



For: KILKENNY COUNTY
COUNCIL

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CONSERVATION REPORT

ON

THE THOLSEL, CITY HALL, HIGH STREET, KILKENNY

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1.0 INTRODUCTION

This Conservation and Heritage Impact report is carried out at the request of Reddy Architecture on behalf of their clients Kilkenny County Council and is to accompany a proposal to upgrade the accommodation within the Tholsel, City Hall, High Street Kilkenny, a protected structure and a recorded monument. In assessing the significance of the building and the impact of the proposals, regard was given to the Department of the Arts, Heritage and the Gaeltacht 'Architectural Heritage Protection Guidelines for Planning Authorities' (DAHG, 2011), Planning and Development Act 2000 (as amended) and the ICOMOS Burra Charter (ICOMOS 2013). The report examines the property and history and seeks to identify the importance of the building in architectural terms and the impact of the proposals on the structure. It sets out what is significant in the Protected Structure and provides a methodology and specification to enable the significance to be retained.

The report should be read in conjunction with the room schedule, photographic record, survey and proposal drawings prepared by the architects.

1.1 Process and Methodology

The building and site were visited in March 2018 and the project was introduced by a client representative and the architects. Photographs, measurements and notes were taken recording the existing condition and detail of the building. The history of the buildings was researched. Various sources were consulted in the Irish Architectural Archive, the National Library of Ireland and other repositories including University College Dublin Architectural Library, and Archaeological Survey of Ireland. Historic information on the building was obtained by consulting books, pamphlets, news clippings, web sites and other archival materials relating to the building. Copies of archival photographs, prints and drawings were obtained, as were copies of various cartographic records.

Based on the information drawn from historical sources and the building surveys, the significance of the building was outlined and the proposed development was assessed.

1.2 Record of existing building:

The drawings, photographs and this report will form part of the record of the building. It is proposed to photograph the building again, including all elevations and external details, roof, all internal wall faces, ceilings floors and details, prior to the commencement, during works, and at the end of the contract. The record will be lodged in the Irish Architectural Archive.

2.0 SUMMARY

The proposed development will consist of conservation works, alterations to, and refurbishment of the Tholsel in Kilkenny City. The building is to house an exhibition space. The Tholsel will retain its civic function and associated spaces including the Council Chamber, Mayor's Parlour and offices. The proposed development is overall positive as it involves conservation works which will safeguard the building. The proposed exhibition space opens up a larger portion of the building to the public and connects the Tholsel more directly with St Mary's Church. Visitor access to the roof and cupola of the Tholsel are also to be provided.

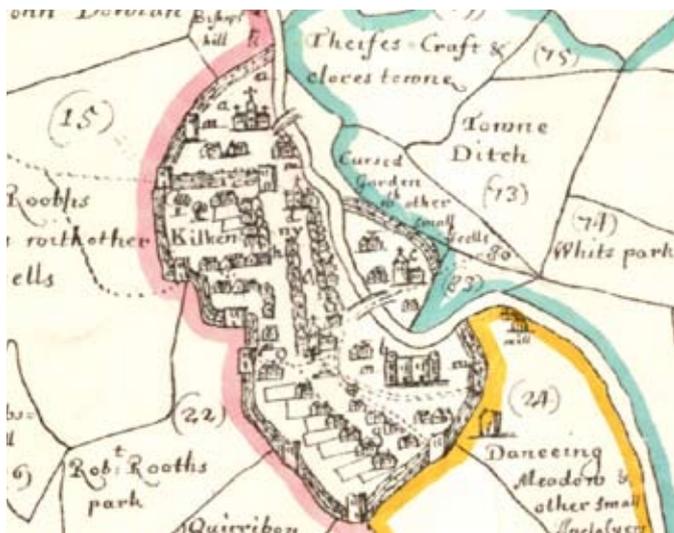
Existing 20th century additions and alterations to the rear are to be reversed. This involves the removal of the upper portions of the rear extensions and putting back a pitched roof. It also involves the removal of 20th century partitions and a late 20th century mezzanine. The proposed alterations to the return and extension do not represent a loss of original fabric as the upper levels are 20th century additions which detract from the building. The proposed pitched roof echoes an earlier form of the building. The proposal restores key elements such as the rear elevation and the internal spaces. New fenestration will be deliberately contemporary in style to act as a foil and will complement the existing building. The proposed stair in the return is the only solution of those examined that provides access to all floors. This return has been substantially altered in the past so the loss of historic fabric has been minimised.

The proposed glazed reception in the colonnade is a reversible intervention that facilitates the proposed exhibition space. The proposal also brings the currently disused basement back in to active use.

3.0 HISTORICAL BACKGROUND

3.1 Local Context

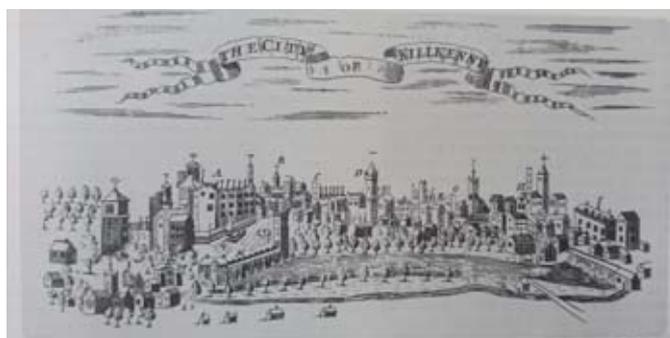
The Tholsel is located on High Street. High Street formed the main thoroughfare in the historic Hightown. Historian John Hogan, writing at the end of the 19th century gives a late 12th century date for the construction of High Street. The southern portion was held by William Marshall the elder, son-in-law of Richard DeClare, 2nd Earl of Pembroke (Strongbow) c. 1200. Marshall granted the first charter incorporating the town. Until recently, many of the properties along High Street preserved the long, narrow burgage plots characteristic of medieval towns. On the east side some lay between High Street and St Kieran's Street. These regularly arranged plots were the backbone of the Anglo-Norman town plan. By the early 14th century the street surfaces were paved. High Street functioned as the principal market place and in 1335 the market cross was constructed to the north of the Tholsel building. The lands of the Hightown were seized by crown in



Part of the liberties of Kilkenny c.1655.



Place, F. [c. 1698]. 'Kilkenny with castle and grounds', Pen and ink wash. National Gallery of Ireland, Dublin.



Pratt's 1708 panorama of Kilkenny.

1367. The earliest documentary reference to High Street is from 1508. In 1609 Kilkenny was granted a charter by James I, giving it city status. The lands of the High Town were declared forfeit by Cromwellian administration in 1650. In 1654 the city was surveyed and valued with a view to reallocating its properties as part of the Civil Survey. The Down Survey maps were made to accompany the Civil Survey. The parish map provides a bird's eye view of the town in the middle of the seventeenth century. St. Mary's Church is clearly identified to the east of High Street. The building fronting the street may be the Tholsel. A structure is indicated on the building's roof. High Street was referred to as Tholsel Street by Kilkenny Corporation in 1730, but is marked High Street on Rocque's map of 1758. It is also marked as High Street by the Ordnance Survey on the 1841 Town Plan. The High Street was widened to the north of the Tholsel in 1866.



Kilkenny 1758, by John Rocque.

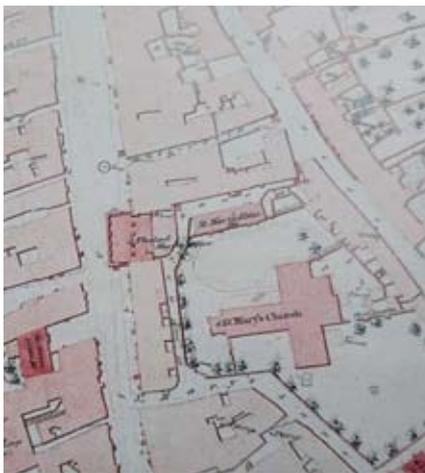
3.2. Brief History of the Buildings

The word Tholsel is derived from the Anglo-Saxon *toll* meaning tax or custom and *sel* meaning seat for the receipt of taxes or the 'house of taxes'. The custom house, market house or Tholsel, was where *stallage* was paid on market day and was the venue for the hundred court and the town council, as well as functioning as the town treasury, in which important documents were stored, and as a place for local government business.

The earliest reference to a toll-house or Tholsel in Kilkenny is from 1307 although it is likely that there was a building designated to the collection of taxes for at least a century before this. The 14th century building was located to the west of High Street, south of the current building on a site which



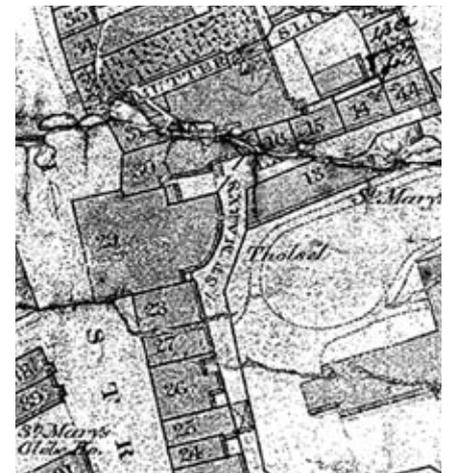
Kilkenny c.1780, by Samuel Byron.



Extract from the Ordnance Survey's town map, Kilkenny, 1841.



Extract from the Griffith's Valuation Map 1841.



Extract from the Griffith's Valuation Town Map, Kilkenny c.1840.

became the Victoria Hotel and later the AIB. The original building housed the hundred court 1383. At this time it was presumably a timber construction, replaced by stone in 1507. It was repaired in 1517 and is described as having council rooms at the upper levels, a market house on the ground level and shops in the basement below.

A new Tholsel was completed on the present site in 1579 although the old building continued to function in parallel with the new until its demolition in 1795.

The earliest pictorial representation of the second or new Tholsel is on Place's c. 1698 'Kilkenny with castle and grounds'. It was rebuilt in 1695 and described by a Dutch traveller in 1730 as 'remarkable, small and very neat'.

As recorded on Rocque's map in the eighteenth century, the Tholsel projected into the street but was smaller than the present building, being only half the depth and separated from Mary's Lane by a short row of houses.

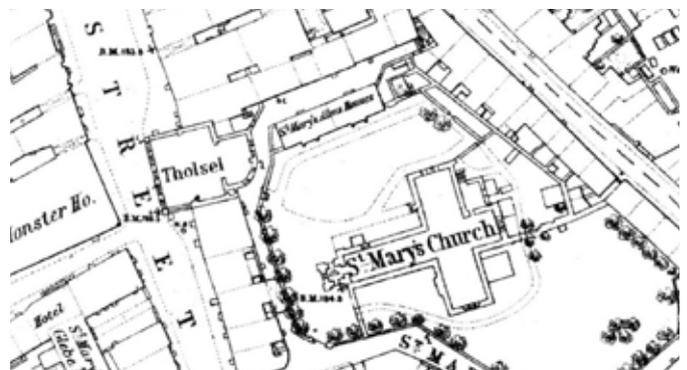
Hogan suggests that externally the early building would have had some resemblance to the present Tholsel. It was surmounted by a cupola containing a town bell and clock. At ground level was divided in to various compartments including the main one which was a covered market place projecting into the street. There were four stalls in the remainder of the ground floor in 1749. The upper floor contained the city chambers or town hall.

Various repairs are recorded in the Corporation minute books including brick and arch repairs in 1753. The floors, windows and cupola roof were repaired and the building repainted in 1754. Repairs to the door and window shutters were carried out in 1756. The second Tholsel building was replaced in 1761, funded by the Colles Family at a cost of £1315. The family were associated with the Kilkenny marble works and the replacement building is faced in cut Kilkenny limestone. The architect is unknown but reputed to be Italian. An entablature inscribed with the date, intended to have been located over the small arch at the south end of the Tholsel, was never executed. A shield bearing the city arms was erected above this arch in 1812. The cupola was taken down for rebuilding in 1790. The building was described as a new Tholsel or courthouse 1816.

From the 1780s until the 1820s, the principal social event in Kilkenny was the annual theatre season. The performances were produced by visiting companies who performed in the Tholsel. In 1829, during the Mayoralty of Nathaniel Alcock, the Tholsel was extended, as is indicated on a plaque on the wall



A c. 1845 engraving which appeared in the JRSAI. Vol 1.



Extract from the Ordnance Survey Town Map, Kilkenny 1871.



Late nineteenth century view of the north elevation viewed from High Street. The Lawrence Collection, The National Gallery of Ireland.



Extract from the Ordnance Survey 25 inch map, c.1907.



Mid-twentieth century view of the south elevation viewed from High Street, The National Gallery of Ireland.



Mid twentieth century photograph showing the back of the building, compared with the current view.



to Mary's Lane. Until 1830, a small 'ill ventilated' chamber in the Tholsel was used by the Mayor for holding court. By 1830 it was too small and the Mayor was allocated a new Mayor's Office located in the newly built extension to the rear of the Tholsel. The plan of this extension is clearly marked on the 1841 Town Plan. The extension also contained the round room with a closet over it which was connected by a spiral staircase.

A new clock was installed in 1875. The Mayor's Office became a police office and was functioning as such in the 1880s at which time the Mayor's court had moved to the smaller of the two large rooms on the first floor of the Tholsel.

Egan, writing in 1884 notes that in the 1880s the Tholsel was used for purposes other than selling goods, and was frequently converted in to a political arena.

At the end of the nineteenth century, the cellars beneath the Tholsel were used for the storage of bulky items. The rooms were occasionally used as cells throughout the nineteenth century to hold prisoners on the days when a trial by the

Mayor's court was held.

The building held important municipal documents including the 1609 city charter, the 13th century Liber Primus Kilkenniensis which contains records from 1231 onwards and includes a copy of the charter which William Marshall, Lord of Leinster gave to the town of Kilkenny in 1207.

Extensions and restructuring of the building are recorded in 1829 and 1951. A large fire gutted the Tholsel on 20 September 1985. Town Sergeant Joe Stapleton is reported to have discovered the fire and brought the seventeenth century city charters to safety. There are many photographs of the building which record the scale of the blaze after which the interiors and the cupola were substantially refurbished.

4.0. ARCHITECTURAL DESCRIPTION

4.1. Buildings and Fabric

Refer also to Appendix 1 - Photographic Record Sheets.

The Tholsel is a terraced five-bay, two-storey over basement Classical-style tholsel, built on a T-shaped plan. A series of



Photo showing the Tholsel on fire, 20 Sept 1985, taken by Oliver Dunphy.

nine round-headed openings to ground floor form an open arcade. There is a single-bay two-storey central return to east and a two storey bowed return to the south of it.

Hipped slate roof with clay and rolled lead ridge tiles. Single-bay three-stage copper-clad octagonal central tower to cupola, rebuilt post-1985 and possibly incorporating fabric of original tower. The cupola features a finial to apex supporting wrought iron weather vane. Present roof lights added post-1985. Cast-iron rainwater goods on moulded cut-limestone eaves.

Random rubble stone walls with a carved cut-limestone shield having squared limestone voussoirs forming segmental relieving arch over. Cut-limestone quoins to corners and moulded limestone ashlar course to eaves.

Square-headed window openings with moulded cut-limestone sills. Cut-limestone Gibbsian surrounds having triple keystones, and timber casement windows having over lights. Series of nine round-headed openings to ground floor forming open arcade on limestone ashlar Roman Doric columns with moulded courses to plinths. Moulded courses to spring of arches, and limestone ashlar voussoirs. Series of round-headed arches under arcade on limestone ashlar Roman Doric columns with capitals supporting limestone ashlar voussoirs, and wrought iron gates. Pair of round-headed door openings with pilaster door cases with decorative consoles supporting keystones. Openings contain timber panelled double doors beneath fanlight over panels. Round-headed openings to first and to top (bell) stage to turret with fixed-pane fittings to first stage having louvered panel fittings to top (bell) stage.

Interior with groin vaulting to basement of red brick construction. Full-height interior to first floor Council Chamber, reconstructed, post-1985, with coving to ceiling having decorative plaster work accents.

5.0. CONDITION

The Tholsel is generally in good condition throughout showing signs of regular and routine maintenance.

The external finishes are generally in good condition.

Flat roofs are covered in felt which is in need of renewal.

The main roof is covered in fibre cement slates. Historic photographs suggest a slight alteration to the roof profile when the roof was replaced.

Extensions to the rear protrude into the roof and are flashed with lead and clad in fibre cement slates and/or rendered.

Where inspected, finishes appeared in good condition, though further inspections are recommended.

The stonework to the front, back and sides in varied condition. Cement pointing, which is heavily strapped in places, should be removed and replaced with a lime mortar. Limestone piers and dressings show local damage, especially at the base of pillars where cement render has been applied over the stones in a number of places. There is heavy staining below window sills and the carved eave cornice which is in varied condition. There are signs of damp in the stonework where the north elevation abuts the adjoining building on High Street.

Rainwater goods to the front are cast iron with attractive metal brackets in varied condition with some cast iron replacement pipes and connections.

Flagstones on High Street are in poor to fair condition. The cement bedding is failing and the surface of many stones delaminating providing an uneven surface for pedestrian traffic.

The rear extensions are rendered and painted. A heavy render has been applied to the back walls which is likely to be cement based. Steps in the render suggest variations in the masonry below. Cement has been applied to the plinth along Mary's Lane. The north elevation shows signs of damp, moss and algae growth.

Surface mounted drainage and electric services serving the Tholsel and the adjoining buildings have been applied to the building in a haphazard fashion. The run-off from the lightning protection cable is causing staining on the façade. Windows to the front are side hung timber casements. With the exception of the south window which is in poor condition, they are in good condition. Windows of various styles, originating in the twentieth century are found to the rear. Some of the rear windows have had unsightly metal grilles added.

Above ground, the internal finishes are generally in good condition. Initial inspection suggests that all exposed internal plaster is late twentieth century in origin, probably cement based. There is an historic leaded glass window between the council chamber and the hall. The raised and fielded timber doors at ground floor may be historic but the rest of the joinery, including the stairs appears to be modern. There are signs of problems in the ceiling of the attic level and condensation stains around the roof-lights.

In the basement there are signs of damp evident through visual inspection. Water is penetrating through the ceiling locally with associated mould growth on the floor. Timber door heads are soft and ironwork shows corrosion and brick

and stone faces, lime washes and renders on the piers, walls and ceiling vaults are delaminating. Access to the basement is via a steep timber stair from the hatch in the colonnade.

6.0. SIGNIFICANCE AND PROTECTION

6.1. Assessment of Significance

The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 places the National Inventory of Architectural Heritage (NIAH) on a statutory basis and acts as a core database for identifying buildings for protection. The aim of the NIAH is to identify, record and evaluate the Architectural Heritage. The importance rating value codes used by the NIAH are International, National, Regional, Local and Record Only. Local Authorities are asked to include International, National and Regional structures in the Record of Protected Structures (RPS). The categories of special interest used are Architectural, Historical, Archaeological, Artistic, Cultural, Scientific, Technical and Social. The building is rated of National importance for reasons of architectural, artistic, historical and social interest. It is appraised as follows:
A substantial edifice of national significance reputedly built by Alderman William Colles (b. 1702) forming an imposing centrepiece in High Street as identified by the position projecting forward from the established line of the street. An octagonal clock and bell turret further distinguishes the composition in the townscape on account of the articulation of the roof line in the street scene. Limestone ashlar dressings - particularly the arcade forming a graceful feature in the street - contribute significantly to the elegant Classical theme of the composition while exhibiting very high quality stone masonry. A carved shield bearing the coat-of-arms of Kilkenny City introduces an element of artistic importance to the site. Extensively renovated following a fire in the late twentieth century most of the ensuing repairs have been carried out bearing in mind the historic integrity of the composition, thereby maintaining much of the character of the site... the present use as a town hall ensures that the building continues to fulfil an important civic role in Kilkenny.

6.2. PROTECTION

The Tholsel, its interiors and the associated site are protected under the Local Government (Planning and Development) Act 2000 as amended. It is listed as a protected structure in the Record of Protected Structures of Kilkenny County Council's Development Plan, Ref. No: 843. It is further protected within the Kilkenny City Centre Architectural Conservation Area which is characterised by the surviving medieval street pattern and burgage plots with landmark medieval buildings set in a nineteenth an eighteenth and nineteenth century commercial streetscape.

The Tholsel is also protected under the National Monuments Acts 1930-2004 and is included on the Record of Monuments and Places KK019-026061. As such, two months' notice in writing is required to the Minister for Culture, Heritage and the Gaeltacht, describing any works at or in relation to the building or site prior to the works being carried out.

7.0. THE PROPOSED DEVELOPMENT

The proposed development will consist of alterations to, and refurbishment of the Tholsel. The building is to house an exhibition space on basement, ground and second floor levels, and visitor access to the roof and cupola is to be provided. This will involve the conversion of the basement

to an exhibition space and provision of access to it. The exhibition spaces are to be designed by Bright Design. The Tholsel will continue to house a Council Chamber, Mayor's Parlour, offices and city records in addition to the proposed exhibition space.

Conservation works include:

- Repointing and cleaning of masonry.
- Repairs to windows and replacement where necessary
- Replacement of existing roof lights and redressing of lead linings.
- Replacement of the balcony at roof level,
- Repairs to roof.

The pitched roof to the return to the rear will be reinstated under the proposal and the existing 20th century additions removed. New glazing is to be installed in the windows to the rear elevation. New lobbies are to be installed in the return to comply with Part B of the Building Regulations. The second floor storey of curved extension, which is a later addition is to be removed.

The windows on the east wall of the Mayor's Parlour at the rear of the building are to be reinstated, along with the window at the north end of the rear elevation.

These works will also involve the removal of the terrazzo stairway and a new roof over the curved portion of the return. On the fourth floor of the main portion of the building, the existing partitions are to be removed. An accessible toilet is to be located in the return. Public access to the tower is to be provided.

On the third floor of the return, the existing door between the return and the main portion of the building is to be converted to an internal window. The existing modern partitions and 77sq.m mezzanine level at 3rd floor level over Mayor's Parlour and Corporate Affairs Office are to be removed. The partitions will be replaced with a single partition separating the Mayor's office from the exhibition space.

Investigation works are to be carried out above the N and S doors to the Council Chamber. Subject to the results of these investigations, the existing glazed doors are to be replaced and enlarged windows are to be reinstated in these locations. The existing railings at ground floor level are to be removed and a new 51sq.m glazed structure is to be installed in this area to house an exhibition Reception.

The existing stairway which runs from ground floor to attic level is also to be removed as are the existing partitions in the return.

These will be replaced by a lift and fire escape stairs to serve all floors. The proposed stair and lift are to comply with the Building Regulations and the Disabilities Act. A steel framework and lift shaft will be inserted and the return is to be insulated and waterproofed at basement level.

A basement access is to be created to connect with the existing basement. Another existing opening in the basement is to be enlarged.

A new limecrete floor with a paved stone finish is to be installed in the basement. Existing stone slabs in the basement are to be retained and relaid where possible. The floor will also be lowered to accommodate this floor and services. Previously blocked openings on the High Street are to be reopened to provide ventilation. The existing stairs in the basement are to be removed. The existing hatch in the forecourt is to be glazed and retained as a roof light.

Refurbishment works include the complete internal redecoration.

Other works include the provision of plant in St. Mary's

Church adjacent to the Alms House and associated subterranean connection to the Tholsel, site works associated with formation of new connections to existing public foul and surface water drainage, and existing utilities as required.

7.1. Appraisal of the Proposed Works

The proposed development is overall positive as it will involve conservation works which will safeguard the building. Subject to funding, the intention is to re-point the stone to the front and side elevations, but only where necessary. Where repointing takes place, joints will be raked out and repointed in lime mortar. Some masonry repairs and local cleaning to remove carbon crusts and mildew are also required.

The external render to the entire rear facade appears to be cement based and should be removed and replaced with a lime based render. NHL 2 should be sufficient rather than NHL 3.5 for the external rendering. Mortar analysis to be done during the course of the works if any original render is discovered.

The proposals include providing a new exhibition space and opens up a larger portion of the building so that it will become much more accessible to the public. The exhibition space will be connected with St Mary's Church to the rear thus connecting the heritage of the Medieval Mile. The building will retain its civic function including the Council Chamber, Mayor's Parlour and offices.

The proposed alterations to the upper floors of the return do not represent a loss of original fabric as the upper levels are 20th century additions which are out of character with the rest of the building and detract from it particularly when viewed from the rear. It is worth noting that in the mid twentieth century when the curved stair and associated work was done the building was not intended to be viewed from the rear but that has now changed and the connection between St. Mary's and the new exhibition space will be very important. The proposed pitched roof echoes an earlier form of the building as is shown in historic photographs. The new pitched roof will be copper to match the existing cupola. The 1760s walls of the historic portion of the return will be retained so that no historic fabric is lost.

The existing timber stairs in the rear return is a later addition and not original to the building but historical maps demonstrate that there was previously a stair in the square return. The stair with the central lift provides a similar arrangement to the 1871 plan. The proposed stair and lift also facilitate universal access to all floors of the building including the basement. The lift pit extends below the archaeology.

Other options were considered including the retention of the circular stair and the use of a platform lift in the existing hatch under the colonnade. Extending the circular stairs down to the basement would have a similar archeological impact as the existing proposal. It would not however provide access to the top floor.

Locating a lift to the rear of the colonnade was also found to be too disruptive to the fabric of the basement.

The current proposal is the only one that provides universal access to all floors. Where the previous stair may have provided an on-axis route up to the council chamber the new arrangement also provides an on-axis route to the cellars. The stair size is based on minimum requirements for a public building and an Accessibility Specialist has been consulted



Extract from the 1871 Ordnance Survey coloured Town Map of Kilkenny. This map clearly shows a stairs in the return that is very similar to the proposed stair. It also shows a room rather than a stairway in the curved extension. The proposal thus restores an earlier internal arrangement.

in this matter. The proposed stair has been approved by the accessibility officer.

The proposal will also enable access to the cupola which is currently generally inaccessible to the public. The proposed railings to the viewing area around the cupola are not based on historic railings but are modest and simple.

The proposals involve the reversal of previous interventions such as the removal of modern partitions and the 3rd floor mezzanine which will restore the internal double height spaces in the Mayor's Office and ante-room in the main portion of the building.

The second floor of the curved extension is also a 20th century addition. Its removal therefore does not present a significant loss and will restore the rear elevation of the building. It will also involve putting back two windows in the Mayor's Office and will bring more light in to what is currently a very dark and windowless space. The early 19th century portion of the curved extension will be retained.

The removal of the terrazzo stair from the curved extension, while it will involve some loss of interesting 20th century fabric, will restore the internal spaces which will retain the buildings civic function, namely a ground floor reception area and an office above. Because of the way the stair was cast into the historic structure it is envisaged that the stair structure will have to be cut approximately 150mm from the inside face of the curve. This evidence of the former stair can be incorporated into a shelving / panelling treatment which lines the walls.

The position of the removed stair at ground floor level will be indicated with brass strips and terrazzo or similar poured material with appropriate detailing to the new floor. The edges of the stair will necessarily remain, due to the difficulty in removing the concrete structure from the historic masonry without causing significant damage to the older walls. The position of the old stair will be able to be read by incorporating specially designed shelving and panelling around the curved walls. The detailing of these items will be subject to ongoing discoveries during the works. A full updated photographic and drawn record of the stairs will be made after removal of the carpets and other later additions.

The wall finishes should be made good but dry lining is not recommended as it will have adverse impacts on the stone wall in terms of trapping moisture and damp.

The replacement of fenestration to the rear is also positive. None of the existing fenestration to the rear is original.

Sashes will be put back in the Mayor's Office and exhibition space on the first floor which is positive and will restore the character of these spaces and the rear elevation. The remainder of the windows will be contemporary in style and will act as a foil, complementing the existing building. As noted by overlaying the current window positions to the rear return over the position of the eighteenth century windows it is unlikely that any of the original window arches or surrounds remain.

The proposed fire door to the rear return will involve breaking through original fabric. It is however a necessary intervention in order to comply with building regulations and the Disabilities Act and as mentioned above, this elevation has undergone significant alteration in the past.

Although opening up works have been carried out already within reason, new evidence will inevitably crop up.

As evidence of the Mayor's Parlour, Council Chamber and other rooms is discovered, whether by opening up or research which comes to light, this will inform the treatment of the proposed re-instated rooms, particularly where it is proposed to reinstate features such as windows and doors.

Old flues where discovered may be used for services where possible.

The existing railings on the ground floor are not original to the building but late 20th century interventions. Their removal does not represent a loss of fabric and opens up the ground floor.

The new glazed structure on the ground floor is a reversible intervention which facilitate the proposed exhibition space and associated services. The proposed design includes a lightweight interlocking timber structure. This will be subservient to the existing building and can be viewed as a furniture type installation. As the floor above is shallow the scope for insertion of services is limited. The new independent structure can be used to support services.

The new structure may be tied to the existing columns for stability if necessary using the defunct railings fixings.

The flagstones under the arcade on High Street will require minimal repairs, lifting, re-bedding and re-grouting.

The proposal involves bringing the currently disused basement back in to use. It is intended to do minimal works to the basement / cellar. The cellar walls will be lime washed. The basement will be ventilated by re-opening existing grilles onto the street. The existing hatch under the colonnade which is to be glazed will provide a source of natural light.

The removal of the existing timber stairs does not represent a loss. This stairs is neither safe, functional or original to the building. 2 No. of openings are to be created at basement level. one in the east wall is to be created to provide access from the stair. The second involves the enlargement of an existing internal opening to form a door and will improve circulation at basement level. The creation or enlargement of openings at basement level will involve some loss of fabric but facilitates the proposed exhibition space and will ensure the future of the building. The position of the medieval road level is to be indicated in the stair hall at basement level.

Existing stone flagstones will be retained and reused where possible. The stone floor will protect underlying fabric and facilitating service runs. All duct work and lighting services will be contained within this new floor along with under floor heating. Under floor heating will help to alleviate dampness in the basement.

With regard to the iron railings and gates in the basement, both will be retained and widening where required in order

to meet fire and disability access regulations. The widening will entail a minimal loss of fabric.

The proposed refurbishment works will restore the character of the buildings and will allow improved circulation within the building.

The other works such as the provision of plant adjacent to St. Mary's Almshouse. The Almshouse is a protected structure (RPS reference no. B193). As referred to in the accompanying design statement, three heating options were considered by the design team. An Air Source Heat Pump was selected over a gas boiler or replacing the current electrical radiators as it was the most environmentally sustainable option.

The freestanding plant will be located in a small external area to the west of the Almshouse and between the Almshouse and the boundary wall to St Mary's Churchyard. Because the plant will be free standing, direct physical impact on the Almshouse will be avoided. It will be screened from the Church and Almshouse by a 2.1m high louvred metal screen, avoiding a visual impact on the adjoining protected structures.

The associated subterranean connection from the plant to the Tholsel and other site works including the digging of the lift pit and formation of new connections to existing services will involve excavation and thus there will be an archaeological impact.

A test excavation has been carried out by C il n O'Drisceoil in the rear lane, return and basement of the Tholsel. Section 9.0 of O'Drisceoil's Archaeological Impact Assessment Report outlines the impacts of the proposed works on archaeological and upstanding remains.

The proposed stair and lift in the rear return and the lowering of the basement floor will result in the complete removal of underlying archaeological deposits and exposure of wall foundations. O'Drisceoil's report has recommended full excavations of these areas. The installation of services will also impact on underlying remains and archaeological monitoring has been proposed in this instance.

7.2. RECOMMENDATIONS

It is desirable that the fibre cement slates be replaced with a natural slate roof covering.

Repairs to the masonry in the basement shall be carried out where required.

73. Conservation Methodology

PROPOSED WORKS:

The works proposed to the historic structure are indicated in detail on the drawings. This conservation methodology incorporated specifications that will be used in contract documents.

CONSERVATION PHILOSOPHY:

The proposed conservation work will be carried out in accordance with the principles of the Venice and Burra Charters produced by ICOMOS Australia in 1979 and amended in 1981, 1988, 1999 and 2014. This document defines current conservation terminology and makes sensible recommendations for its practice. These include Principles, Processes Preservation, Restoration, Reconstruction, Adaptation and Practice, all of which will be followed. The works must adhere to the conservation principles set out in the Department of the Environment, Heritage and Local Government's Protection Guidelines for Planning Authorities (2004) and the Departments advice series publications on

various elements.

GENERAL PRINCIPLES:

Conservation work will be based on an understanding of the building and its development. The aim will be to recover and retain the significance of the buildings while allowing alterations that provide a use that will ensure the survival of the building.

All features and materials of importance to maintain the structure's character will be retained including features of all ages.

The objective is to 'hold' these monuments, to stabilise them and slow down the deterioration of their structure as far as is practicable and that the structure should not look very different after conservation works except that the fabric is more stable and secure.

All efforts will be taken to ensure that necessary new work on the historic structures looks appropriate and is in keeping with the fabric, materials and style of the original work. However, it should be possible to 'read' changes to a wall, both modern and historic, through close inspection. No important architectural features, later changes, or other features of the monument should be masked, including original mortar, where this is sound.

It should always be the intent to restrict all interventions to the minimum that is consistent with the established philosophy and the appropriate use, reuse, and continued survival of the building.

The philosophy of doing 'as little as possible and as much as necessary' applies here.

It is the objective to carry out works limited to that essential for the survival of the property and its conversion. It is intended in all cases where possible to carry out repairs rather than replace materials.

In relation to any new work required to the structure the use of processes that are reversible will be used.

Repairs are to be carried out without an attempt to disguise or artificial ageing and new repairs should be discernible without detracting from the structure.

Any necessary intervention to the monument should always be reversible, both in the materials used and methods employed.

It is intended that unsatisfactory alterations that disfigure earlier work of greater merit should be reversed, where feasible. This especially applies to the removal of exposed services.

A programme of conservation works shall be carried out in tandem with the proposed development to conserve the historic fabric and bring it to a high standard of repair. Detailed inspections and investigative works shall be carried out prior to the commencement of the programme of conservation works under the direction of the Conservation Architect who will advise on conservation aspects of the scheme throughout all stages.

It is an objective that the highest conservation standards will apply to the contract.

As a general principle as much of the original material as possible is to be retained and reused in its present location. Only appropriate materials and methods of construction and contemporary methods or materials will be used where alternatives do not exist.

Where decay occurs, before any restoration is undertaken, a thorough analysis should be made of the defects and the nature of the decay of these materials.

Salvaged materials from other sources may be reused such as slates. However, there are some issues to be considered in the use of salvaged materials that must be considered, in particular the source of the material, and whether another historic building has been demolished to provide it. Unless salvaged slates are in very good condition they may not be used.

GENERAL DIRECTION TO CONTRACTOR

The building is a historic building and great care must be taken at all times to protect any artefacts and any part of the building fabric, fittings etc. that could be damaged due to the works.

All works to be supervised by Conservation Architect with experience in conservation/restoration of historic buildings. All contractors/site personnel and their staff will be required to have read this method statement.

Detailed daily records including photographs are to be kept of the works at all stages and the Conservation Officer will be kept informed of progress with regular reports.

Provide such protection as is necessary to prevent the ingress of rainwater and or ground/surface water to the building or staining, splashing etc.

Confirm items and elements that are to be protected by contractor before commencement of work.

Prepare softwood or other supports protection as required.

Buffer or double wrap to all door frames, other carved elements and elsewhere in work zones and approach routes.

Scaffolding will be erected as required and dismantled by competent scaffolders.

Extreme care will be taken to avoid any damage to the stone work/fabric by the scaffolding during erection, while in place and when being dismantled.

All necessary precautions will be taken to ensure no damage occurs to the building fabric.

All services such as drains, water supply etc will be properly blanked off or sealed to prevent damage directly or indirectly to the building fabric.

Exposed openings such as doors and or windows will be securely sealed to prevent unauthorised access.

It is not permissible to fix anything such as temporary door frames etc to the building fabric. No contact with the building is allowed and no screwing/fixing to the walls is permitted under any circumstances.

Hand operated equipment is only allowed. The use of pneumatic drills, hammers etc is to be carefully monitored and are to be used only if no damage through vibration or otherwise is being caused to the masonry walls and only with the prior approval of the Conservation Architect.

The contractor is to take all necessary precautions to protect the building fabric from collapse/damage during the works.

The contractor will be required to prepare a program of work for the approval of the Conservation Architect prior to the commencement of the works, to ensure the sequencing of work is compatible with the fabric.

During the course of construction the property and its elements shall be protected from damage. Retention of existing fabric shall include protection during construction and repair. This will include the protection of joinery materials being wrapped with bubble wrap, the protection of staircases with hardboard and covering of floors with cloth etc. Fire prevention and prevention of water ingress will be determine at the tender stage and agreed at the commencement of work in consultation with the fire

consultant. Window casings, windows, door surrounds, doors, cornices, lath and plaster ceilings etc. should be protected by plywood screens and floors shall be covered with cloth etc.

INVESTIGATIONS:

Opening up works have already been carried out on site. Further investigations are envisaged, including the use of a cherry picker and scaffolding to inspect roofs and the upper levels of the building and further opening up and investigations will be carried out to determine the condition and nature of concealed fabric or where it is proposed to put back openings in the Council Chamber. All works, repairs, alterations and making good to the original fabric are to be in accordance with the conservation methodology. No opening up or chasing of the original fabric is to be carried out without the approval of the conservation architect.

SCOPE OF OPENING UP WORKS CONTRACT

The following may part of an opening up contract:
 Opening up after removal of any asbestos.
 Trial holes to show rising walls, footings.
 Excavated material to be analysed.
 Opening up of manholes checking of inverts and camera survey
 Cat survey to show services
 Opening of ducts for inspection
 Lift selected skirtings for inspection
 Remove floor covering to inspect floors
 Lift floor boards to inspect joists and wall plates
 Remove sections of plaster to inspect, noggins, timber lintels and hidden timbers.
 Remove linings and architraves to expose timbers
 Provide plaster and mortar samples for analysis
 Provide safe access to parapets, roofs, and valleys
 Lift three courses of slates,
 Provide for attendance of damp specialist, timber decay specialist, and material specialist.
 Provide CCTV of drainage. Provide smoke test and CCTV survey of flues.
 Provide for removing window for inspection
 Provide for reinstating all removed material and for making good.

REPORTS

Reports relating to structure and archaeology will accompany this report.

GENERAL DESCRIPTION AND CONDITION.

The buildings are generally in good condition and in reasonable state of repair. The property has been well maintained. The consultant structural engineer shall deal with structural aspects.

SPECIALIST CONSERVATION CONTRACTOR

The main conservation contractor is responsible for all and must have experience in working with historic buildings and must be approved by the Conservation Architect and he shall provide method statements to demonstrate how fabric will be protected, labelled, stored, cleaned etc.

FOREMAN:

The Conservation Contractor shall provide full and adequate supervision and site administration during the progress of the works and shall keep a competent and authorised

foreman constantly on the works. Craftsmen, domestic sub-contractors and specialists appointed by the contractor will have to be experts in their field and demonstrate experience in similar work. This especially applies to slating contractors, stonework contractors and stained glass artists.

SUPERVISION

All works to the historic fabric of the buildings shall be carried out under the supervision of the contractor with advise and inspections by the conservation architect and no taking down, opening up nor is any feature or fitting to be removed without his/her approval. The contractor is to inform the workforce, other parties, sub-contractors and suppliers, of what is expected of them and to enforce good practice in relation to standards, Health and safety and waste management.

SCAFFOLDING:

Provide all necessary scaffolding to the building and any necessary internal scaffolding. All scaffolding is to be supplied and erected by the contractor for the duration of the works. This would require erection of scaffolding for both support and access to work throughout, complete with ladders, loading platforms, hoist mounts, safety rails, debris nets and shelter as required. All scaffolding must be erected in such away that all passage ways about the building are left accessible and safe for use by the public. All access scaffolding to be used must be erected, inspected, adjusted and dismantled in accordance with current Health and Safety Legislation and Approved Codes of Practice. All access scaffolding to be used must be of a free-standing, self-supporting nature, i.e. 'retention scaffolding'. Scaffolding should be erected in a manner which is not reliant on a historic structure for stability. The scaffolding must not touch, lean on, or use the historic structure for support (or leverage) at any time without approval. No compression ties or reveal ties are permitted without prior approval. Through ties may be permitted through window openings, ONLY if the scaffolding does not come in to contact with the masonry at any time.

HEALTH AND SAFETY:

Address all health and safety issues in connection with contaminating materials. Construction work on historic structures must comply fully with the Safety, Health and Welfare at Work (Construction) Regulations 5.1 504 of 2006. The contractor should be aware of the particular challenges of retaining as much as possible of the fabric of a historic structure and providing a safe working environment during construction. Particular care should be taken in relation to propping and temporary works so as to minimise damage and intervention on the fabric of the building. This requires a coordinated approach by the Conservation Architect, the Health and Safety Officer, Structural Engineer and the Contractor. As the works are being carried out on a building in daily use whose walls and stone work have been exposed to the elements for a number of years, extra care needs to be taken as the walls may be unstable because of erosion of the mortar between the masonry, the contractor is to ensure that the site is secure at all times and that every effort is made to protect works staff, site visitors, public etc. from injury from the works. The contractor will prepare a H&S assessment, a Safety Statement and a Safe System of Work Plan and

undertake the duties of Project Supervisor Construction for the duration of the works. The contractor is responsible for the disposal of all waste material through a licensed waste disposal company.

PIDGEEON DROPPINGS

Before any extensive clean-up measures are taken workers should be informed of the possible health risks involved, particularly those with weakened immune systems. Even though histoplasmosis, cryptococcosis, and psittacosis pose minor public health threats, they can be further minimized if safety measures are taken. Wearing protective clothing like disposable coveralls, boots, gloves, and respirators can be used for protection.

If a high-powered water hose is used to strip off dried droppings, dust control measures such as containing the area with plastic sheeting, should be taken. Wetting down the work area will prevent inhalation, reduce the risk of infection and will also prevent the spread of dust outside the work area. Those with a compromised immune system such as people living with HIV/AIDS or cancer patients should not be directly involved in the removal of the droppings. Always wash hands and any exposed skin before eating or drinking and when finished with work.

Several alternatives to using a high-powered water hose exist. One such alternative includes soaking the droppings with water and then shovelling it. The wet material should be collected in heavy-duty plastic bags or another type of secure container and discarded.

HEALTH AND SAFETY AND LIME MORTAR:

Working practices with lime mortars will generally fall within the scope of the Health and Safety at Work legislation. Lime products should be handled with care. They are a caustic alkali and are irritant or drying to the skin and particularly dangerous to the eyes. Lime is considered a hazard, and as such, must be risk assessed, and personnel working with lime should be informed of the findings of the risk assessment.

HAZARDS:

Skin contact: avoid skin contact wherever possible. Especially in warmer weather, shaven parts of the face and neck are liable to irritation. Eye contact: lime dust in the eyes is extremely painful and may cause damage. Inhalation: inhaling lime dust may cause throat irritation. Ingestion: slaked lime is likely to cause irritation of the gastro-intestinal tract if swallowed in large doses. Personal Protective Equipment: Wear clothes that provide maximum skin cover. Wear protective gloves. In wet conditions, or where the hands may come into contact with lime putty or milk of lime, waterproof gloves should be used. Use a barrier cream on the hands, wrists and exposed areas of the skin. Use eye protection when working with lime based materials overhead. Wear goggles to prevent lime entering the eyes. Full, wide-vision goggles with anti-mist properties are preferred. Wear a dust mask when exposed to lime dust. A dust mask consisting of gauze-covered aseptic cotton wool filter pads, held in a wire frame with a headband, is effective for protecting the mouth and nose.

WASTE MANAGEMENT

During the course of the works minimize the waste generated from the site and make efficient use of materials. Ensure that waste is disposed of according to statutory regulations

and prevent pollution occurring at our sites. Ensure that the natural habitat and environment is protected during the works.

SURVEY:

The building has been surveyed by the architects and survey drawings are provided. This includes portions of the building which are to be removed

REMOVALS:

Parts of the building to be removed include internal partitions, the upper portions of the rear returns, the mezzanine, the existing staircases and 20th century fenestration. Parts of buildings to be removed are to be carefully taken down. The Contractor is advised to visit the site and examine the existing building in order to ascertain its nature, and the extent of the work involved in their retention where shown and their removal where necessary. Old materials, if considered suitable by the Architect may subsequently be re-used always to the Architect's approval. No buildings etc. are to be taken down or otherwise interfered with unless, and until, written instructions are received from the Architect. Remove all debris from site.

FEATURES TO BE RETAINED:

General: Keep in place and protect original masonry fabric, sound slates, joinery, glass and materials for recycling

TIMBER DECAY:

There is no evidence of any dry rot internally. Where decay is found the timbers will be replaced where necessary with like for like basis, treated with a vac-vac preservation treatment. Structural members will be spliced where necessary. Beams showing decay will be repaired and spliced with engineer's approval with timber similar to the existing. Roof timbers will be thoroughly inspected as the work proceeds. Any discovery of dry rot will be reported immediately to the Conservation Architect.

OUTLINE SPECIFICATION FOR TIMBERS:

Any rotten structural timbers will be replaced with new spliced members retaining as much of other original timber as is sound. All new timber used throughout the work shall be well seasoned and dry, free from sap shakes, large or loose knots, and wane edges of other imperfections. All timbers found defective in these respects shall be removed from the site. White deal shall be spruce, straight, well seasoned and free from sapwood. Red deal for joinery etc. shall be red wood. The moisture content of all timber shall not exceed the permitted maxima set out in IS 96. All timber shall be free from surface moisture at time of treatment with preservative. The moisture content of all timber shall not exceed the permitted maxima set out in IS 96. All new structural timbers including joists, rafters, bridging, studding etc shall comply with Irish Standard Recommendation SR II:1988: timber shall be Strength class B stress graded and marked SCB.

TIMBER PRESERVATIVES:

All new (structural and carpentry) timbers shall be pre-treated by double vacuum process using a solvent-based treatment (e.g. "Protim" or other equal and approved) in strict accordance with the manufacturer's printed instructions. The reduction in size of pre-treated timbers on the job shall be kept to a minimum and timbers so cut, together with all

cut ends, notches etc., shall be treated by liberally brushing on two coats of distinctively coloured preservative. Small pieces of timber for use as grounds etc. shall also be treated. Suitable precautions shall be taken by the Contractor by way of the provision of PVC gloves etc. to ensure that any men in contact with timber preservatives in their wet state are protected from any possible skin irritation, which might result from direct contact.

WORKMANSHIP:

Any new timber splitting or opening to the extent of 1 mm within the Contract maintenance period shall be replaced. All joinery work to be properly wrought and framed together and finished in a workmanlike manner. All framing to be mortised and tenoned. Tonguing to be cross-grained.

ROOF GENERAL:

ROOF STRUCTURE AND FABRIC:

Divided into various hipped sections the roofs are covered with modern slates.

REMOVAL OF ROOF COVERINGS:

Carefully remove existing sound slates and ridge tiles.

ROOF TIMBERS:

Remove perished sections of wall plates, rafters and ceilings joists, ridge boards, purlins, roof truss ends, and replace with treated timber splicing to existing sound timbers. Any rotten structural timbers will be replaced with new spliced members retaining as much of other original timber as is sound. All new timbers to be treated by approved specialists. All new timbers to be vac-vac preservation treated. Replace all timber battens with new vac-vac preservation 50mm x 40mm treated battens. There should be minimum intervention and maximum retention of the historic timbers in a roof. New timber should not be placed in direct contact with masonry but should be isolated from the masonry by either supporting on new brackets away from the wall or by placing a damp proof membrane between the timber and masonry.

SLATING:

Existing slates are modern fibre cement slate. They are to be replaced with blue Bangor slates. Original coursing to be followed. Relay original blue Bangor slates using aluminium copper or section bronze nails.

VALLEYS AND FLASHINGS:

Allow for the retention of lead and copper valleys and flashings. Where they are to be replaced replace lead valleys and flashings with code 5 lead laid in accordance with the Lead Development Association printed instructions, or with the Conservation Architect's approval with copper. Allow for reinstatement of valleys and flashing to chimneys and parapets with similar gauge copper. Fit copper soakers, apron, and cover flashings on stacks and parapet walls. Replace valleys with copper valleys clinked in accordance with manufacturers instructions. Provide for the replacement of all outlets. Provide copper upstands. New metal valleys are to be constructed using an isolating membrane between the valley timbers and the copper or lead valley.

PARGING:

Insulating foams on the underside of slates are not to be used. Parging the underside of the slating is to be correctly

carried, as it is the traditional and most effective means of draught proofing.

BREATHER TYPE FELT:

Where re-roofing is to be carried out, cover over roof area with breathing membrane with high permeability and low fire spread rate. Membrane to be Tyvek or Corovin or similar approved breather membrane.

ROOFING FELT:

All bitumen felt to comply with IS 36 Part 1 Type1F laid to a lap of 225mm and to be breather type to drape over rafters. Horizontal overlap must not be less than 150 mm. The underlay must drain any moisture into the gutter, and must extend over the tilting piece and be fixed so that no troughs are formed in which water may be trapped. Felt where nailed should be held down by galvanised clout nails.

RIDGE TILES:

Re-bed ridges where required in a hydraulic lime mix.

ROOF LIGHT:

Allow for the removal of the 20th century roof lights and replacement with the specified lead lined roof lights

WALLS GENERAL:

All sources of wall ingress are to be eliminated and walls allowed to dry out before any cleaning or repairs are to be carried out. Only minor repairs and re-pointing should be considered. Retain where possible original pointing. Avoid the application of any insulating material to walls which inevitably results in a negative impact on architectural features such as skirtings, architraves, door frames and cornices. The thickness of walls in most historic buildings provides natural insulation. The masonry external walls appear to be red clay brick. Tests are to be carried out by the contractor to determine the effectiveness of the cleaning process.

All existing material is to be salvaged and cleaned off and made ready for re-incorporation in the works. In particular, samples of bedding, pointing and coping are required.

SERVICES, WEED GROWTH:

Remove obsolete service wires and pipes and tidy up all retained wiring. Remove any ivy growth from all elevations. Allow for treatment of all walls from with fungicide where instructed.

MORTAR:

Mortar: to be in hydraulic lime and aggregate. NHL 2 for general walling. Aggregate to be of coarse composition, with gravel, brick, shell, and other additives.

MAKING MORTAR:

Measure materials by volume using clean gauge boxes. Proportions of mixes are for dry sand; allow for bulking if sand is damp. Where a range is given (e.g. 5-6), use higher value for well-graded sand and lower value for coarse or uniformly fine sand. Mix ingredients thoroughly to a consistence suitable for the work and free from lumps. Do not overmix mortars containing plasticisers. Use mortar within about two hours of mixing at normal temperatures. Do not use after the initial set has taken place and do not retemper. Keep plant and banker boards clean at all times.

PROTECTION:

Provide 25mm w.b.p. plywood fitted snugly to stonework, but maintaining a gap of 50mm over all glazed areas, supported on s.w. framing as required. Do not fix into stonework, but into joints only or into plastered surfaces. Make good upon removal. Provide protection to moulded architraves etc. Provide further protection from spillage of treatment products through the provision of polythene sheeting over windows, plasterwork and projecting stonework.

WORKMANSHIP:

Preparation for use: Remove the quantity of coarse stuff necessary for one day's work on to a clean boarded platform. Mix again, chopping, beating and ramming. A minimal amount of additional water may be added to increase plasticity, if the coarse stuff is too crumbly. Chopping and beating alone will render the coarse stuff more plastic without the addition of more water. In no case must mortar be used after the initial set has taken place. Reconstitution of mortar will not be permitted.

SAND

Roadstone Medium Washed Sand should be acceptable. In addition to sand, 6mm washed gravel from the same source is to be added to the mix up to 5% by volume of the aggregate, with brick fragments, and other material added. Sand should be already washed clean of very fine particles of silt and free from salts. It should be well graded, with a range of particle sizes, with the highest proportion around the mid range. It should be 'sharp', that is a high proportion of angular grains, which will fit closely together, producing a well-bonded mortar. An aggregate containing too many rounded grains will produce a material that is easily worked with, but will bond poorly. The proportion of voids in the sand should be around 33-35%, which means the proportion of lime added should be around one third of the aggregate's compacted volume to fill all the voids and cover all the sand grains. The exact ratios will be worked out in advance in relation to the sand to be used. If not enough lime is used, then some voids will not be filled, and this will enable moisture to settle, freeze and expand during the winter, damaging the mortar. On site, a lime deficient mortar can be made more workable by the addition of water. This is very bad practice, as it will ultimately result in a weak mortar, prone to increased drying and shrinkage. Although sands may comply with the relevant British Standards, the grading of these sands is quite wide, and a sand passing the British Standard may not necessarily be suitable for making a good lime mortar. Therefore, sand should not be selected solely on compliance with a British Standard.

AGGREGATES:

The main aggregate in lime mortar is sand, although clay, crushed shell, crushed brick and others were historically used in many cases. The aggregate in a mortar can be up to 75% of the total mix, so choosing the correct type and balance of aggregate is crucial to the workability, performance and therefore success of the mortar.

EXTERNAL SAND- LIME RENDER:

Where the surface is too poor for repair the finish will be plastered with a lime render. Ensure that all metal items to be embedded in plaster and cement rendering are non-

corrosive. Clean backgrounds by scrubbing with water containing detergent to remove oil and other materials detrimental to the work. Dry brush surfaces to remove surface staining and loose material. Sprinkle very dry surfaces with water and allow to soak in before setting. Dub out, where necessary, in separate coats each of not more than 10mm in thickness and in the same mix as the first specified coat. Scratch surface of coat immediately after it has set. Ensure that supplies of materials are sufficient to give consistent and uniform colour to surface finishes which are not to be painted.

Mix plastering and rendering materials thoroughly to incorporate all the constituents of the mix. Lime: The lime to be used is St. Astier natural hydraulic lime (NHL) as supplied by Edward M. Byrne The Traditional Lime Company, Rath, Shillelagh Road, Co. Carlow in accordance with the manufacturer's printed instructions or other equal and approved supplier. The lime shall be stored in a suitable weather tight building and in such a manner as to permit access for the proper sampling and identification of each consignment.

Sand: The sand is to be clean, well graded with angular sharp particles, non-contaminated organically or chemically washed and dried and should comply where possible with BS 1199. Damp sands can be used but the total water required will be less. Fine sands can be used (max 20% of the total sand requirement) to obtain a colour or to blend with coarse sand to provide a better grading of fines.

For large joints, mortars, bedding, capping, external renders, base coats and undercoats use sand graded from 3 mm down to 75 microns.

For thin joints, smooth or light textured finishing coats, internal fine plaster work the maximum granular size of the sand should not be greater than the joint thickness.

SAND FOR PLASTER:

Sands of 2mm down to 75 microns are to be used in the following grading:

Sieve Size	% Passing
2.36mm	100%
1.18mm	80 to 90%
600microns	55 to 65%
300microns	30 to 45%
150microns	10 to 20%
75microns	0 to 5%

Finer sands require more water and increase the possibility of shrinkage.

COLD WEATHER:

Do not work while the air shade temperature is below 2°C on a rising thermometer or below 5°C on a falling thermometer. Ensure that temperature of coatings remains above 4°C for at least 24 hours after setting.

MORTAR PLASTICISERS:

The use of mortar plasticisers or bonding agents is not permitted.

PROPORTIONING:

All proportioning is to be done using properly constructed gauge boxes, and in no circumstances shall the materials be proportioned by shovel.

BACKGROUND PREPARATION:

Ensure that the background is thoroughly clean. If removing vegetable growth using biocides, check that these would not react with the render causing stains. If the background is saturated and damp, check for cracks or other causes of water penetrations (faulty gutters or drainpipes, cracks in the joints of terraced roofs). These should be cleaned out and sealed with an NHL pointing mortar and allowed to cure for 1 or 2 days before rendering starts. Apply sufficient water to reduce excessive suction, especially on bricks and porous stone. Always dampen areas before applying next coat. Provide adequate keying between background and base coat and between each coat. Criss-cross patterns are preferred to combing.

THREE COAT WORK:

First coat: The first coat has to provide sufficient bonding. A scud coat is to be used on a strong and smooth background. The thickness of the first coat depends on the nature of the background, the overall thickness of the render and the keying function. The background should be dampened and the mix dashed on with a trowel or scoop to give a coating of between 3 and 5 mm in thickness. The scudding should be dampened periodically and permitted to dry out slowly before the application of the undercoats. A trowelled scratch coat is preferable on old bricks or soft surfaces. Use a strong mix (1:1.5 sand: NHL 2). On soft or weak background use 1:2 or 2:5. Successive coats must be weaker than this coat. Scour back and key (criss-cross keying) once initial setting has taken place.

Two undercoats: to be applied 2 days (or more, depending on atmospheric pressure conditions) after completion of each coat. The strength should be marginally less than the first coat. Thickness can vary according to the overall thickness required but it is normally between 10 and 15 mm. They must not be applied over 20 mm thick. The thicker the intermediate coats the longer the waiting time before each application.

To ensure a level surface fix vertical timber battens on the wall at 2-2.5 m interval. If the wall is uneven use spacers and check that battens are straight with a plump level. Screed off excess mortar between battens with a wooden straightedge spanning between the battens. When battens are taken down, fill in strips with the same mortar.

Scour back and key as usual after initial setting. Check for shrinkage during the first 2 days and, if necessary, lightly dampen the relevant area, scour back and re-key. In case of intermediate coats this would apply to each coat. Do not apply finishing coat for few days, until undercoat is adequately firm. **Finishing coat:** The finishing coat is a thin coat 5mm minimum of best clean sharp sand and NHL (1.5:1). It can be ruled and lined as required while still soft.

INTERNAL PLASTERWORK GENERALLY:

Generally, internal plasterwork, is in reasonable condition but is a late 20th century replacement. The existing plasters and renders are to be tested and historic plaster and renders matching the existing are to be used for repairs. No sound plaster or render is to be removed.

WALLS:

The original walls are lime-based plaster throughout but there have been hard wall plaster repairs. Sections of loose

or debonded plasterwork will be repaired with plaster of a similar mix and similar ingredients. All new services are to be concealed behind the plasterwork but chasing of walls is to be kept to a minimum and is to be repaired with a lime based plaster by a specialist plasterer. Carefully remove loose plaster only where directed. Prepare the background as per external rendering. **First coat:** The first coat has to provide sufficient bonding. A scud coat is to be used on a strong and smooth background. The thickness of the first coat depends on the nature of the background, the overall thickness of the render and the keying function. The background should be dampened and the mix dashed on with a trowel or scoop to give a coating of between 3 and 5 mm in thickness. The scudding should be dampened periodically and permitted to dry out slowly before the application of the undercoats. A trowelled scratch coat is preferable on old bricks or soft surfaces. Use a strong mix (1:1.5 sand: NHL 2). On soft or weak background use 1:2 or 2:5. Successive coats must be weaker than this coat. Scour back and key (criss-cross keying) once initial setting has taken place. **Two undercoats:** to be applied 2 days or more, after completion of each coat. The strength should be marginally less than the first coat (2:1 sand:NHL2).. Thickness can vary according to the overall thickness required but it is normally between 10 and 15 mm. They must not be applied over 20 mm thick. The thicker the intermediate coats the longer the waiting time before each application. **Finishing coat:** The finishing coat is a thin coat 5mm minimum of grade B Silica sand and NHL (1.5:1).

AMBIENT CONDITIONS:

It is essential that ambient climatic conditions are observed during the preparation and use of the coarse stuff and the fine stuff and the batch size adjusted accordingly. It is imperative that the mixture is not allowed to become dry or be subject to freezing conditions. In addition, the normal precautions of suspending operations until the temperature reaches 6°C on a rising thermometer or 8°C on a falling thermometer shall be strictly observed.

SAGGING CEILINGS:

Support affected sagging ceiling from below where necessary using expanded metal to cushion the ceiling from supports. Remove any rotten or defective timber and replace with new treated timbers. Refix the plaster to the joists with stainless steel wire bedded into the plaster, threaded through the laths and tied around all the joists at intervals. Use non ferrous screws with expanded metal bedded into the ceiling securing laths to the joists. Any loose areas of plasterwork are to be tied back to the joists with stainless steel screws and washers and/or stainless steel wire or mesh. Cut out cracks seal and fill with lime plaster. Clean out debris between the joists and seal with PVA. Fix netting material folded over and laid between joists and carefully flood with plaster of Paris brushed in to fill any gaps between plaster and laths. The original ceilings are lath and plaster throughout, and care is to be taken while carrying out the work to protect the ceilings. Damaged areas, in which the laths have perished or holes are to be carefully cut back to the supporting joists and new riven laths are to be fixed to the joist and the ceiling plastered and all cracks cut out and filled with a lime-based plaster by a specialist plasterer.

HYDRAULIC LIME MIX:

This can be mixed in a conventional rotary drum mixer, aided

by 2-3 large (clean) stones to help the compression of the mortar as it is turned. The drum should be as horizontal as possible, to reduce the likelihood of improperly mixed mortar gathering at the back of the drum. The hydraulic lime powder should be mixed with the specified amount of aggregate in a dry state, adding a little water at a time, to ensure that excess water is not accidentally added. Excess water will weaken the mix and increase shrinkage. The mortar should be mixed for a minimum of 20 minutes. The more the mortar is mixed, the more workable it will become. If bucketed and brought to the wall but not used

Immediately, extra compressing in the bucket with a block of wood will help achieve maximum workability when it is about to be used.

KNOCKING UP: Lime mortars will stiffen up (especially in storage) and initially appear too dry. Knocking up in the mixer will bring the mortar back into a workable plasticity without the addition of extra water. Pozzolans, if specified, or other specified additives (such as hair), should be added at this stage. Mixing with water, rather than knocking up, or not mixing for a proper length of time, are thought to be significant factors in the poor performance of lime mortars. When ready for use, good lime mortar should have a consistency similar to modelling clay. It should stick to the surface of an inverted hawk or trowel - If it doesn't, it is too wet.

DAMP PROOFING:

System to be approved by Conservation Architect. Where there is evidence of rising damp at the lower level the walls are to receive a damp proof treatment. There is evidence of rising dampness at the bottoms of the walls at ground level. They should be investigated in detail and where rising dampness confirmed the walls should receive a damp proof treatment, which is to be compatible with the historic fabric.

FIRE PROTECTION:

Provide fire breaks where shown on drawings. Allow for building up masonry walls to underside of raking roof with 215mm solid blockwork and pack to underside of roof with approved fire protection as specified above. Fire safety requirements include protection to escape routes, emergency lighting, fire alarm systems and fire fighting equipment.

FLOORS:

Timber floors to be insulated and fireproofed where shown, and this has been done traditionally by pugging and shells or as directed. Lifting of floorboards should only be undertaken if no damage is caused. Insulation can be supported between joists either with chicken wire or other proprietary trays fixed in accordance with the manufacturer's instructions.

At ground floor level, where the insulation is most effective, cross-ventilation requirements must also be adhered to.

FLOOR REPAIRS:

As with the joinery in general, most of the floors were replaced after the 1985 fire. Nonetheless floors will be repaired where necessary. Timber boards will be lifted carefully, labelled and stored on site or a store. The joists are to be carefully examined and repaired as per structural engineers drawing.

LIFTING FLOORBOARDS:

Only take floorboards up if there is little alternative. When new pipes or cables are installed, employ a competent carpenter to lift boards instead of leaving this to plumbers or electricians. Number boards as they are lifted to assist re-laying in their exact previous positions.

Where regular access to service runs is required, floorboards can be discreetly screwed down rather than nailed. This also avoids vibration from nailing above fragile ceilings. The use of timber or beeswax plugs reduces the visual impact of screws. Broken edges can be remedied by splicing in timber of a similar type and grain, as can damaged board ends where they are not replaced by shorter boards. It is sensible to introduce battens beneath unsupported board ends.

FIREPROOFING OF FLOORS:

Fireproofing shall consist of the installation of 50mm fireproof quilt, Corafill or similar supported by battens fixed to the sides of the joists. A low temperature heating system is to be installed which will require the cutting of the top of each joist with a 25mm square cut to enable the 20mm pipes to pass. These holes are to be 300mm from the supporting wall. Ceilings to be painted with intumescent paints.

JOINERY:

Generally all existing internal joinery is in very good condition but are late 20th century replacements. In principal any damaged joinery will be repaired rather than replaced with any new elements being purposely designed and made. All matching detail will be accurately replicated.

WINDOWS:

A variety of windows exist at present, which has been the subject of random alteration during the lifetime of the building. There are many 'modern' casement windows and replica sashes. A careful record of the sashes, prior to their repair or replacement, and windows based on those installed in the original building will be reinstated. The 'modern' timber and aluminium windows are to be replaced.

SAMPLE:

A sample window and frame shall be manufactured and approved before the commencement of the work.

WINDOW REPAIR:

A selected original window including frame shall be removed from the building and shall be used as a template for the size and profile of timber sections for repair and replacement. Timber sizes shall require adjustment but shall only be altered with the written approval of the Conservation Architect. Sashes and fittings that require replacing shall be replaced matching the existing in all respects. The ropes shall be replaced, the windows weighted, the weights balanced, the windows draught proofed, cleaned and all fittings left in working order.

Window contractor to take care where work that involves taking sashes out of the frames particularly where there is historic glass or slender timberwork. Use a wedge to jam the cords of the bottom sash at the pulley (taking care not to damage the pulley wheel) to hold the weights up as you detach them from the sash. Open the meeting rail catch. Prise off the staff beads with the bevelled face of a chisel so the sash can move inwards a little. Then detach the cords from either side of the sash, usually held with nails. The sash can

be safely taken inside and laid on its side, not flat, in a safe place.

When replacing broken or stretched cords use non-stretch cord of cotton or hemp. And allow for stretch. Nylon cord is not to be used. Choose a cord that matches the weight of the existing one (or fragments you may find attached to the weight, if nothing else survives). Cords for the top sash should be about 75mm shorter than the required length, and those for the bottom sash about 75mm longer. It is good practice to change all four lengths of cord if one has broken, as the others are likely to have a similar life span. Holding the jammed cord, remove the wedge from the pulley and run the cord up so that the weight falls gently to the bottom of the weight box. Tack the cord to the frame near the pulley or it will fall into the weight box. To remove the top sash, first prise off the parting bead from one side with the chisel. Pull the sash downwards. Repeat the sequence: nail the cords to the frame; prise off the cord from the sides of the sash; carefully lift it into the building and lower the weights into the box. Find and open the weight pocket piece on each side of the frame. The pocket pieces have to be located for all balancing and easing jobs. Screw the staff beads back into place rather than nail them.

Many sashes are heavy or difficult to open or close.

HANGING THE SASHES:

Tack the cord onto the grooves at each side of the sash and pull the other end over the pulley wheel into the weight box using a 'mouse', a small piece of lead or iron with the cord tied around it. This will fall to the bottom of the cavity where you can catch it through the open pocket piece and then attach the cord to the weight. Patented screw fixtures are available to attach cord as an alternative. Measure the cord length when the top sash is closed and the bottom one propped fully open. The cord should be tied at the point where the weight can swing clear of the bottom of the frame (sit it onto a block to tie it). If the cord is too long the sash will not operate properly. Ensure that the bottom sash can close fully and that the weight is not bumping against the pulley. Measure the other lengths off the sample.

BALANCE WEIGHTS:

Measure the cord length when the top sash is closed and the bottom one propped fully open. The cord should be tied at the point where the weight can swing clear of the bottom of the frame (sit it onto a block to tie it). If the cord is too long the sash will not operate properly. Ensure that the bottom sash can close fully and that the weight is not bumping against the pulley.

TWISTED WEIGHTS:

Ensure cords and weights separated by a waggler board, the length of timber that hangs from the top of the frame specifically to keep the cords and weights separated.

PARTING BEADS:

Historic beads should be retained where possible. If beads need replacing, prise them out gently with a chisel. Any new sections should have a matching profile. As a draught-proofing system is going to be used, it will often be necessary to fit new patented beads as a part of the system.

SANDING:

The parts of a window need to fit snugly together to work properly. Timber can be carefully sanded if the sashes and casements still jam despite trying other solutions. But it is important to bear in mind that this is not a reversible process and the window will rattle if too much timber is removed.

DRAUGHT PROOFING:

An approved proprietary draught seal is to be fitted to the staff beads, which are to be replaced, in the architraves, which are to be carefully taken down and routed to accommodate them, to the bottom of the cills of the sashes and in the meeting styles.

SKIRTING BOARDS:

All skirting boards are to be retained, any to be removed for the repair of floors are to be labelled, carefully stored and replaced. Perished sections are to match the existing in all respects.

EXTERNAL DOORS:

Repair main door and door surround in situ strip and prepare and redecorate.

IRONMONGERY:

Ironmongery will be chosen to match original. Contemporary ironmongery will be selected for the modern doors.

METALWORKER:

Metal work contractors should be experienced in this type of work and should be able to show that they have undertaken work of this nature before.

PAINTING

Joinery for painting shall be treated with a primer, undercoat and finishing coat using heritage approved paint specification. Where joinery paintwork exists in good condition paintwork will be lightly sanded down for finishing coat in heritage paint selection.

A specialist contractor will carry out careful analysis of the existing paint types on cornices and decorative plasters. Appropriate cleaning method on trial areas will be carried out for approval. Any previous paint schemes surviving under existing layers will be duly noted. Areas to be conserved are to be identified to ascertain whether they are of lime, gypsum, papier maché or compo. No flame guns, hot air guns or power tools, caustic paint strippers will be permitted.

Walls are to be painted with Casein non-toxic distemper in National Trust (UK) colours of inorganic pigments (primarily titanium dioxide) in a binder consisting of casein but with linseed oil added.

Usage: use to manufacturers instructions.

Surface preparation: Ensure all surfaces are firm and clean with an adequate key. Suitable to be applied straight to un-salty bare plaster or on to previously casein distemper surfaces. It is not suitable to be applied to soft distempered surfaces or oil paint surfaces without special preparation. Plaster walls that have salt problems will stain and blister off all paints. Apply with brush or spray for fragile plasterwork. The product is unstable if applied too thickly and should therefore not be applied with a roller, and should be thinned down as appropriate to the porosity of the surface it is applied to. Due to the traditional nature of this distemper touching should be avoided.

Coverage: 65 square meters per 5 litres depending on thickness of paint and porosity of surfaces.

Drying time: 1-23 hours surface dry though casein takes 10 days to obtain optimum strength.

Thinners (water) Always stir distemper before adding water. As supplied casein distemper requires 5% water added. This may be increased but at over 10% the effects of the binder will start to dilute. When applied to bare plaster extra thinning may be appropriate.

Storage: The product is not flammable. It must be protected from frost and kept in a cool dry place between 5% and 20%. It will settle out if left standing. Stir to regain standard. Best used within 6 months.

Note manufacturer's disclaimer: The colour will change according to the surface applied to.

ELECTRICAL INSTALLATION

All light fittings to be low energy light fittings. Wiring to be concealed in trunking or conduits and the installation of cables should be concealed where possible. Do not chase brickwork to conceal pipes especially brick partitions.

FIRE SAFETY:

Alternative fire safety solutions appropriate should be considered especially in relation to the following that may damage historic fabric. Upgrading of timber floors, installation of lobbies, removal of timber panels, upgrading or replacement of doors and fire proofing windows. Early warning fire detection and alarm systems are to be installed.

MECHANICAL AND ELECTRICAL INSTALLATION.

The mechanical and electrical installation shall be in accordance with the Mechanical and Electrical Engineer's details and this methodology. Use existing pipe and wiring runs where available. Hot water cylinders are to be well insulated and hot water pipes lagged. Avoid pipe runs in original masonry walls, especially chasing for pipes. Use modern partitions where available or where dry lining is occurring ensure adequate space for pipes.

GAS-PIPING

Gas pipes are required to be exposed.

DRAINAGE:

The drainage above ground is in working order but in need of repair. Clean out hopper; carry out repairs to rain water pipe in corner and rod all drains on completion. Generally the below ground drainage, combined system is in working order. Allow for checking current condition of surface water drains. New downpipes are to discharge into original system. Allow for repairs to gulleys and gratings.

RECORD OF EXISTING BUILDING:

The drawings photographs and this report will form part of the record of the building. It is proposed to photograph the building again, all elevations and external details, roof, all internal wall faces, ceilings floors and details prior to the commencement, during and at the end of a contract. The record will be lodged in the Irish Architectural Archive.

8.0. BIBLIOGRAPHY

Andrews, J. H., Simms, A., & Davies, K. M. (1986). 'Irish historic towns atlas, Volume 10: Kilkenny', Royal Irish Academy. Dublin. Ask About Ireland, Griffith's Valuation of Ireland, <http://www.askaboutireland.ie/griffith-valuation/index>.

[xml?action=placeSearch](#),

Ask About Ireland, Name Books and Letters of the Ordnance Survey of Ireland, <http://www.askaboutireland.ie/griffith-valuation/index.xml?action=nblSearch#> Bassett, G.H (1884) 'Kilkenny, city and county: guide and directory', Dublin, 1884.

Berry, H.F. (1907-9), 'Ancient charters in the Liber albus Ossoriensis'. In PRIA, 27 C, 124.

Byrne, A (1985). 'The use of the Civil Survey for the reconstruction of the socio-economic topography of Kilkenny City'. National University of Ireland (University College, Dublin), Department of Geography, B.A. dissertation, 1985.

Calendar of documents relating to Ireland, 1171-1251 [etc.]. 5 vols. London, 1875-86, 1302-7, p 187

Clasped Book, Kilkenny Corporation, minute books 1690-1709. Kilkenny City Hall, 17.1.1695,13.8.1695

Condit, T (2014). 'Heritage Guide No. 65: Kilkenny - highlights of a medieval city', Archaeology Ireland, June 2014, Retrieved from <http://0-www.jstor.org.ditlib.dit.ie/stable/archirel.65.1>

Department of Arts, Heritage, Gaeltacht, Architectural Heritage Protection Guidelines for Planning Authorities, 2004

Department of Arts, Heritage, Gaeltacht, Architectural Conservation NIAH Handbook, 2006.

Egan, P. M. (1884) The Illustrated guide to the city and county of Kilkenny. Kilkenny, P. M. Egan. High Street, Kilkenny.

Finn's Leinster Journal 29.11.1786; 6.5.1789

Graves, James and Prim, J.G.A.(1857) The history, architecture and antiquities of the cathedral church of St Canice, Kilkenny. Dublin, p 220.

Hogan, J. (1884) 'Kilkenny; the ancient city of Ossory, the seat of its kings, the see of its bishops and the site of its cathedral', P. M. Egan. High Street, Kilkenny.

Hogan, J. (1880). 'The Three Tholsels of Kilkenny'. The Journal of the Royal Historical and Archaeological Association of Ireland, Vol 5, Number 41, fourth series, p 236-252. Retrieved from <http://0-www.jstor.org.ditlib.dit.ie/stable/25506776>

Kilkenny Corporation minute books. Kilkenny City Hall.5.11.1790, 29.9.1816

Kilkenny Journal, 12.12.1838; 6.6.1866

Kilkenny County Council, Kilkenny County Development Plan (2014-2020), Kilkenny, 2014.

Kilkenny County Council, Kilkenny City and Environs Development Plan (2014-2020), Kilkenny, 2014

Lanigan, K. M and Tyler, G (1977) 'Kilkenny: Its Architecture and History', An Taisce

Ledwich, E (1781) 'History and antiquities of Irishtown and Kilkenny from original records and authentic documents'. In Lewis, S. A Topographical Dictionary of Ireland, S. Lewis & Co. London, 1837.

Vallancey, C (ed.), (1781) Collectanea de rebus Hibernicis. ii, Dublin, P 402;

McNeill, C (Eds) (1931) 'Kilkenny city records: Liber primus Kilkenniensis', IMC, Dublin, 2-73

Murtagh, A & Patterson, T (2009) 'Stepping into Kilkenny's History', Kilkenny Education Centre & the Heritage Council, p 32-3.

National Inventory of Architectural Heritage, Buildings of Ireland, Historic Environment Viewer, <http://webgis.buildingsofireland.ie/HistoricEnvironment/index.html>

Ordnance Survey Ireland, Map Viewer, <http://map.geohive.ie/mapviewer.html>
Prendergast, J.P. (1860-61), 'The clearing of Kilkenny, anno 1654'.
In *RSAI Jn.*, vi, 342-3
Simington, R.C. (eds) (1931-61) *The civil survey, A.D. 1654-56*. 10 vols. IMC, Dublin, , vi, pp 499-557
Strike, J. *Architecture in Conservation*, Routledge, 1994.
Turpin, J. (1980). 'John Hogan in Dublin', *Dublin Historical Record*,34(1), 2-14. Retrieved from <http://0-www.jstor.org.ditlib.dit.ie/stable/30104219>
Tynan, P (2006) 'Kilkenny: History & Guide', Nonsuch Publishing, Dublin, p108-9

Maps & Images

Anon (c. 1770) View from the Wind Gap
Down Survey. 'The liberties of the city of Kilkenny', c. 1655, scale 80 Irish perches to an inch. Reproduced OS, Southampton, 1908
Ordnance Survey. Large-scale maps of Kilkenny: scale 1:1056, manuscript, 1841
Place, Francis. [c. 1698]. 'Kilkenny with castle and grounds', Pen and ink wash. National Gallery of Ireland, Dublin
Pratt's 1708 panorama of Kilkenny
Rocque, John. (1758) A survey of the city of Kilkenny, scale 200 feet to an inch. Dublin,

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The opinions contained in the report are independent and impartial based on the inspection and research carried out. It is our opinion that the alterations proposed to the structure if carried out in accordance with good conservation practice, will not have a detrimental effect on the character of the structure.