, the proposed tree planting will help to define private space between the residential buildings on the site allowing for its sensitive transition from a socially significant institutional complex to a core of new homes and facilities that maximise the environmental and amenity value of the location. The

existing woodland escarpment to the north-west of the site will be reinforced with appropriate planting and will help to blend the newly developed land into the surrounding established landscape.

Material inspiration

The existing terracotta-coloured brick of the St Kevin's and St Dympna's hospital buildings as well as the nearby historic Waterworks site are part of the inspiration for a material palette for new structures on site. The source of this inspiration will be further reinforced by the proposed conservation of most of the remaining masonry fabric of St Kevin's and the Chapel buildings in accordance with the best practice methodology detailed in the method statement that accompanies the submitted Architectural Heritage Impact Assessment (AHIA).

As part of the proposed conservation works, dark-coloured slate roofs will once again contrast with the red-brick façade of the former St Kevin's Hospital building while the restoration of its uniformly-arranged fenestration will lighten and reinstate the distinctive and iconic dominance of the structure on the ridge of the Lee valley which forms the western approach to Cork city. The two small lobbies proposed at the basement and ground level will provide proportionate and legibly modern detail in this area where there was a previous slate-roofed structure. The discrete, clean lines of the new lobby structures, which will be dominated by glazing, do not detract from the uniformly arranged façade.

Use of buff-coloured brick walls on new structures within the immediate curtilage of St Kevin's, and the Chapel building will help to maintain the dominance of these individual, historic structures on the skyline. Additional blocks on the site will respond to the established form of linear buildings on the sloping, south-facing site while maintaining their subordinance to the massing and architectural detail of the iconic retained structures.

5. Conclusions

The proposed development site which formed part of the wider complex known as our Lady's Hospital has been in a state of increasing dereliction since it was vacated in the early 2000s. The upstanding built fabric on the site has undergone further accelerated damage through antisocial behaviour and fire in recent years. The opportunity brought by plans to develop residential accommodation both within and in place of existing historic institutional buildings will help to address the mixed legacy of social history represented by the upstanding structures on the site. Subtle design detail has been incorporated in proposals to repurpose the key St Kevin's building as a modern apartment structure in the heart of a vibrant educational and commercial quarter of Cork City. Proposals will result in the continued dominance of this iconic structure overlooking the river valley and western approach to the city and it will be combined with densely-grouped modern residential structures with more modest massing that corresponds with the terraced nature of the south-sloping site. The existing balance provided by the red-brick former hospital building on the east side of the site's southern façade and the former chapel which survives and will be retained on the west side, will be retained in the proposed redevelopment. Incidental items including the central section of the communication corridor which will be retained as a public realm feature over existing steps between levels; the central archway in the corridor will be retained and re-roofed. Masonry walls to be conserved to the east boundary of the site and around the historic Lower Reservoir will also assist in reflecting the site's historic use in its modern reimagining.

In response to identification of the significant historic structures described in Section 3 above, the project design team have sought to sensitively incorporate in the proposed development the protected buildings and other features which contribute to the historic character and overall visual amenity of the site. The present condition, opportunity for appropriate re-use within a coherent development scheme and the protected status of each building were taken into account when designing the concept and detail of the residential scheme proposed for the site.

John Cronin and Associates have concluded that the proposals detailed on plan and elevational drawings for the former St Kevin's Hospital building represent a very good integration of an appropriate new use within the existing institutional structure. The cogent built heritage aspects of the building, namely its massing, southern façade detail and historic external fabric will be retained, conserved and repurposed in a high-quality redevelopment. The retention of portions of the rear elevation at the east and west ends ensures legibility of the scale, form and fabric of this part of the building which will be altered with clearly contemporary replacement of existing unviable extensions that presently contribute little to the overall architectural significance of the structure.

As a central plank of the design proposal, the landmark former St Kevin's hospital (**Building 7**) will be retained and converted to residential use with necessary additions to provide lift and stair access added to the rear north elevation. The introduction of new access doorways at ground level as well as facilitating more open circulation throughout the building will be key elements of a proposed design that will seek to sympathetically transition the building from its original institutional function. In providing a sustainable modern residential use for the former hospital building that ensures its ongoing maintenance and upkeep of the extant historic fabric, it is intended to integrate the site's architectural significance and important social history into a fitting new era of positive social relevance.

Following the extensive damage to internal fabric wrought by the 2017 fire on the site, an internal steel support structure will be inserted to the building following clearance and salvage of any surviving internal fabric. This will allow apartment accommodation to be developed within the existing envelope of the building; the retained fabric of which will be conserved in accordance with best practice. The inserted steel structure will facilitate the development of a sustainable new use for the upstanding walls of the historic hospital and will also provide measurable support for the retained walls as well as a bearing for an appropriate new roof that does not rely on potentially compromised masonry walls.

The conservation of retained fabric on the former St Kevin's Hospital building is detailed in the conservation method statement appended to this document. The required works will include assessment and re-pointing of brickwork, where necessary, using a suitable lime mortar that will maintain the appropriate moisture permeability and required flexibility of the existing masonry walls. Existing windowsills will be assessed for their integrity and for the function of associated upstands beneath window frames which should be detailed to physically prevent the ingress of moisture beneath the window frames into the masonry wall structure. Window frames will also be assessed in detail, with the existing form of the openings being retained in the proposed development. Surviving historic window frames will be conserved and retained where possible with appropriately-detailed new windows inserted where required. The design of these new windows will be such that the dominant visual contribution of the southern façade of the former St Kevin's building on views of the site from the Western Road and surrounding areas will be retained and conserved.

In addition to conservation of the brick and stone masonry walls as well as window opening details, re-usable internal fabric within the building including cast-iron uprights and surviving joinery detail will be salvaged and incorporated into the proposed redevelopment where practicable. Successful re-use of salvageable elements of historic buildings may involve a complete reimagining of their function which will be potentially reversible. In instances where it is not possible to use architectural elements in their original historic context, such an approach facilitates retention of the significant fabric on site.

The existing chapel (**Building 5**) is in relatively sound structural condition and provides, with its distinctive form, sandstone masonry and slate roof, the other principal contribution to views of the site from the south in addition to the former St Kevin's Hospital building. The development proposals envisage the potential re-purposing of this building as an office enterprise facility serving the needs of the surrounding residential development and beyond. For this, the external envelope of the existing structure will be conserved in accordance with best practice involving necessary repairs to the existing slate roof, inspection and repair where required of lead and stone weathering details, conservation of wall masonry including localised re-pointing of lime mortar joints where needed and conservation of existing windows and external doors. Internal wall fabric will be repaired using appropriate materials and techniques which allow the continued moisture permeability of masonry walls as originally intended. Insertion of internal partition walls and services will be designed so as to minimise visual or material interference with cogent historic detail allowing the original form of the former chapel to remain legible and retaining the maximum quantity of historic fabric in situ.

Although it is in somewhat fragmentary condition, the covered link corridor (**Building 6**) extending west from the former St Kevin's Hospital building contains elements of architectural heritage significance which contribute to the overall character of the former hospital complex on the site. It is proposed to retain portions of this structure in situ where the historic fabric will be conserved and used to animate landscaping and pedestrian communication within the new development. Specifically, it is intended to retain the existing archway detail which provided stepped access between different levels on the terraced former hospital site.

The slate roofing and masonry detail of this section of the corridor structure will be conserved as per the details outlined above for the former chapel building and through retaining eminently reusable elements of this historic structure, an essence of the original form and layout of the former hospital site will be kept in place. Roof slates salvaged from removed sections of the corridor structure will be re-used to repair the parts of this building which are to be retained.

Most of the buildings identified for replacement in the proposed scheme are in poor condition, with no protected status in legislation and their removal will facilitate the sustainable redevelopment of the site. Features such as the historic masonry boundary walls and landscaped terracing will be retained where practicable with salvaged material (masonry fabric or roof-slates) from the demolished structures proposed to be incorporated in any necessary consolidation or repair works.

6. References/sources

Published and unpublished works

Byrne, M.E. (2012) "Cork City Water Supply Scheme, Shanakiel Rising Main. Archaeological and Architectural Screening Report". an unpublished screening report

Crowley, J.S. et al (ed.). (2005) *Atlas of Cork City*. Cork University Press

Department of Arts, Heritage, and the Gaeltacht (2004, 2011) *Architectural Heritage Protection: Guidelines for Planning Authorities*. Dublin: The Stationery Office

Rynne, C. (1999) *The Industrial Archaeology of Cork City and its Environs*. Duchas, The Heritage Service.

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http://www.corkpastandpresent.ie

https://www.dia.ie/

http://map.geohive.ie/mapviewer.html

https://www.google.ie/maps

https://heritagemaps.ie/WebApps/HeritageMaps/index.html

http://webgis.archaeology.ie/historicenvironment/

Appendix 1: Photographic record

Plate 1: *View to north-east towards main site entrance onto Shanakiel Road from front of former mid twentieth-century (after 1951[2]) infirmary building demolished from foreground area since 2005.*

Plate 2: *View towards east boundary of site in front of domed water supply reservoir with main site entrance onto Shanakiel Road to left side of photograph and level area of former lawn in front of overgrown historic stone masonry boundary wall in foreground.*

[2] http://www.corkpastandpresent.ie/mapsimages/corkinoldmaps/1951geographiamapofcorkcity/

Plate 3: *Former late nineteenth-century 'Lower Reservoir' beyond east boundary wall of proposed development site.*

Plate 4: *South gable and west elevation of late 1890s mortuary building with later extension to north. Entire structure proposed to be removed*

Plate 5: *Extended north gable and east elevation of late 1890s mortuary building.*

Plate 6: *Joint between original stone building and concrete built extension to north*

Plate7: *North elevation and west gable ends of double-pile range of outbuildings constructed in late nineteenth century, before 1893, to north of former chapel (roof of which is visible to background). Entire group of outbuildings here proposed to be removed.*

Plate 8: *East range of group of nineteenth-century outbuildings (roofed until after 2005) with railings outside former chapel visible to left side of foreground.*

Plate 9: *Northern elevation of gable-ended outbuilding*

Plate 10: *Internal yard looking east with St. Dympna's to the rear*

Plate 11: *Internal yard looking west*

Plate 12: *Southern elevation of double-pile outbuilding from internal yard*

Plate 13: *Southern range of single-storey outbuildings from internal yard.*

Plate 14: *Arched opening from internal yard to western range.*

Plate 15: *Interior of western range of outbuildings looking to south.*

Plate 16: *Interior of western range looking to north*

Plate 17: *South façade of late nineteenth-century former St Dympna's Hospital building proposed to be removed. Roof to central section removed since 2013*

Plate 18: *Former St Dympna's Hospital building from north-east. Fire-damaged west end of former St Kevin's Hospital building visible in background to left side of photograph.*

Plate 19: *East end of brick-built front block of former St Dympna's Hospital and east elevation of rear range*

Plate 20: *Detail of rear extensions to former St Dympn a's Hospital from north-west*

Plate 21: *Detail of window to rear extensions to former St Dympna's Hospital*

Plate 22: *West range to rear of former St Dympna's Hospital from north-west*

Plate 23: *South façade of late nineteenth-century former Matron's residence proposed to be removed.*

Plate 24: *Rear north elevation and west gable of former Matron's residence associated with former St Dympna's Hospital. Overgrown east boundary wall of proposed development site visible to left of photograph beyond which is former 'Lower Reservoir'.*

Plate 25: *South elevation of wall around 'Lower Reservoir' forming part of proposed development site boundary. This and other upstanding masonry walls will be conserved as per appended methodology*

Plate 26: *Terraced area with steps north of former St Kevin's Hospital building*

Plate 27: *East gable and north elevation of late nineteenth-century former chapel to be retained and conserved to accommodate an office enterprise centre.*

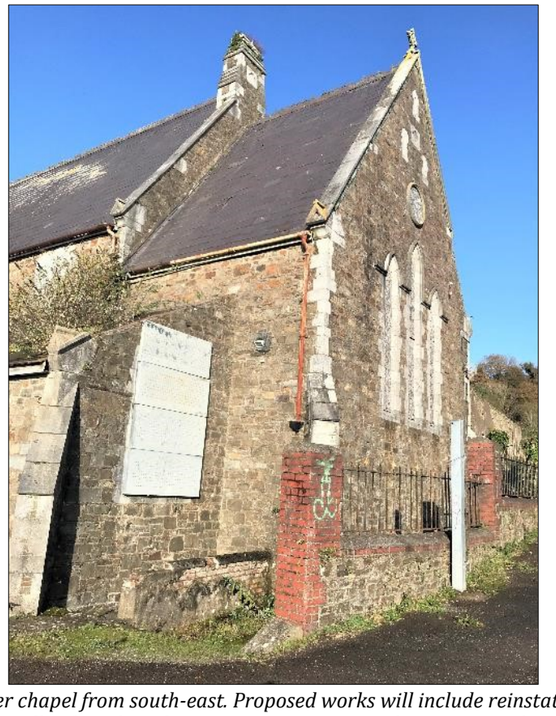


Plate 28: *East end of former chapel from south-east. Proposed works will include reinstatement of stone capping to parapet walls of southern lean-to extension, currently missing as shown here.*

Plate 29: *Vegetation on north-eastern corner of former chapel.*

Plate 30: *View along south elevation of former chapel*

Plate 31: *South entrance porch to former chapel. Proposed works will include reinstatement of roof slates and capping stones to gable parapet*

Plate 32: *Interior of former chapel looking towards west windows*

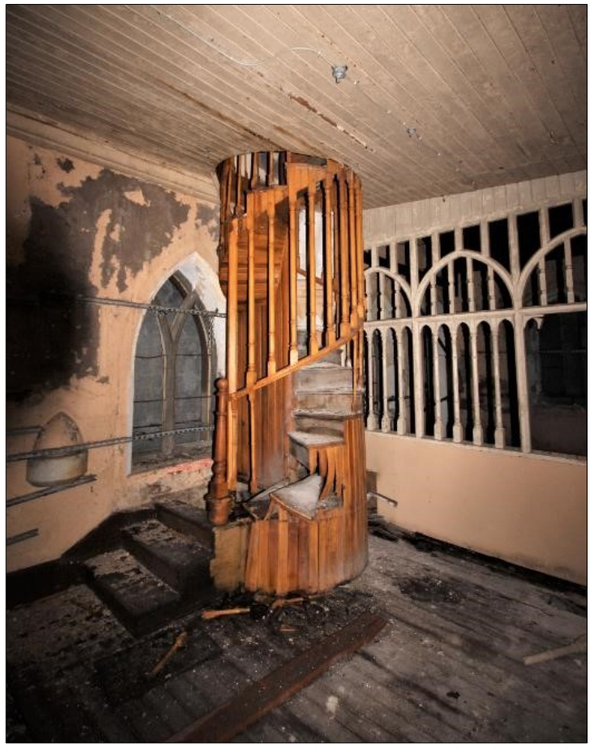


Plate 33: *Timber spiral staircase accessing mezzanine gallery to west end of former chapel nave proposed to be conserved and retained*

Plate 34: *View towards east chancel of former chapel*

Plate 35: *Detail of raised floor and wrought-iron railings to chancel*

Plate 36: *Detail of interior roof structure within chancel end of former chapel with evidence of localised timber decay and general damage to internal plaster wall surface as a result of limited ventilation combined with localised moisture ingress mostly from missing roof slates or defects to rainwater goods or leadwork.*

Plate 37: *North aisle of former chapel looking towards west end with localised damage to timber sections of floor and to painted plaster wall surfaces, largely as a result of water ingress through missing roof slates and a general lack of ventilation, heating or regular inspection and maintenance for over 10 years.*

Plate 38: *North elevation of extensively damaged roof of former communication corridor looking east towards former St Kevin's Hospital building. All but a central section of this corridor is proposed to be removed.*

Plate 39: *Section of corridor containing archway over existing steps proposed to be retained with removal of rest of late 1890s structure east and west of here*

Plate 40: *Window detail on southern elevation of former communication corridor.*

Plate 41: *Vent detail on southern elevation of former communication corridor*

Plate 42: *Interior of former communication corridor looking west*

Plate 43: *Interior of former communication corridor looking east towards St. Kevin's.*

Plate 44: *Communication corridor linking ground-level of former St Kevin's Hospital building with rest of hospital complex to west.*

Plate 45: *West end of southern façade of former St Kevin's Hospital proposed to be retained and refurbished to provide residential accommodation.*

Plate 46: *Façade detail to west side of former St Kevin's Hospital building with brick and cut limestone masonry, cast-iron rainwater goods, and timber sliding sash windows, all of which are proposed to be conserved as part of redevelopment.*

Plate 47: *One of two canted bay projections to front façade with reinstatement of single-storey extension on outer side of both projections proposed with contemporary glazing to ground floor-level.*

Plate 48: *Detail of windows to southern elevation*

Plate 49: *Interior of single-storey corridor to southern elevation.*

Plate 50: *Western portion of rear north elevation of former St Kevin's Hospital. All existing rear extensions and central half of rear elevation will be removed to create modern rear extensions for apartment accommodation and balcony areas. Pedestrian bridges from raised area to middle-distance on photograph into proposed rear extensions will provide direct access to building at this level.*

Plate 51: *Eastern end of rear north elevation of former St Kevin's Hospital. Modern flat-roofed extension will be removed from here and end five bays of main block will be retained in situ up to where existing brick and stone extension, which is proposed to be removed, is located.*

Plate 52: *Third floor-level of former St Kevin's building following 2017 fire-damage which destroyed the roof, floors and window frames. The interior is proposed to be reconstructed here keeping any existing usable masonry partitions and supporting a new roof to follow the same design of the original structure.*

Plate 53: *Interior of former St Kevin's hospital building showing extent of fire damage to timber floor and roof elements and remaining mixture of brick and stone masonry walls. Steel floor beams are likely to have been compromised by the heat of the 2017 fire with cast iron supports potentially re-usable within proposed development as appropriate.*

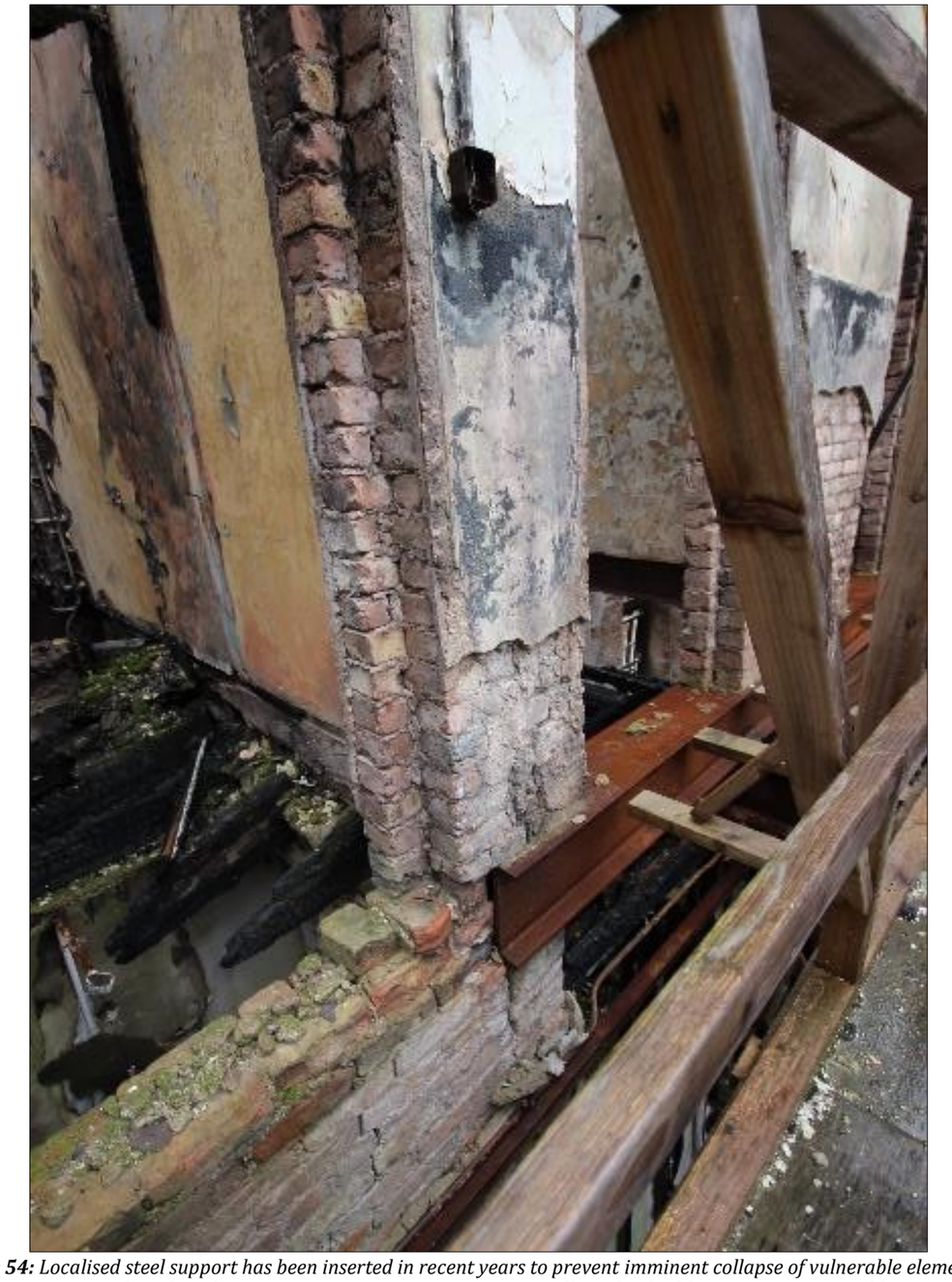


Plate 54: *Localised steel support has been inserted in recent years to prevent imminent collapse of vulnerable elements of masonry. Proposed works will incorporate any surviving masonry walls within building into new internal layout where possible.*

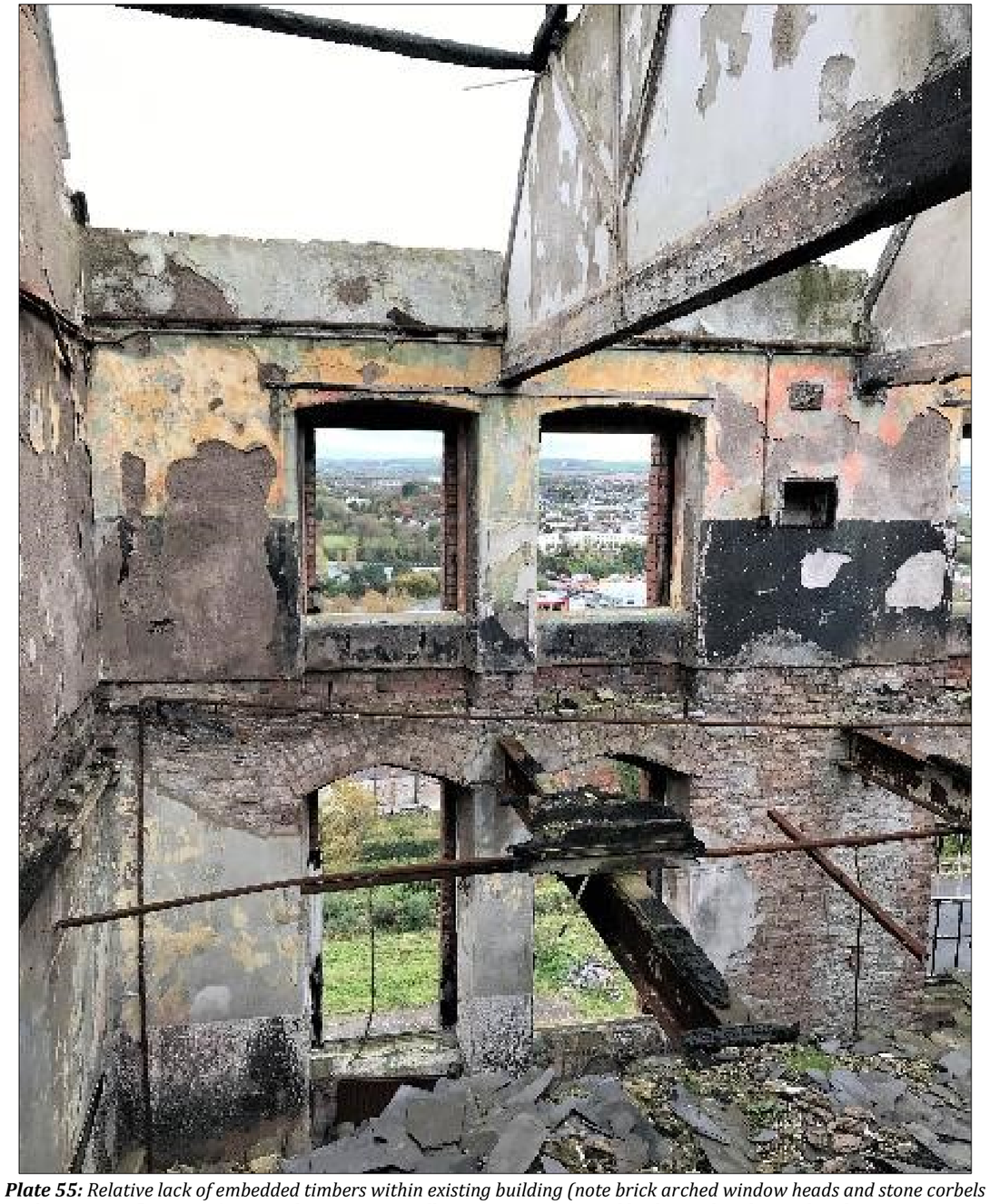


Plate 55: *Relative lack of embedded timbers within existing building (note brick arched window heads and stone corbels for carrying floor joists) means that masonry walls are not compromised by decayed timber within their structure.*

Plate 56: *Surviving historic timber window within section of third floor-level inside former St Kevin's Hospital where fire damage did not extend in 2017. Bottom rail of this window has been lost but could be replicated and refitted by a, experienced conservation joiner.*

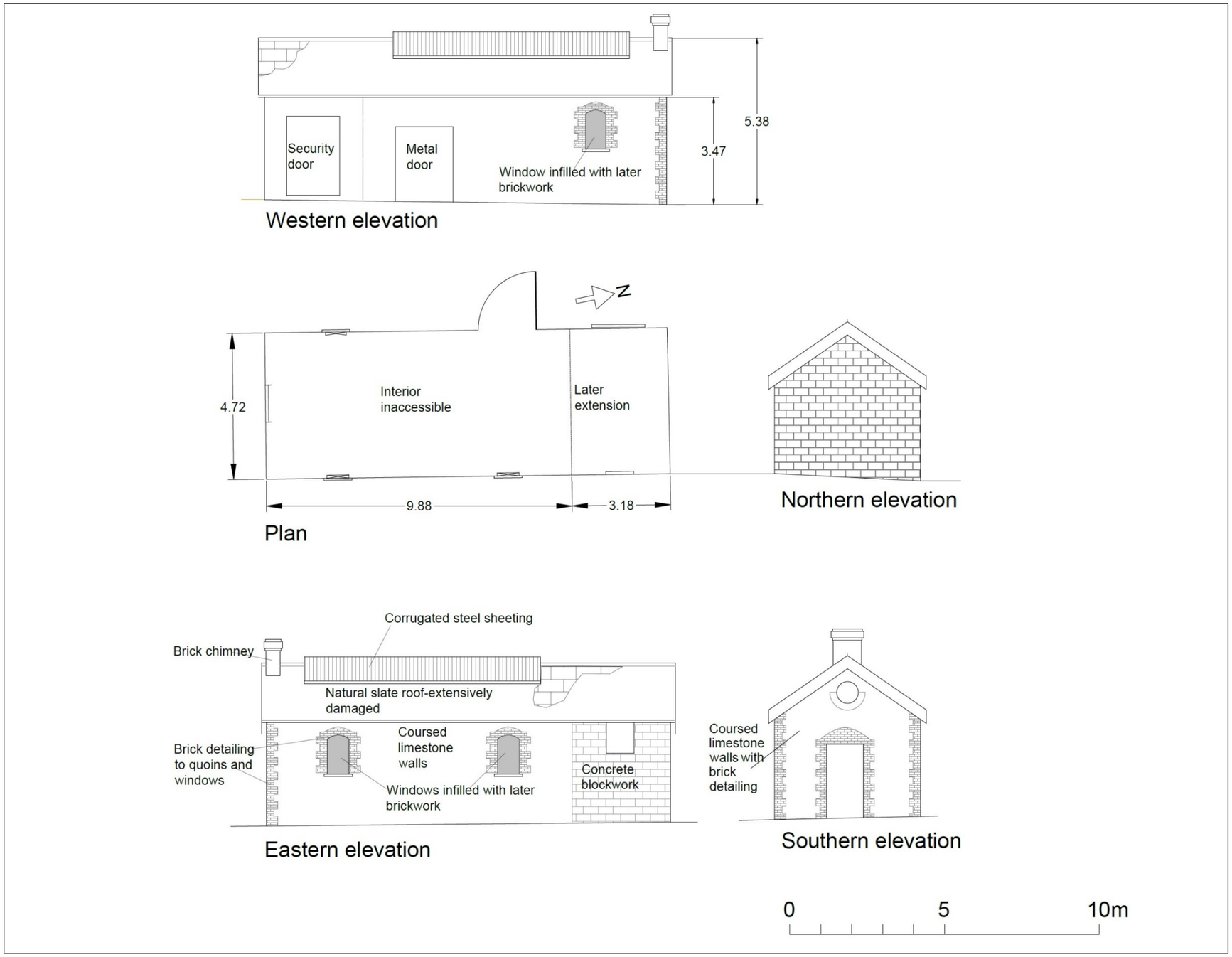
Plate 57: *Fire-damaged former Doctors' residence associated with former St Kevin's Hospital. Removal of this structure has previously been granted planning permission by Cork City Council (ref. 18/37965).*

Plate 58: *Rear elevation of former Doctors' residence with the former St. Kevin's to the right*

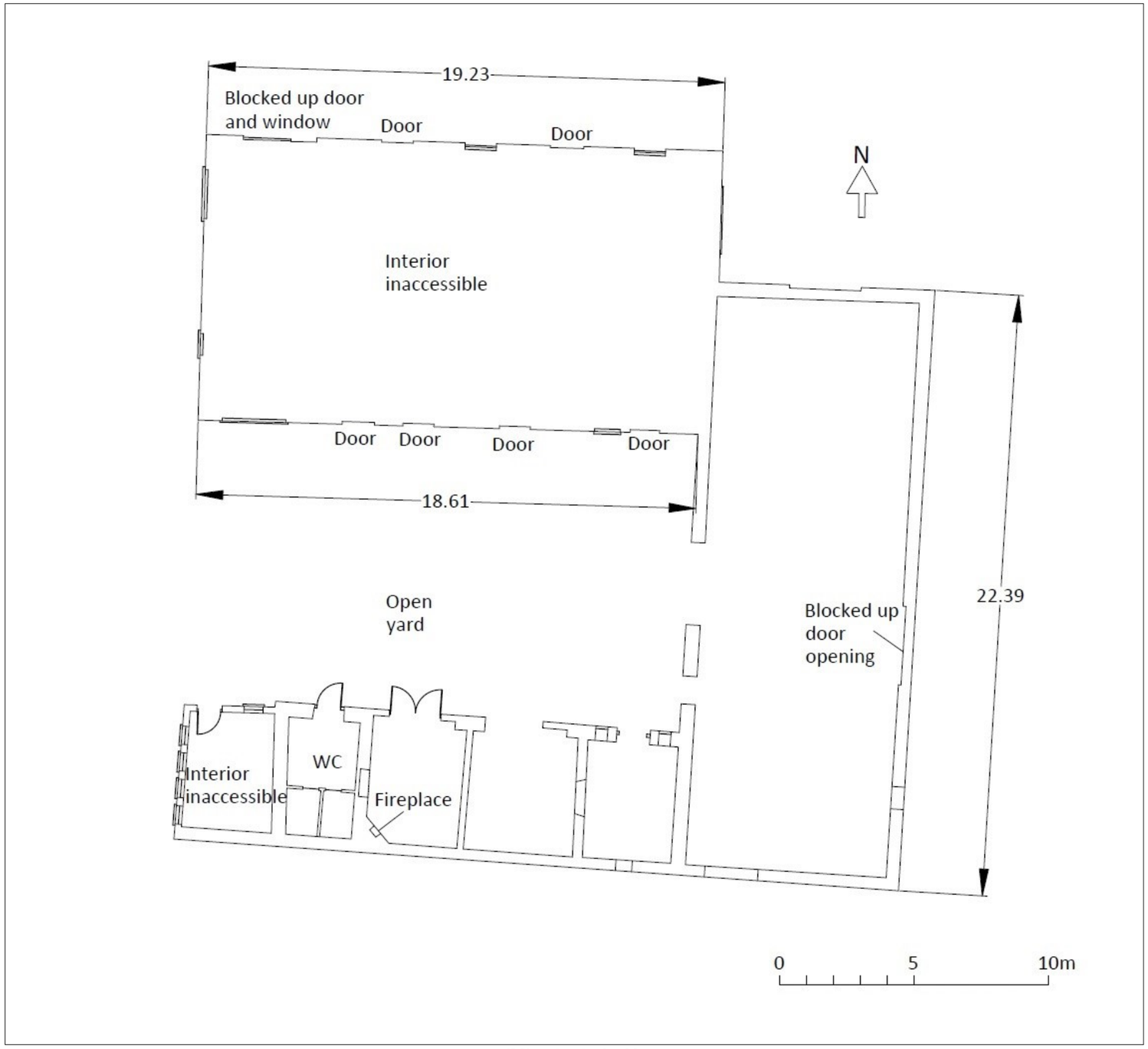
Plate 59: *Retaining wall to south of St. Kevin's Hospital – due to its dangerous structural condition*

Plate 60: *Detail of central section of the buttressed retaining wall to south of St. Kevin' Hospital*

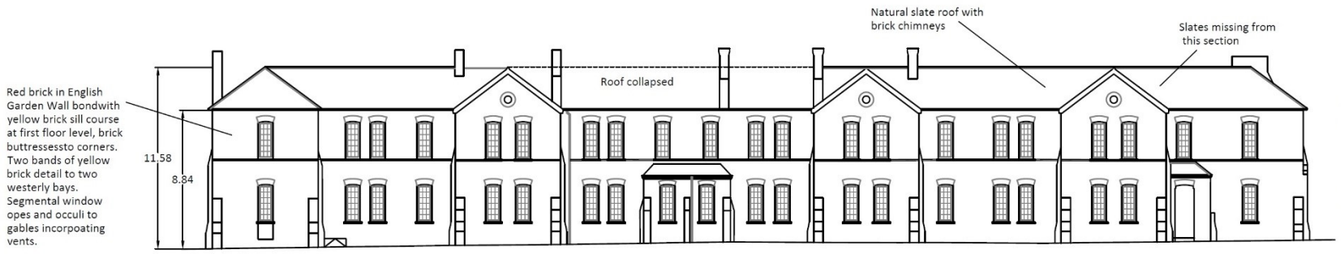
Appendix 2: Annotated survey drawings



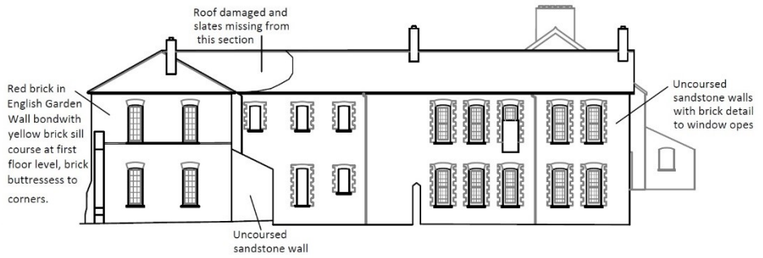
Building 1 *– Former Mortuary*



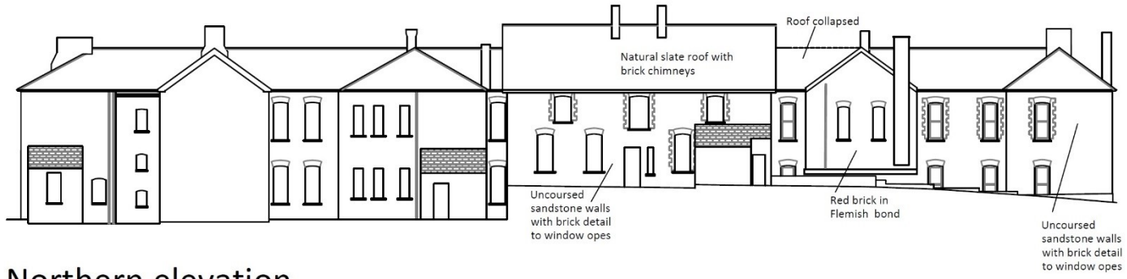
Building 2 *– Outbuildings*



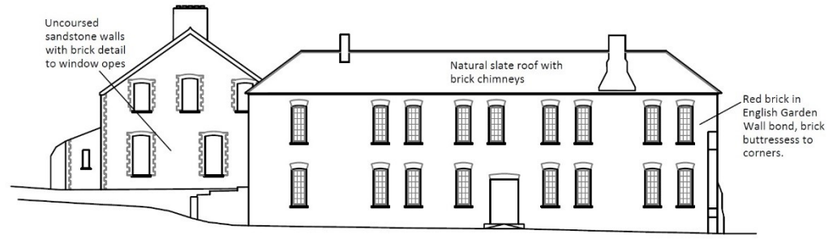
Southern elevation



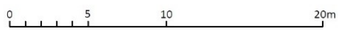
Eastern elevation



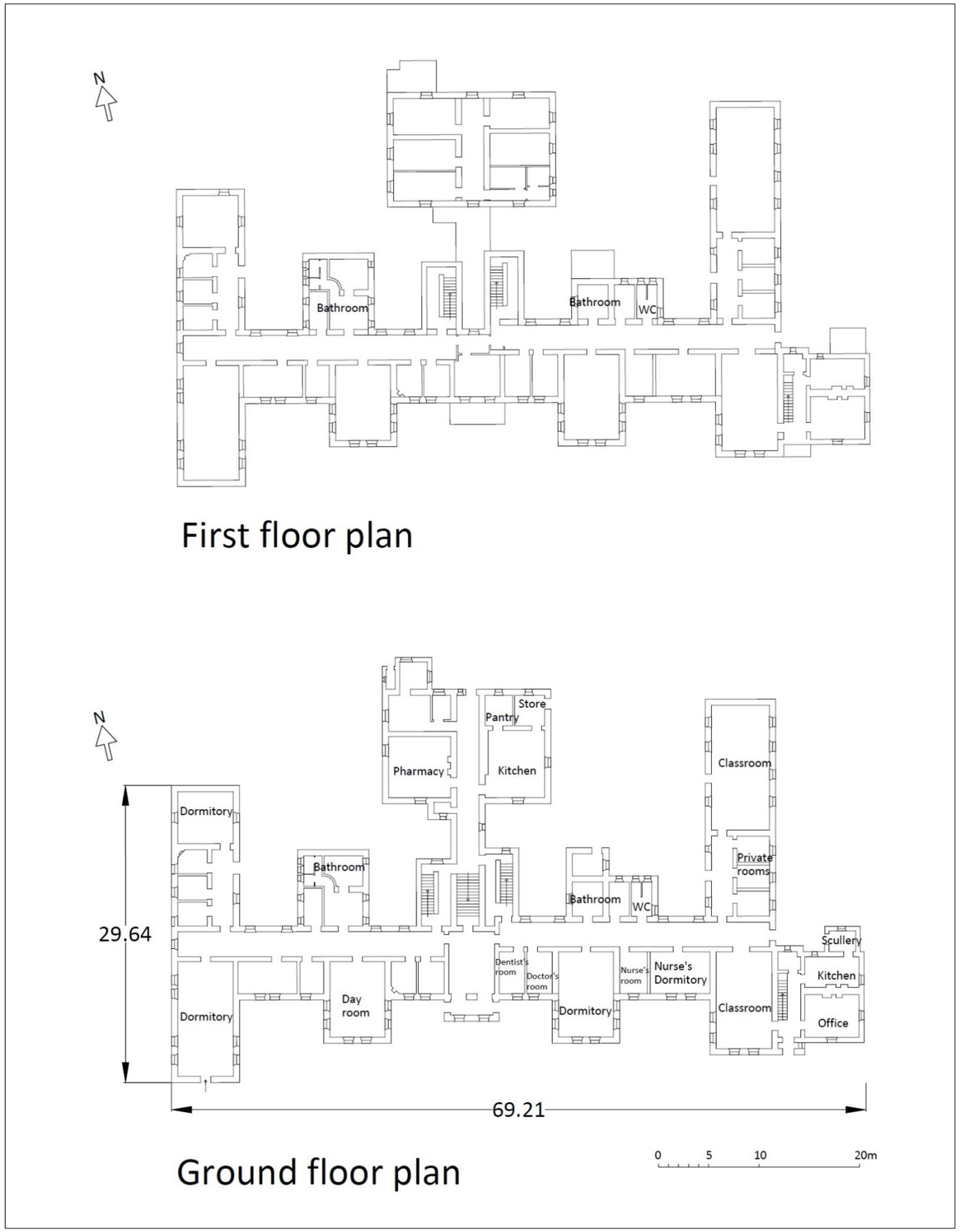
Northern elevation



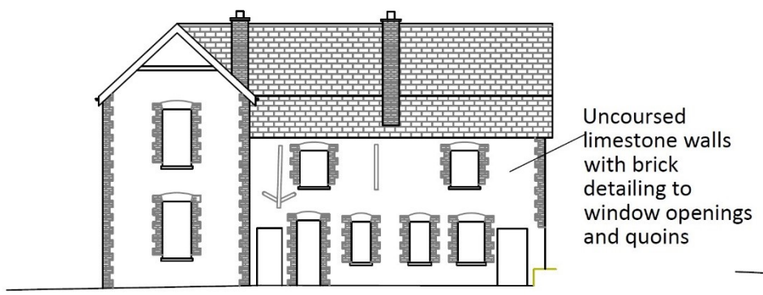
Western elevation



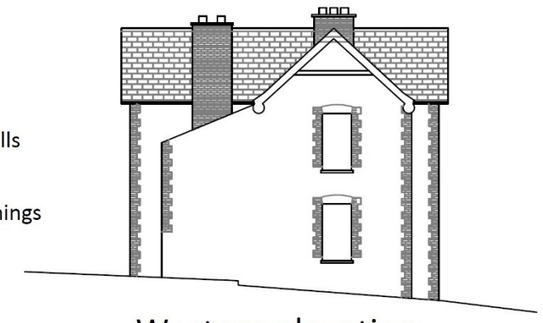
Building 3 *–Elevations of St. Dymphna's*



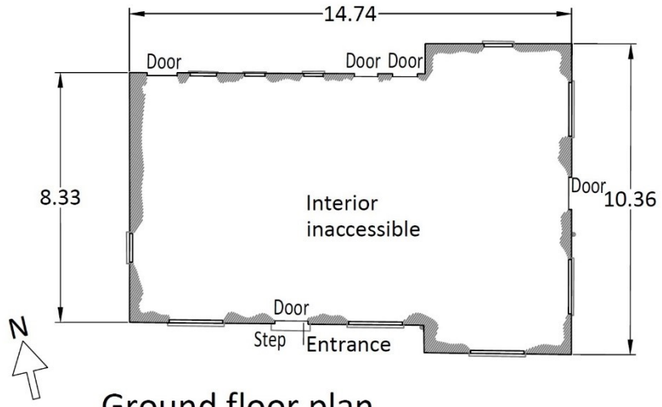
Building 3 *–Plans of St. Dymphna's*



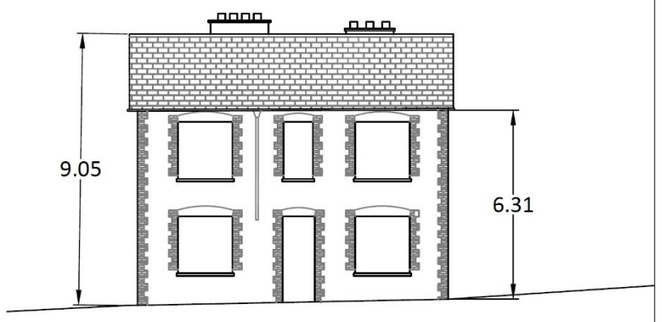
Northern elevation



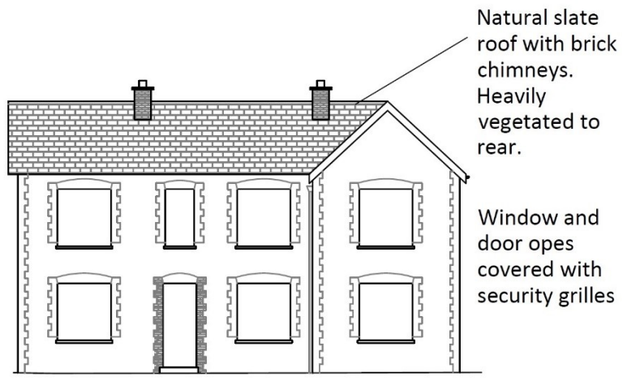
Western elevation



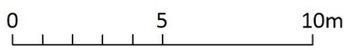
Ground floor plan



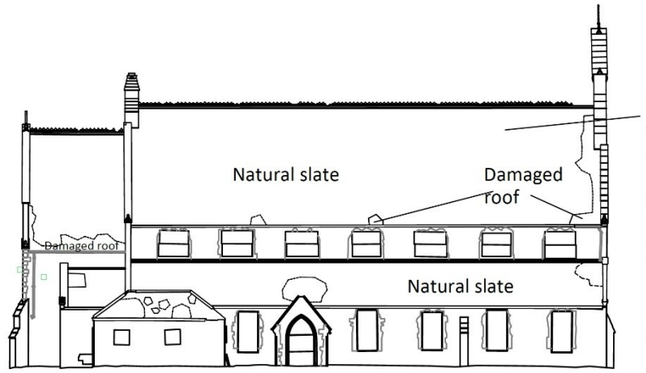
Eastern elevation



Southern elevation

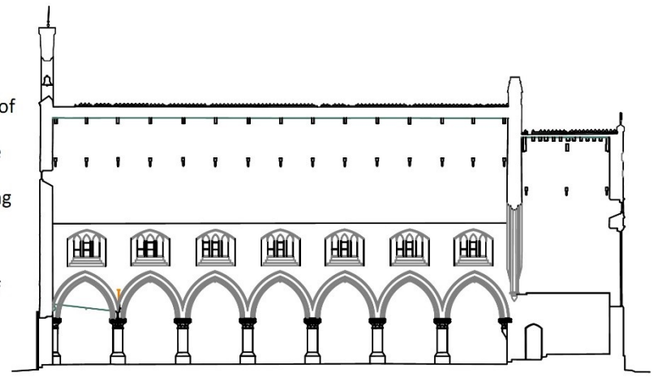


Building 4 *–Former Matron's Residence*

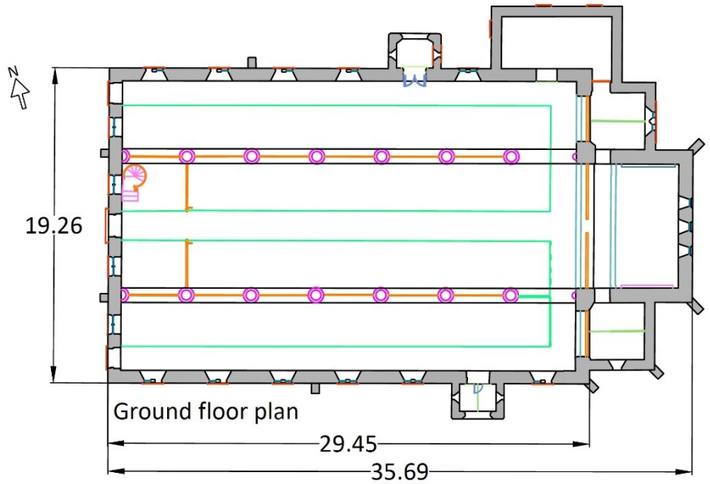


Natural slate roof with crested terracotta ridge tiles, ashlar limestone coping and ashlar limestone bellcote. Sections of roof damaged and missing slates

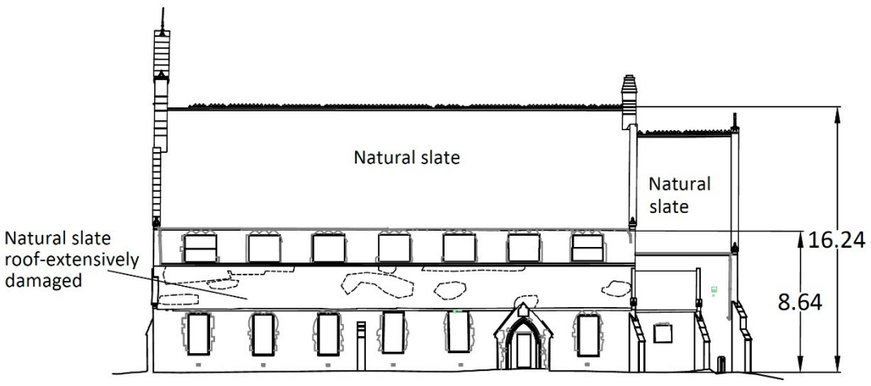
Northern elevation



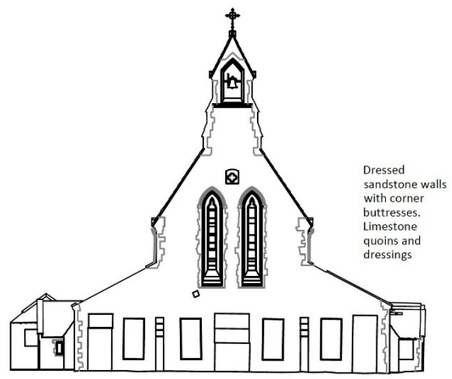
Section



Eastern elevation



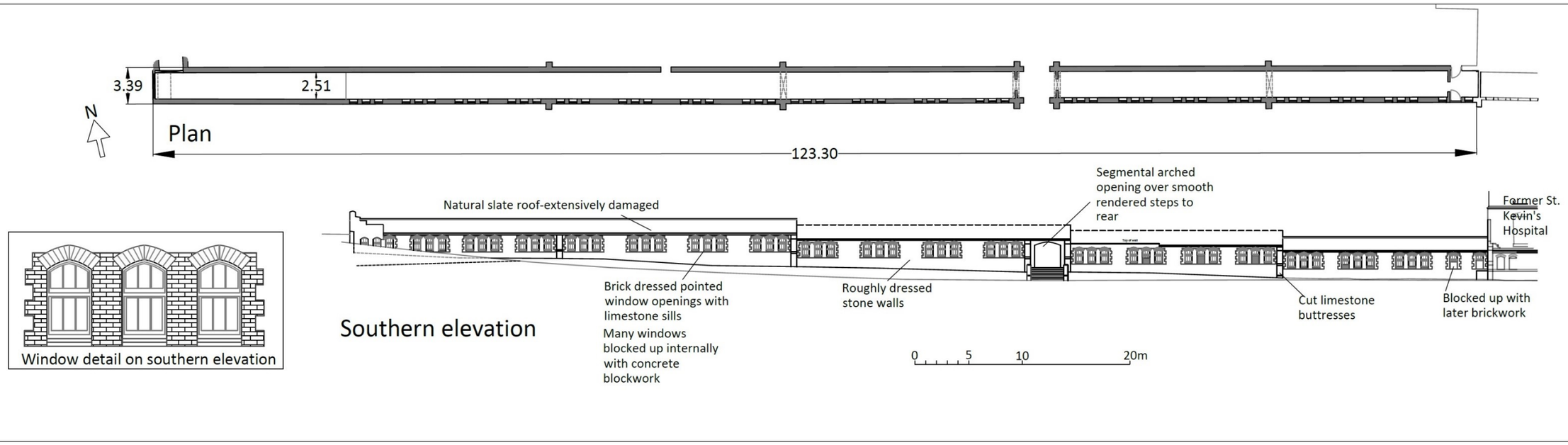
Southern elevation



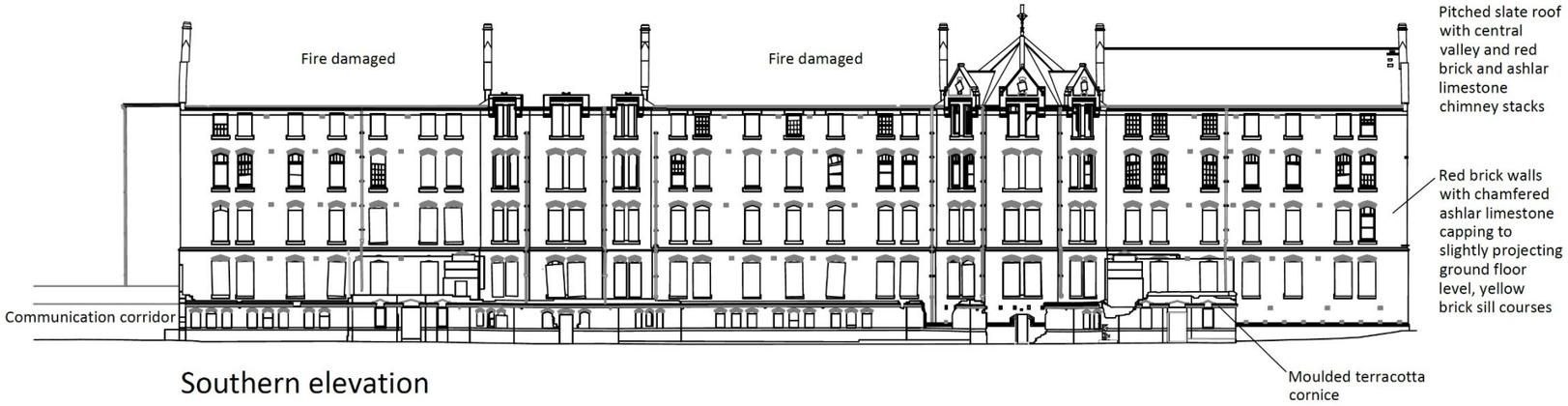
Western elevation

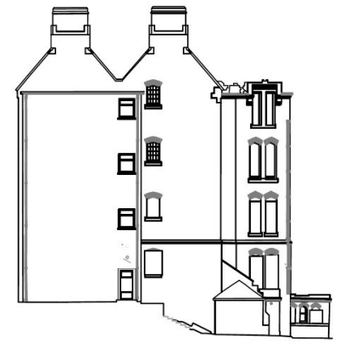
0 5 10 20m

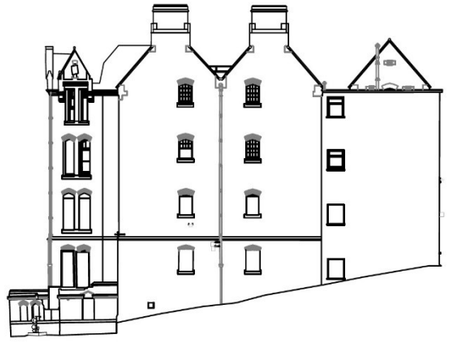
Building 5 *–Chapel*

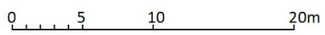


Building 6 *–Link Corridor*

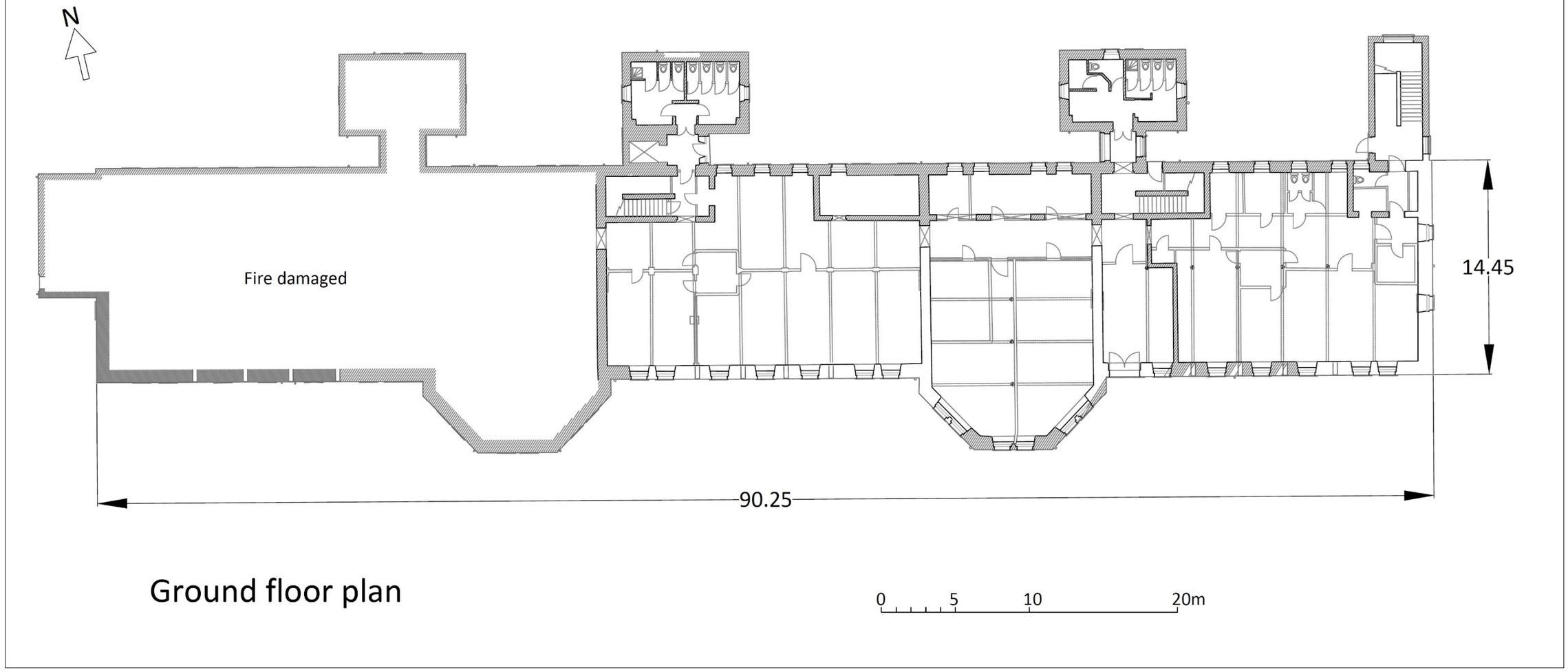








Building 7 *–St. Kevin's Hospital – Elevations*



Building 7 *–St. Kevin's Hospital – Ground floor plan*

Appendix 3: Conservation Method Statement

This appendix details the conservation methodology for the proposed works necessary to conserve the structure of the former St Kevin's Hospital, the former chapel, part of the former communication corridor and incidental historic masonry walls around the site. These identified structures and historic built fabric will be conserved under appropriate supervision and in accordance with best practice, for integration into the planned redevelopment of the former institutional site to a modern residential accommodation use.

The works to the former St Kevin's Hospital building shall specifically include:

1. the appropriate treatment of chimney stacks to be retained or reconstructed on new internal support walls
2. reinstatement of the historic form of the slate roof and lead valley, verge and chimney flashing details
3. refurbishment and repair of cast iron rainwater goods
4. cleaning, repair and re-pointing, where necessary, of brick and stone masonry wall exteriors and preparation of wall interiors to receive lime-based cork-insulated plaster
5. refurbishment and sensitive upgrade, if required, of existing window frames or accurately designed replica windows incorporating the existing historic proportions and moulded detail
6. inspection and confirmation of integrity of window sills including treatment for any cracks or damage to upstands including recommending replacement if damaged sills to match the existing if necessary
7. provision of effective drainage to the base of the building to ensure the control of any rising damp issue within the basement level

The works to the former Roman Catholic chapel building shall specifically include:

1. refurbishment and renewal of the slate roof to include
    a. salvage of existing slates
    b. any necessary repair of roof timbers
    c. renewal of abutment flashing details
    d. bedding of replacement parapet wall capping on appropriate lime mortar to match existing cut limestone where required
2. refurbishment and repair of cast iron rainwater goods
3. cleaning, repair and re-pointing, where necessary, of stone masonry wall exteriors including and preparation of wall interiors to receive lime-based cork-insulated plaster
4. refurbishment and sensitive replacement, if required, of existing window frames and stained glass where this survives
5. inspection and confirmation of integrity of window sills including treatment for any cracks or damage to upstands including recommending replacement if damaged sills to match the existing if necessary
6. provision of effective drainage to the base of the building to ensure the control of any rising damp issue within the basement level

The retained section of the communication corridor will be conserved as an open landscape feature in accordance with the best practice detailed throughout this appendix. A section to the end of this methodology deals with the approach to incidental elements of free-standing historic masonry walls on the site which are to be conserved and retained in the proposed development.

Conservation Philosophy

The document published by the Department of Culture, Heritage and the Gaeltacht, namely *Architectural Heritage Protection: Guidelines for Planning Authorities* (2011) will, along with relevant volumes of the Department's advice series and the principals embodied in international charters such as the ICOMOS charter on the Built Vernacular Heritage (1999) and the 1964 Venice Charter (on the Conservation and Restoration of Monuments and Sites), form the basis of conservation guidance provided here and will inform the supervision of works on this site.

The Charters, guidelines and the advice series accurately describe the strategy to be adopted for a the conservation works required on built heritage features within this proposed development site but they cannot dictate the approach to be taken for every decision, since many of the clauses are open to interpretation and will require a balanced approach to be taken with consultation between the construction phase architects, supervising conservation consultant and contractors. All proposed measures and any unforeseen works required during the course of the project development will be guided by the following overarching principles of conservation best-practice:

General Principles

1. Authentic structure and fabric of importance to maintain the structure or feature's special character are to be respected and retained including early alterations of interest.
2. All existing sound fabric and features are to be retained and protected.
3. It is the objective to carry out works limited to the minimum intervention essential for the survival of the historic structure or feature and its restoration for ongoing use within the proposed development.
4. It is intended in all cases where possible to carry out repairs rather than replacement, which will only be carried out where the fabric has perished.
5. It is intended that unsatisfactory alterations which disfigure earlier work of greater merit should be reversed.
6. New repairs are to be discernible but sympathetic to the visual integrity of the structure.
7. Alterations are to be as far as possible reversible.

The works to the authentic built fabric identified in the main body of the present Architectural Heritage Impact Assessment of the proposed development shall be carried out in accordance with this conservation methodology, which shall take precedence over all other documents.

Supervision

All works to the historic fabric of the buildings shall be carried out under the supervision of the appointed conservation consultant. There is to be no taking down, opening up, nor is any feature or fitting to be removed without his/her approval.

Experienced Contractor

Only contractors or sub-contractors with proven experience in the repair of historic buildings shall be engaged on the work. The conservation consultant may request exemplars of works before larger-scale repairs or consolidation are commenced.

Contractors undertaking the necessary conservation works to these historic structures should be experienced in working on such historic buildings and be familiar with the principles of best-practice conservation. This is based on the full understanding of how the building fabric functions, minimal intervention required to ensure the survival of the building, maximum retention of viable historic fabric and use of replacement materials and techniques that respect the quality of the original building, are legible as modern interventions and are by their nature reversible without compromising the remaining historic fabric.

Standard of Finishes

The highest standard of finish is required for the works and the contractor shall prepare samples for the approval of the conservation consultant before each stage of the work commences.

Proposed supervision

Prospective contractors will be required to complete sample panels of each identified stage of the particular conservation work being undertaken (eg. pointing of masonry walls, consolidation of wall-tops, refurbishment of historic window fabric) to be approved by the conservation consultant as being of sufficient high quality and having not caused unacceptable damage to the original historic beneath. Only following this approval will the appointed contractor be permitted to continue with that stage of works followed by the subsequent stages of conservation identified in the agreed method statement.

The conservation contractor will attend the site with the agreement of prospective and appointed contractors to observe the preparation of sample panels and the initial phases of each operation. They will remain available to discuss and finalise methodologies with the contractor and works foreman to ensure that any alterations to the proposed programme of works to address unforeseen variations with the building or materials do not compromise the overall project as an example of best conservation practice in accordance with the guidelines and advice issued through the Department of Culture, Heritage and the Gaeltacht.

Roof repair and replacement

Salvage of existing natural slate from buildings on the site may be limited by previous efforts to secure individual slates using adhesive compounds or screw fixings but recovered slates along with additional natural slate of similar colour, texture and dimensions to that at present is proposed as appropriate for re-cladding the roof of the former chapel, retained section of the former communication corridor and for the reconstructed roof of the former St Kevin's Hospital. In each case, the existing slate in situ on the building should be salvaged for re-use on the same building as well as providing the reference for obtaining the required replacement slate. Slate should also be salvaged from buildings proposed for removal from the site and these should be used on internal or other roof elevations where any difference in appearance will not affect principal views of the site. As detailed above, all reusable slates will be salvaged during roof-stripping works with any required replacement or supplementary slates to be approved as matching the existing slates as closely as possible in terms of size, weight, colour and texture both when wet and dry.

Any necessary localised repairs or reinforcement of the timber roof structure which have resulted from decay following the ingress of water through the roof will be addressed as part of the proposed works. Only defective timber material will be reinforced or replaced as necessary with the conservation of as much useful historic fabric as possible, together with the structural stability of the roof dictating the extent of works.

Roofing will be carried out using modern breathable membrane beneath slates and discrete ventilation as required, but care will be taken to ensure the current eaves overhang and ridge detail are replicated. New treated laths of the same dimensions as those on the existing roof will help to ensure that these details are retained. Slates will be centre-fixed using copper nails or screws without the use of stainless-steel tail clips which would be visually inappropriate.

Appropriately-angled clay ridge tiles will be used to supplement those successfully salvaged lifted from their current position and re-bedded on a suitable lime mortar with any necessary replacement tiles matching the colour, and dimensions of the existing clay tiles. Any mechanical fixings used to secure ridge tiles will be invisible from the ground level and joints between and below the ridge tiles will be pointed using a suitable lime mortar.

Chimneys

Chimney flues being retained will be capped and ventilated. Several existing chimney pots have been closed off with cement with the rest remaining open. The cement-capped flues contain moisture trapped within the chimney in a stagnant atmosphere where it cannot evaporate. This moisture reacts with soot within the flue and mobilises corrosive compounds that accelerate decay of the chimney breast masonry. After thorough sweeping to remove loose soot deposits within the flue, pots should be capped with the correct size of proprietary vented chimney cap, either of metal or more durable clay. This prevents ingress of rainwater into the flue, prevents debris being dropped into flues by birds and allows air movement within the flue. Blocked fireplaces within the building must incorporate a ventilator at the base of the fireplace to ensure circulation of air throughout the flue that will prevent the concentration of moisture and masonry damage which would result. Where a chimney breast is to be removed and only the externally visible stack is retained or reinstated, this can be rebuilt in solid masonry to match the external appearance of the original chimneys but with no requirement for ventilation.

Roof parapet and abutment leadwork

As part of proposed conservation works, the existing parapet stones on gables to the main roofs of the former chapel and the former St Kevin's Hospital building, as well as those to smaller parapets on porch extensions and lucarne windows will be inspected for cracks or damage that would impact their integrity to prevent moisture ingress on exposed wall tops. Several parapet wall caps are missing from the main roof and smaller extensions to the former chapel building and these will be cut to match the surviving stones before being re-laid on a suitable lime mortar bed.

Existing lead will be removed from the gable wall-tops and new code 3 lead soakers will be installed as the roof is re-slated. The length of soakers is determined by the:

batten gauge + the lap of the slates + 25mm
(or sufficient extra to hook over the top of the slate to secure the soaker in place).

Lead soakers on all roofs must be a minimum of 100mm wide with a minimum 75mm upstand. Where there is limited space for an upstand, soakers should be bedded underneath the re-laid parapet cap stones. New cover flashing will be installed where any roof abuts a higher wall such as between the chancel and nave of the former chapel or where the roof abuts chimney stacks on the former St Kevin's hospital building.

If soakers alone are considered inadequate for protecting the verges of roofs due to insufficient room for upstands beneath existing parapet cap stones, a secret gutter arrangement will be required with the upstand dressed under the gable cap stones as described above for soakers. The secret gutter should be 75mm wide and a minimum of 25mm deep with a welt turned back on the internal side of the code 5 lead gutter lining. Slates should be finished to leave a maximum opening for the gutter of 15mm between the slates and the parapet cap or abutment.

Detail of how cover flashings should be fixed into masonry is illustrated in ***figure a)*** below.

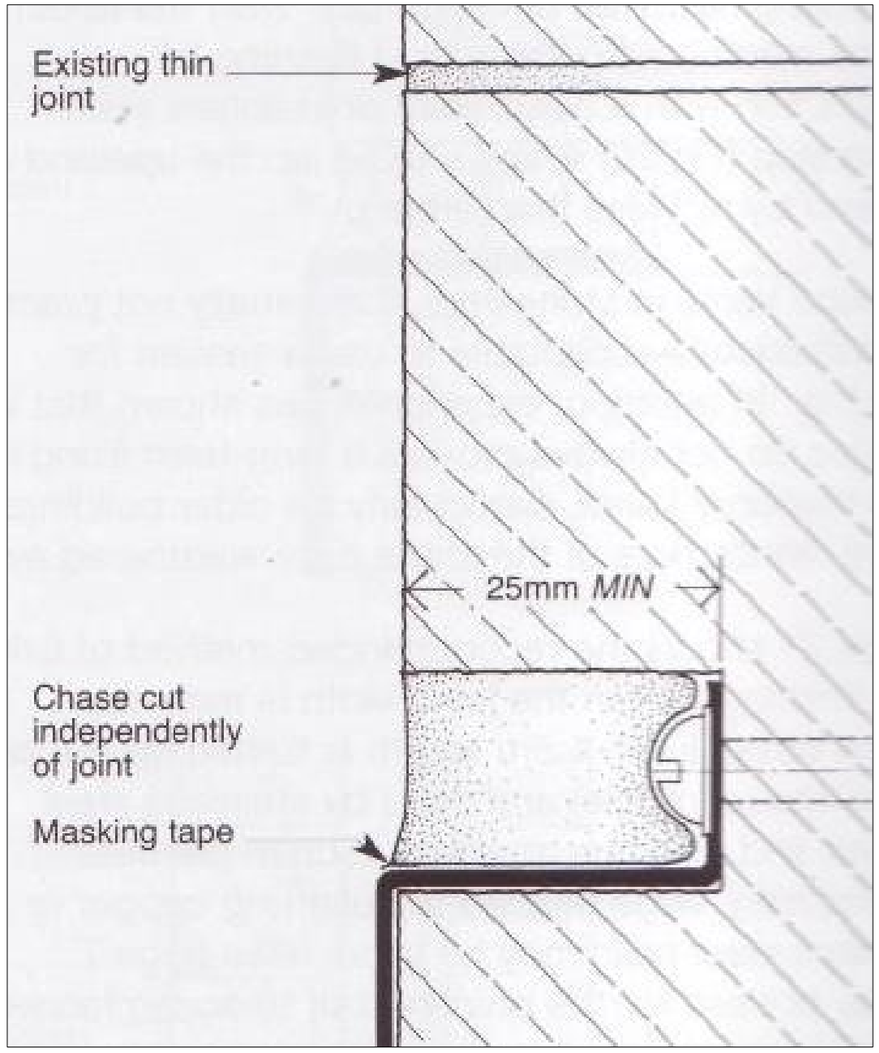


Figure a): *Detail of how lead cover flashing could be fixed to masonry walls. Care should be taken when cutting the chase into historic masonry to ensure a straight cut of even depth which does not extend further in any direction than required. Suitable corrosion-proof screw fixings should be used to fix the lead and an appropriate lime mortar should be used with separation between mortar and lead provided. Detail after the Lead Sheet Association (2007)*

In order to cover adequately-detailed new lead soakers, a new track should be chased in the masonry wall at least 100mm above the line of the slates (see ***Figure b)*** below). Code 5 or 6 lead should be fixed into the new chase in the masonry using brass or stainless-steel screws as per the detail shown in ***Figure a)*** above.

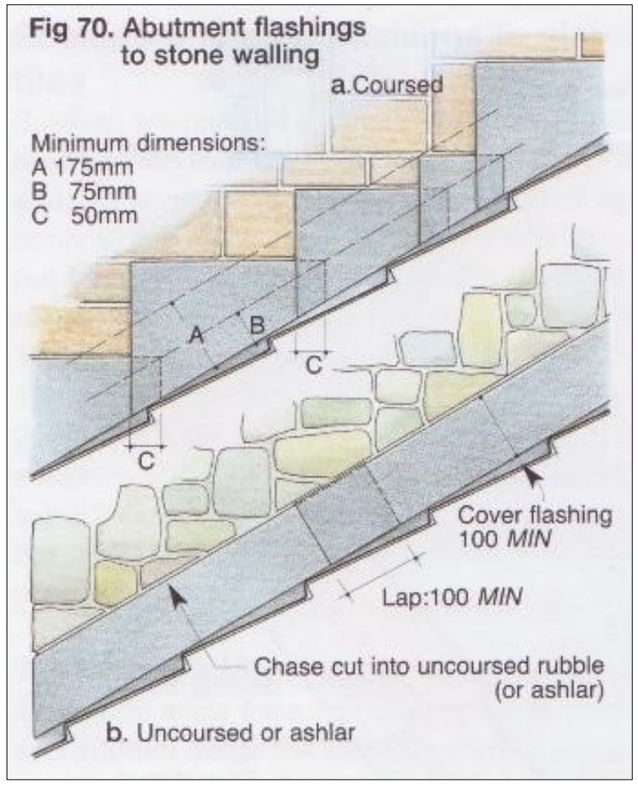


Figure b): *Recommended detail of abutment flashings on stone or brick walls after the Lead Sheet Association (2007)*

Rainwater goods

Any existing cast-iron gutters and downpipes should be taken down with care, cleaned to remove dirt, loose paint, or flaked surface rust and painted with an approved system of primer and protective top-coats of paint. Cleaning should be carried out using manual or mechanical wire brushes or scrapers. The use of sand-blasting or chemical cleaning generally causes more damage to historic ironwork than the benefits it brings and should be avoided. Cleaned metal surfaces should be painted at least with a suitable primer as soon as possible after cleaning to avoid sealing in fresh corrosion or moisture in the metal. This should be followed by suitable top-coats of protective paint, avoiding the use of 'two-pack' (epoxy resin and hardener) paints which do not have the required flexibility to allow for the inherent expansion and contraction which metal windows experience with seasonal or daily fluctuations in temperature.

Sections which are corroded or damaged beyond use should be replaced with new cast-iron or aluminium replacements of the same dimensions and finish where required. Joints should be cleaned, resealed with a suitable sealant and fixed together using stainless-steel bolts. The dimensions of rainwater goods should be sufficient to effectively drain the total plan area of roof they serve, bearing in mind the average expected rainfall for this area. The provision of adequate drainage to take away storm water from new installed round downpipes on the building will be essential to avoid the excessive wetting of lower parts of the masonry walls or the foundations and ground immediately next to the building which exacerbates the issue of rising damp causing internal plaster damage. The existing gullies and subterranean pipework must be cleared and checked for leaks with replacement as necessary to ensure that storm-water is not concentrated in the

foundations or close to the masonry walls. Drainage gullies should be confirmed as being in good condition before works are deemed to be completed.

Façade Repointing (brickwork)

- Allow for full raking out and repointing of all defective mortar joints of brick and stonework to former hospital and chapel respectively

- Repoint with a lime-based mortar based on hydraulic lime to conservation consultant's specification. It is intended to replace all friable or missing mortar joints, which presently consist of moderate-strength hydraulic lime.

- Lime for repointing will be natural hydraulic NHL 2 or 3.5 and can be commercial brand such as Roundtower, Otterbein or Secil. Sand will be sharp and clean and contain a proportion of grit (up to 1/3 of joint width) for the larger joints to improve strength and reduce shrinkage.

- New pointing style will be finished flush with surface of masonry. Strap pointing or recessed styles will not be used.

- Raking will be carried out using appropriate-sized raking chisels. The thickness of the part of the chisel which enters the joint is to be less than the width of the joint. The chisels may be pneumatic or manual.

- Joints shall be raked out to a minimum depth of 2 ½ times the joint width. All debris and dust is to be removed from the raked joints with stiff-bristled brushes. A small engraving tool may to be used to remove any remaining mortar not removed by the pneumatic tools leaving a square back to raked joints with no feather-edges of old mortar in joints.

- No wedge shaped or broad headed chisels are to be used; grinders are not to be used to rake the mortar.

- Particularly narrow joints will be raked out with a narrow instrument such as a hacksaw blade.

- All raked joints shall be dampened prior to repointing using a mist spray of water. The repointing mortar is to be well compacted into the joints using a suitable pointing iron.

- The pointing mortar shall be prepared using using hydraulic lime NHL 2 or 3.5. The mixture will consist of 1 part lime binder to 2 ½ parts aggregate. The aggregate should be a mixture of clean sharp sand and appropriate sized grit (see above). The lime may be gauged with a quarter part hot lime to improve adhesion and avoid shrinkage.

- Alternative pointing mix specification are to be discussed with conservation consultant and may be approved subject to completion of a test panel of completed pointing.

- A conventional cement mixer can be used although a roll-pan or paddle mixer may be preferred. The mix should be 1 lime to 2.5 sand. Measuring of material must always be with a gauging box or bucket. A shovel is not acceptable since quantities are too inconsistent. Lime mortars mixed in drum mixers can be prone to balling, use of particular mixing techniques can reduce this. The appropriate amount and technique of mixing mortar is crucial to avoiding the addition of excessive amounts of water to create workable mortar. If too much water is added the risk of shrinkage will increase and the final strength reduced. Do not use any Plasticisers.

Further detail on pointing technique is included in the section dealing with stone masonry wall consolidation below.

Window frames

Localised damage and lack of maintenance to timber and metal window frames leads to decay of windows but also their lack of functionality prevents their effective use to ventilate the building interiors to reduce the conditions conducive to growth of damaging fungal infection. Proper conservation of window frames will ensure the integrity of the window fabric and enable their effective use to adequately ventilate the building as required.

Figure c): *Use of poor-quality modern softwood for repairs to historic pine window frames represents a poor standard of conservation where inferior-quality materials and techniques are being applied to superior-quality historic fabric. Only high-quality hardwood such as iroko should be used when matching modern repairs to historic first or second-generation Nordic softwood windows. Common repairs to lower parts of pulley-lining such as in the illustrated example should have saw-cut joints between original and inserted repair material sloping outward unlike the failed previous repair shown here*

The maximum amount of significant historic fabric and detail should be retained and repaired where necessary with replacement only considered where unavoidable. Any replacement should take the original historic detail of existing mouldings and proportions as the reference for new hardwood windows. A full programme of approved protective painting should be applied to all windows, involving removal of sashes, cutting back built-up or flaking previous layers of paint and application of primer, undercoat and top-coats of suitable paint.

All internal repair issues within historic buildings on this site including damaged plaster and wall surfaces as well as moisture decay to embedded timbers should be assessed but until the external envelope of the building is consolidated and the cause of internal damage is addressed, the building should be allowed a period to dry-out in advance of repairs being undertaken inside.

A specialist conservation joiner should to be engaged to remove sashes from boxes, strip back built-up thick or loose layers of paint, carry out necessary localised timber repairs to the frames (in approved hardwood) and re-glaze panes where necessary (retaining all re-usable historic glass particularly crown or cylinder glass) before an approved system of protective paint is applied.

Sash boxes should also be stripped and repaired where necessary before being painted. Stripping of old paint is generally best done with care using appropriate hardened-blade manual scrapers of various shapes and sizes rather than sanding, blasting or chemical treatments. These can result in loss of timber material, sharpness of moulded or carved detail or can cause damage to the surface of the timber rendering it more susceptible to moisture damage or a poor finished painted surface.

Sashes will then be weighed, correctly counterbalanced and hung on new sash-cord with new parting and staff-beads incorporating an approved discrete draught-proofing system to ensure ease of full operation. Where the existing window is a modern timber frame, or where damage to historic fabric through decay or ill-treatment has deteriorated the condition of timber to such an extent that replacement with a new approved hardwood window is necessary, this should be carried out by a suitably experienced conservation joinery works carefully observing the proportions and moulding details of historic glazing bars, mid-rails, sills and horns (or absence thereof). Custom-moulded cutting heads must be obtained to run new hardwood timber elements that match the surviving originals.

Window Sills

It is important to examine and ensure the integrity of stone window sills on all historic buildings on the site. These should be free of vertical cracks which could result in moisture ingress into the masonry wall fabric beneath. Cracked window sills should be replaced with new stone sills to match if they cannot be effectively repaired using resin-bedded stainless-steel dowels and crack sealant or weathered beneath with a suitable lead damp-proof course. It is important that there is an effective upstand on sills which prevents water being blown under window frames and into the masonry structure. If necessary, an upstand can be installed on a retained stone sill or damage to existing upstands can be repaired. A gap should be left beneath window frames of timber or metal to enable sufficient ventilation around the window that restricts moisture damage and corrosion. The gap beneath the sides of any windows should be pointed with a lime mortar which will physically restrict water ingress to this vulnerable part of the opening by soaking up any water in this area from the sill and allowing it to dry out again, preventing it being trapped within the masonry or held for an extended time against the base of the window frame.

Cleaning of stone window sills or other external masonry, be it random rubble or finely-cut ashlar, should generally be avoided unless there are excessive damaging chemical deposits on the surface as a result of air pollution. In this case, such cleaning should only be undertaken by a specialist contractor experienced with the need to remove damaging material but causing the minimum possible damage to the stone.

Masonry wall consolidation and repair

Historic free-standing masonry walls

While a typical visual assessment of historic masonry walls cannot provide definitive assurance as to structural integrity (a structural engineer experienced in assessing historic masonry walls should be commissioned if this is required), it can be concluded that generally, upstanding walls without significant cracks or clear instances of subsidence or deflection are likely to be in sound structural condition. This is notwithstanding the ongoing vulnerability of a structure heavily colonised with damaging vegetation or where the protective capping has been lost.

Damaging vegetation

Where ivy has colonised a masonry wall and is rooted into the structure, it will cause accelerated decay of the mortar within the masonry. Ivy will continue to expand across and through the wall if unchecked and will inevitably cause ever greater levels of damage to mortar and instability of stones themselves.

Figure d)*: Overgrown historic masonry wall with heavy ivy growth and potentially trees rooted on structure. Growth needs to be trimmed back tight to masonry surface without touching stonework. Eventual removal of vegetation will require specialist masonry work which preparations must be made for before commencing*

The growth of ivy or tree species needs to be kept trimmed back tight to, but not removed from the masonry structure, as to do so could dislodge stones and destabilise the wall. Removal of ivy or damaging tree roots

requires the resources and expertise in place to carry out the inevitable re-building and consolidation required after roots are removed from the wall, potentially necessitating taking down of sections of masonry to prevent re-growth of ivy within a short period of time.

***Figure e)**: Ivy on a nineteenth-century masonry wall has been trimmed back tight to masonry as part of maintenance works on the adjacent site. Vegetation removal, localised pointing and consolidation of the wall top is required to conserve and sustain this wall's survival in the medium term.*

Trimming-back of vegetation should take place as part of regular maintenance of a masonry wall but complete removal of ivy needs to take place as part of masonry consolidation works carried out by suitably-experienced contractors using appropriate lime mortar to re-construct and point stone-work to match the style and finish of existing historic masonry. When the undertaking of specialist masonry works on the site has been secured, ground-rooted stems of ivy growing on walls should be cut through with a section removed to make cuts obvious. This should **not** be done unless masonry works by an appropriate specialist conservation contractor to an agreed methodology are imminent as to cut main stems of ivy before overgrowth on the wall is trimmed back to the masonry surface or before the contractor and resources are in place to carry out the masonry repair works would risk the ivy developing more damaging root systems on the structure itself, thereby exacerbating the decay of the wall.

Washing of the entire elevation to remove moss, lichen or other non-damaging vegetation is not acceptable or advisable, as it could damage the functional but fragile mortar joints and the actual surface of stones. As discussed above, during masonry repair works, damaging vegetation (such as ivy, valerian or small trees) should be removed physically by the roots as far as possible, rather than just cutting plants off at the wall surface. Any immovable roots should be treated with a suitable biocide which acts on the stump of the vegetation and prevents re-growth. Broad-spectrum herbicide should **not** be applied to the damaging vegetation or more generally.

Wall capping

Across much of an individual masonry wall, the stonework is often in quite sound condition between areas of particular damage. Often, repair works of the last fifty years or so have seen masonry walls capped with rudimentary concrete capping. While this serves the purpose of reducing moisture ingress into the structure which degrades core and bedding mortar over time leading to destabilisation of the masonry, concrete does not have the inherent flexibility and effective moisture permeability of traditional lime mortars which are more appropriate for use on such historic walls. Historically, most free-standing walls would have a built masonry top which sloped to one or both sides, or a stone coping of larger, vertically-bedded stones which help to bind the two faces of the wall together. More elaborate walls may have had a dedicated cut stone capping such as is often the case of the walls forming part of a historic railway site, where distinctive half-round cut limestone caps are often used on the wall-top and have provided very effective protection of the masonry structures beneath.

Where there is no evidence of a previous coping to a free-standing wall it is possible that there never was a uniform consolidated treatment to the wall if it had several periods and phases of construction. Given the heavily-altered and phased nature of many boundary walls, it may be appropriate to construct a built masonry capping to the wall that will consolidate and protect the upstanding historic fabric.

A detailed method statement will be necessary in advance of carrying out any repairs where areas of masonry require dismantling to effectively remove deep-rooted vegetation before they are re-built, or where an effective masonry wall-top is built up. For such instances where vegetation can only be effectively removed by dismantling and rebuilding masonry, or areas where the wall has become unsustainably destabilised and requires reconstruction, the methodology should be agreed between the conservation supervisor and contractors undertaking such work, before commencement, in order to ensure the most appropriate masonry finish and most sustainable construction of stonework. The need for replacement of certain historic retaining walls, notably to former garden areas south of the main St Kevin's Hospital building, with engineer-specified concrete retaining structures will seek to appropriately re-use salvaged masonry to conserve the amenity value of these features and to retain historic fabric on site.

A masonry capping to the wall does <u>not</u> involve the pressing of small stones into a thick bed of mortar on top of the wall as often seen on modern repair works in varying states of disrepair. Stones should rather be bedded horizontally to bring the wall-top to a consistent level with sloped faced stones chosen or cut to form the sloped top of the wall. Wall-top stones should be bedded to follow the same methods of masonry on the main wall where vertical and horizontal joints are broken regularly and both faces of the wall are tied together by the use of full-width through-stones and bond-stones which extend over half-way across the wall to overlap another similar stone on the opposite side. Care should be taken to avoid wide joints or areas where water can collect and penetrate the wall on the top surface. Stones should be bedded in a lime mortar based on natural hydraulic lime (NHL 2 or 3.5) with all joints pointed in order to direct water quickly off the wall-top surface preventing its accumulation and penetration into the core of the wall structure.

Pointing

Localised pointing of masonry joints where these have become loose or ineffective at restricting moisture ingress or vegetation establishment should be carried out to an agreed methodology (as generally detailed in the section above). Existing functional mortar joints should not be replaced but where necessary, friable mortar, roots and soil should be raked out and new appropriate lime mortar should be applied by experienced contractors to the wall, finished to provide an appropriate surface appearance which will be sustainable in the medium to long term. Ongoing maintenance to renew mortar pointing that washes out from between stones or control and removal of damaging, deep-rooting vegetation (ivy and trees, bramble and valerian) will continue to be required as part of the management of the historic structure.

1. After careful removal of all vegetation, including roots from masonry, only rake out where joints have failed, and previous mortar is crumbling or friable. **Leave functioning joints in situ**. Any mortar which requires anything more than simple hand tools to remove is probably still functional and should be retained. Use of power tools to rake out joints should be prohibited. Vegetation should be **completely removed** where practicable even if this involves removing small localised sections of masonry to be re-built afterwards. Any roots left in the masonry should be treated with a suitable herbicide capable of being absorbed by roots without foliage (ie. not Roundup). Copper nails driven into remaining roots have been shown to be effective at restricting re-growth.

2. Remove **all** loose material as far back as possible or to a solid, square-backed base. Begin **gently damping stone** with water, without soaking joints prior to repointing.

3. Mix dry mortar ingredients together first in a suitable paddle or forced-action mixer (see ***figure f)*** below) which is preferable to the traditional cement drum mixer. Ensure a well graded aggregate with no particle sizes more than 1/3 the width of the widest joints down to fine material. This generally involves experimentation, adjustment and mixing of building, plastering sand and gravel in the right proportion with lime binder. Add clean water gradually to mortar while continuously mixing. Added water should be kept to a minimum in order to reduce shrinkage of mortar joints as they dry, and to reduce mortar-staining of surrounding stone during re-pointing works.

Lime*: the binder used for both bedding masonry and pointing should be appropriate for the wall being repaired. It should set to provide a durable surface between individual stones that contributes to the structural coherence of the wall and facilitates the appropriate movement of moisture within the masonry. As a general rule, the mortar in joints should be weaker and more moisture permeable than the masonry units; this means that any mortar containing cement is unsuitable due to its hard chemical set while a mortar containing only hydrated lime (such as White Rhino) will be much too feeble to serve any useful role. A weak natural hydraulic lime such as NHL 2 or a hot lime mix incorporating a proportion of quicklime with other building limes may be appropriate but a contractor experienced in successful use of any traditional building lime on similar historic structures is essential for these works and will be best placed to determine the most suitable lime.*

4. Pack pointing mortar **right to the back of joints** using appropriate widths of pointing tools that enable mortar to be pressed in firmly to finish slightly proud of stone arrises without spreading it over the surface of surrounding masonry. Deep joints should be pointed in layers over the course of a number of days applying each new layer when the previous layer has been scraped back after having partially set to a 'green' state. Pinnings should be good-sized pieces of stone pushed with their length into mortar joints rather than small chips pressed onto the surface of mortar joints.

5. Protect work as soon as possible after completing it using hessian sheeting regularly dampened and secured over masonry in order to control drying of mortar. No work with lime should take place if temperatures fall below 4 deg.C and precautions should be taken (protective covers or insulation) to prevent damage to fresh lime mortar from extreme conditions of moisture, drying or freezing.

6. Pointing mortar surfaces should be scraped back lightly using a trowel when it has partially set at the 'green' or leathery stage. This is to remove the smooth, closed surface or laitance left by pointing tool ensuring proper access of air to the setting mortar. Joints should be tamped back after scraping with a stiff-bristled brush to remove any remaining pointing tool marks, to pack and closed small shrinkage cracks in the mortar. Protective covers should be replaced after brushing.

Figure f): *Forced-action paddle mixer which does not rely on gravity to mix lime and aggregate enabling less water to be incorporated in a still-workable mortar.*

Figure g)*: Applying excessively wet pointing mortar in a shallow layer over an inadequately raked-out void, combined with insufficient damping of surrounding stone and a lack of subsequent protection leads to rapid drying of mortar with shrinkage cracks (arrowed) forming between mortar and stone.*

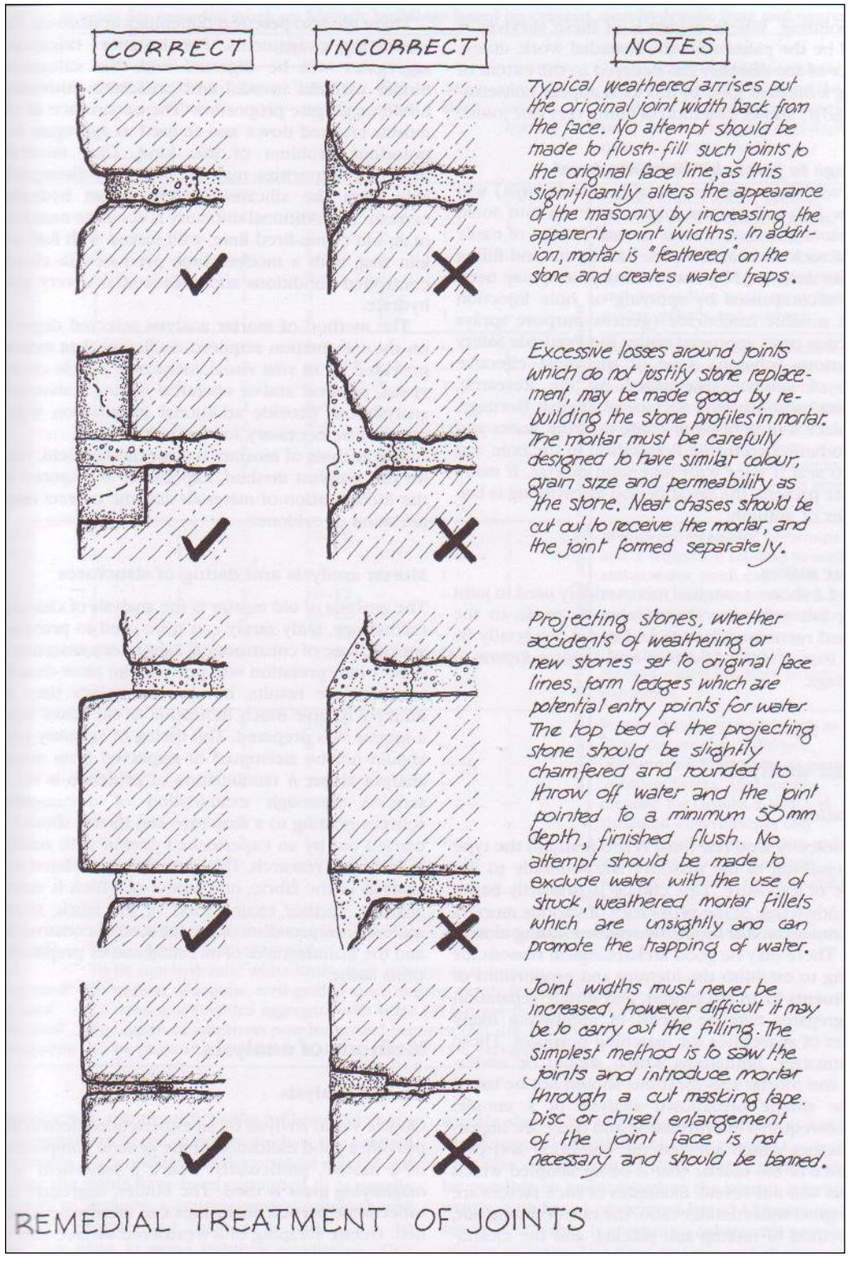


***Figure h)**: Guidelines for pointing of stone masonry after Ashurst and Dimes (1998).*