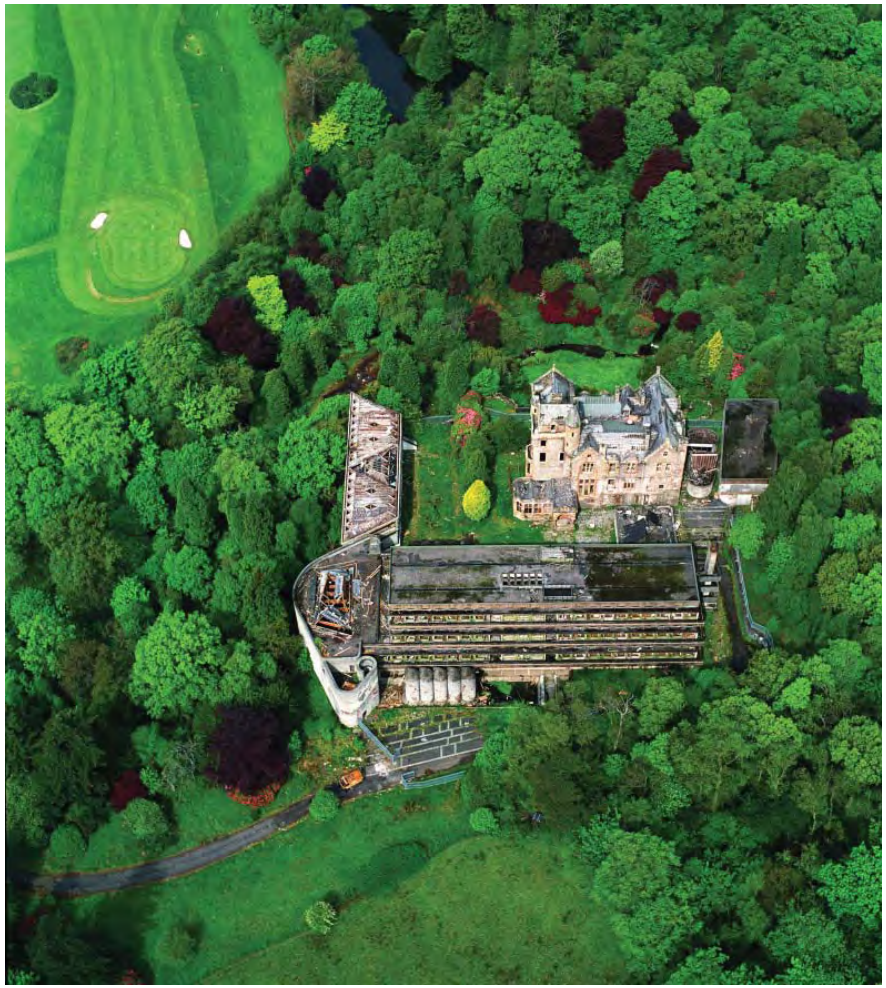


avanti architects

# ST PETER'S SEMINARY
## Cardross

**CONSERVATION ASSESSMENT**

**Main Report**

FEBRUARY 2008

Avanti Architects Limited | 361-373 City Road EC1V 1AS | T 020 7278 3060 | E aa@avantiarchitects.co.uk |

| | |
|---|---|
| Architect | Avanti Architects Limited |
| Cost Consultant | Stace |
| Structural Engineer | Conisbee |
| Services Engineer | Max Fordham LLP |
| Landscape Architects | Charlotte McLean |
| Archaeologist | Addyman Archaeology |

# Section 1

## Introduction and Executive Summary

Overview looking south across the site towards the Clyde estuary, c1990
Gillespie Photography

**1.1.1 Overview**

1.1.1.1 This study has been prepared by Avanti Architects Ltd with the support of a team of sub-consultants including Conisbee (Structure), Max Fordham LLP (Services), Charlotte McLean (Landscape) and Stace (Costs) and Addyman Archaeology and was commissioned by The Archdiocese of Glasgow and grant funded by Historic Scotland.

1.1.1.2 It was initiated in January 2007 and comes at a pivotal moment in the story of St Peter's Seminary, Cardross. After lying derelict for many years this unique building, listed Category A, and its remarkable site – the Kilmahew Estate -are attracting increasing interest and concern. Since its closure in 1980 the seminary (which is only 40 years old) served briefly as a drug rehabilitation centre but has otherwise remained empty and suffered increasing damage through the combined effects of neglect, vandalism and the elements.

1.1.1.3 The original 19th century Kilmahew House around which the seminary was designed, was demolished in 1995 following an arson attack. Various proposals for re-use have come and gone. A development scheme for executive houses on the estate has been rejected at appeal. A more recent planning application that would also lead to housing development in part of the site currently awaits determination. Meanwhile, the mismatch between the significance of the property and its deteriorating and hazardous physical state poses increasingly difficult and urgent questions that are of concern to many interested parties in addition to the owners and the various authorities directly involved. A measure of this concern is registered in the recent inclusion of St Peter's on the World Monument Watch List 2008.

1.1.1.4 This report is intended to assist in the process of finding answers to these questions. Our brief was not to 'come up with a solution' to the problems of St Peter's, in the sense of formulating a prescriptive scheme proposal, and this document does not attempt to do so. It does however seek both to address the series of nine distinct tasks contained in the formal appointment brief (see Appendix 12.8) and also to set the study in a wider context in the attempt to assist fruitful debate over the future of the property. Whilst we have sought the views of a variety of individuals and organizations who are concerned for the property the report does not represent the interests or viewpoint of any particular party. Our objective has been

Current view of side chapels of main seminary block, 2007

to understand the significance of the buildings and their site, and to derive a range of conservation options from this understanding.

1.1.1.5 The structure of the document reflects this approach. It begins with a summary of the original asset. This is a simply intended to identify and describe what originally existed in order to familiarize readers with the material object of the ensuing discussion. This is followed by a statement of significance, in which we attempt to capture and analyze those values inherent in the buildings and site that contribute to their character and special interest as elements of built and natural heritage. The next section considers the current condition of the property and the conservation issues raised in relation to the significance of each component of the buildings and site. Detailed condition survey investigations in relation to the concrete structure are also reported in this section.

1.1.1.6 From this consideration of condition and conservation parameters a series of potential options for action is defined. The first three of these are formulated in such a way as to be consistent with the assessment of significance of the asset and are intended for open and equal consideration. It should be appreciated that although these are presented as options they interlock in different ways and in some cases need not be regarded as mutually exclusive. Thus while a decision on options 1 or 2 would require a choice, both of them might be treated as more or less substantive stages prior to option 3. Alternatively option 3 might be pursued independently. In deriving all three options from an appreciation of the buildings' significance the intention is that a less 'ambitious' option that could be adopted now should not preclude a more ambitious one that might be pursued later. Three further 'options' which we consider are not viable or which are inconsistent with the significance of the buildings are also discussed as such.

1.1.1.7 Schemes are then proposed for the conservation of the immediate setting of the seminary and also for safe public access to the site, (tailored to suit the specific conservation option in question) with a further section scheduling a maintenance and safety regime.

1.1.1.8 The cost summary presents budget estimates for the defined options, with related estimates for works to the setting of the buildings, and a separate estimate for re-forming the wider estate as a country park.

Current internal view looking from the chapel towards the main stair and north end of main block

1.1.1.9 Also included as an additional requirement of the brief is an assessment of the current planning application as a scheme of enabling development in relation to policy guidance.

1.1.1.10 The series of appendices contains further reference and research material together with a short essay on examples of other cases of problematic buildings that have achieved recovery. It is hoped that this will assist further constructive consideration.

1.1.1.11 In conclusion it should be stated that notwithstanding the historic difficulties and current condition of the seminary and its environs the fate of St Peter's Cardross need not be regarded as sealed. Whilst the challenges to be overcome should not be underestimated the opportunity still remains open for a positive future, whether initially as a consolidated exhibit or eventually as a fully restored and functioning asset. It is hoped that this study may stimulate a new sense of possibility and encourage positive discussion and progressive consensus in finding a beneficial way forward for this unique piece of Scottish heritage.

Interior view of upper level of teaching block, 2007

**1.1.2 Sources of Information**

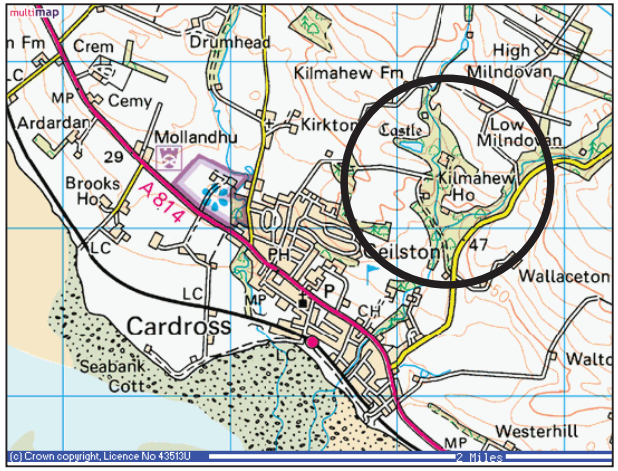
1.1.2.1 Preparation of this report has been based on primary and secondary sources, personal interviews and field study. Sources consulted were: archival material, including the architectural press, photographic collections, Gillespie Kidd & Coia Archive; Glasgow School of Art (the primary repository of original material). We also undertook consultation with key stakeholders; visits to site; including material sample testing and documentation related to the buildings since closure. In addition to the above sources, invaluable insight and information were gained through informal interviews with Professor Isi Metzstein and Professor Andy MacMillan who were the original architects of St Peter's Seminary formerly of Gillespie Kidd & Coia. A list of sources is included in the appendices.

1.1.2.2 Limitations of the study

Due to the current derelict and hazardous condition of the buildings a comprehensive condition survey was not possible, as access was hindered by fallen debris but more significantly by the unsafe condition of many floor areas and roof structures. Access to certain areas of the surrounding landscape was also difficult due to the overgrown condition of the woodland. A more detailed condition survey should be undertaken as soon as safe access can be provided.

## 1.1.3 1.1.3 Acknowledgements

1.1.3.1 We would like to acknowledge the particular help given by the following: Ken Crilley, Monsignor Peter Smith, Malcolm Cooper, Ranald McInnes, Jenny Carlile, Angus Gilmour, John Sheridan, Baxter Allan, Charles Cooper, Mark Baines and Tracy Wilkinson of GKC Archives, Tom Addyman, Michael Davies, Rhoda Macleod.


**1.1.4 Site Address**

St Peter's Seminary, Carman Hill, Cardross. Argyll & Bute G82 5EY
OS Grid Reference NS 3530 7840

1.1.4.1 The estate is owned by Roman Catholic Archdiocese of Glasgow and extends to around 40 hectares standing on elevated ground to the north of Cardross village, approximately 20 miles north of central Glasgow. It borders the Cardross Golf Course to the west and hill farmland to the east. Carman Road runs along an extended part of the eastern boundary. The land within the estate rises from south to north, offering impressive views of the Clyde estuary.

**1.1.5 Statutory Designations**

St Peter's Seminary was elevated to Category A in August 1992, (Listed Building Ref No. 6464) and was included on the Buildings at Risk Register in 1990, (Ref No. 1483) and on the World Monument Watch List 2008.

Kilmahew Castle is a scheduled ancient monument, (Grid ref: NS351786). The estate lies within green belt and the area surrounding the Wallaceton burn is designated as a site of interest of nature and conservation, SINC.

Current view of the main block

**1.1.6** **Consultation**

Throughout the preparation of this report, the authors have benefited from dialogue with the key parties and relevant interest groups. The following lists both those interviewed during the preparation of the draft document and those people and organisations to whom the final draft has been sent for consultation. (See also appendix 12.10)

| | |
|---|---|
| Ken Crilley | Archdiocese of Glasgow |
| Malcolm Cooper | Historic Scotland |
| Ranald McInnes | Historic Scotland |
| Professor Isi Metzstein | Architect |
| Professor Andy MacMillan | Architect |
| Angus Gilmour | Argyll & Bute Council |
| Jenny Carlile | Argyll & Bute Council |
| John Sheridan | Classical House |
| Baxter Allan | Keppie Planning |
| Neil Calder | Cardross Community Trust |
| Reverend Andrew Scobie | Cardross Community Trust |
| Alastair Stratton | Cardross Community Trust |
| Penny Lewis | St Peter's Preservation Trust |
| John Deffenbaugh | St Peter's Preservation Trust |
| Ronnie Kinloch | Cardross local councilor |
| Mark Baines | Lecturer at Glasgow School of Architecture, former employee of Gillespie Kidd & Coia |
| Duncan Smith | ACAVA |
| Adam Stanners | Docomomo Scottish National Group |
| Dennis Sharp | Docomomo UK |
| Joseph Mirwitch | Twentieth Century Society |
| Patrick Duerden | Twentieth Century Society |
| Dianne Watters | RCHAMS |
| Jackie Baillie | MSP Dunbarton |
| Monsignor Peter Smith | Ex Students of St Peter's Seminary |
| Father Hendry | Ex Students of St Peter's Seminary |
| Charles Strang | RIAS |
| Jonathon Foyle | World Monuments Fund Britain |
| Alex Adamson | Scottish Civic Trust |

## 1.2 Executive Summary

1.2.1 *This section seeks to capture the key findings of the study in summary form and its structure accordingly mirrors that of the document itself. The full text should of course be consulted for a proper understanding of the issues concerned.*

1.2.2 Introduction

The study was carried out between January and June 2007 to the commission of the Archdiocese of Glasgow with grant funding by Historic Scotland. The terms of our brief called for nine questions to be addressed including compilation of an assessment of significance, a condition survey of the buildings, definition of a range of options with cost estimates in each case, recommendations for conservation of the immediate setting of the complex, a scheme for public access and enjoyment of the site, and regimes for maintenance and public safety. A further requirement was to compare the costs of a stabilization proposal submitted in 2004 to the local planning authority with funds potentially raised by a parallel scheme of enabling development prepared by others and currently the subject of an as yet undetermined planning application.

1.2.3 The exercise has been undertaken in consultation and with the assistance of many people and organizations, all of whose contributions are greatly appreciated.

1.2.4 Original asset

Considerable record material exists and has been consulted to provide detailed knowledge of the original estate and buildings at Kilmahew. This has enabled the compilation of a full summary of the original heritage asset including the 19th century baronial house (designed by John Burnet, the elder) and its designed garden setting, and also the post-war St Peter's College commissioned by the Roman Catholic Archdiocese and designed by the architectural firm of Gillespie Kidd and Coia. The new complex, opened in 1966, consisted of several distinct but related buildings – the main seminary block comprising the church and sanctuary, sacristy and chapels, with an adjoining refectory and residential accommodation integrated into the sectional structure above; a 3 storey teaching block with library, common rooms and lecture theatres; a kitchen block, and a convent housing the sisters who served the resident community.

1.2.5 These structures were composed in close juxtaposition to the 19th century baronial Kilmahew House, where the priests were housed, to create a double courtyard formation framed by the surrounding landscape and dense vegetation. Beyond the complex of buildings the estate extended over some 200 acres including dramatic topography, ravines, streams, a lake, fine stone bridges and an extensive network of pathways. Exotic species were imported by the original owner John Burns (son of the founder of the Cunard line) to create a designed landscape, and the estate was complemented and supported by entrance gatehouses, stables and a walled kitchen garden. Archival sources held in Glasgow also provide extensive information on the seminary buildings' original architectural design, structure, services, fittings and furniture.

1.2.6 Statement of significance

The comprehensive picture that can be created of the original asset has informed the detailed statement of significance, and enables an assessment of the heritage values of the estate and buildings in their original condition and also in their current state.

1.2.7 The statement of significance is introduced by an explanation of its key purpose – the identification of heritage values that may guide the formulation of an informed conservation response. It is emphasized that in order that it may serve as an evaluative tool in the long term such an assessment is generic in nature and not predicated on any specific scheme of proposals.

1.2.8 An introductory commentary on the relatively recent concept of 'modern heritage' is followed by an assessment of the unique contribution to Scottish architecture, and specifically religious architecture, of the architectural firm of Gillespie Kidd & Coia, and notably Izi Metzstein and Andy MacMillan the designers of St Peter's Seminary. Gillespie Kidd & Coia is one of few Scottish practices that received international recognition.

1.2.9 The assessment of significance identifies heritage values in four categories – evidential, historical, architectural and social – the summation of which may be regarded as the cumulative significance of the heritage asset. The search demonstrates that St Peter's Seminary and its site despite their current state of dereliction are still rich in heritage values.

1.2.10 Evidential value is to be found in the remains of the original 19th century Kilmahew House and its landscaped estate as a powerful document of its period. The seminary itself, as built, is also an expression of contemporary doctrine in relation to training for the Roman Catholic priesthood at a historical moment when the Second Vatican Council was to promote a more community oriented response to the pastoral challenges of post-war society. This change in pedagogy was a strong contributory factor in the closure of the seminary in 1980. (Other factors that have been cited include difficulties in adequately heating the buildings and, coincidentally, the oil crisis of 1973.)

1.2.11 St Peter's is particularly rich in architectural values, as is recognized both formally in its Category A listing status and also in the unique position it has continued to occupy in modern Scottish architectural history and discourse. A major retrospective exhibition of the work of its architects Metzstein and MacMillan to be held in Glasgow in 2007 is likely to increase current interest in the building and entrench its position in the national architectural canon still further.

1.2.12 The unusual circumstances of St Peter's briefing, setting and design produced an outstanding architectural composition although it is recognized that the buildings were not without technical shortcomings. There is international linkage to the work of the architect Le Corbusier, and specifically his monastery of Sainte-Marie-de-la Tourette. At St Peter's there was rare group value in the highly charged relationship of the new buildings both to each other and to the original 19th century house and their acutely sensitive response to its immediate setting – a relationship that is still legible despite current dereliction. The design of the entry sequence, the spatial arrangement of the seminary buildings and their mode of intercommunication was also rich in symbolic value. The materiality value of the seminary was also high – in the expressive use of concrete, rendered masonry and timber, though this is currently diminished as a result of damage.

1.2.13 Analysis of the individual buildings reveals diverse architectural personalities contributing to rare cumulative significance. The main block exploits a remarkable opposed cantilever structural frame to produce a wide range of spatial typology – multiple study bedrooms, extensive galleries, cores and cloisters, and lofty communal spaces - while achieving a unique symbolic effect in fusing the secular and

sacred functions of the seminary. Its end closure by the free form sanctuary and vertically accented external stair tower also precisely tailors the building to its location. The several ways in which natural light is introduced are architecturally dramatic and also rich in symbolism. The adjacent teaching block adopts an unusual rhomboid plan form and displays extraordinary structural virtuosity. The convent buildings and kitchen block, though smaller, were also of highly distinctive architectural character, contrasting orthogonal, oblique and curvilinear geometry, and combining a variation of the seminary language with dramatically upswept roof profiles.

1.2.14 Technical analysis of the structure and services installation has also revealed considerable ingenuity and customization in the design of the original complex.

1.2.15 Analysis of the setting of the complex and the wider landscape of the estate also reveals considerable heritage value. Records trace continuity of activity at Kilmahew back to the 13th century, and the ruins of the designated 15th century Kilmahew Castle survive at the northern edge of the estate. The 19th century designed landscape, albeit currently heavily overgrown, remains discernable and established a series of significant views across and beyond the estate which would be capable of reinstatement. Along with its fine bastioned stone retaining walls, evidence still survives of other supporting structures built in connection with Kilmahew House, including stables, a walled garden with glasshouses, bridges, gate piers and gatehouses.

1.2.16 Thus in addition to the rich architectural and historical significance of the remaining buildings and structures, the study indicates that there is also considerable social – and indeed spiritual – value attached to the site both in terms of community memory and also in relation to its current amenity use and enjoyment.

1.2.17 To sum up, it may be asserted that although damage to the buildings is extensive, particularly in relation to the more vulnerable elements such as timber, glazing and finishes, the surviving cumulative heritage significance of the complex, its immediate setting and its surrounding landscape is still very high indeed.

1.2.18 At the same time, in making this evaluation - since the extent of damage is such a prominent aspect of current perceptions of the

complex - regard has been paid to applicability of the concept of 'artless beauty', also variously described as the 'appeal of patina' or the 'romance of the ruin'. It is considered however that the current state of dereliction, being essentially the result of gratuitous vandalism and neglect is a contingent rather than inevitable consequence of the buildings' closure and cannot properly be regarded as significant in terms of heritage value.

1.2.19 Finally, as the heritage asset consists of more than one component the question of relative significance has also inevitably been raised. Taken as individual buildings it is clear that in ranking order of significance the main seminary is pre-eminent, followed closely by the teaching block with the convent and kitchen block following in turn. However it is also clear that the group value of the ensemble is a major aspect of its heritage significance both in terms of architectural composition and also as evidential illustration of the social structure of the resident community. It is also for this reason that all conservation options include retention of the footprint of Kilmahew House.

1.2.20 <u>Condition of the buildings</u>
A detailed condition survey of the listed buildings has been undertaken (within the limits of safe access and representative sampling.) Each building element is considered in terms of its original construction, its current condition, its priority in terms of repair, its significance in heritage value and the conservation issues arising in achieving a satisfactory repair and upgraded performance where appropriate.

1.2.21 The complex as a whole has suffered from extensive vandalism, including arson attack, and from lack of any maintenance for many years. The result is that the consequences of deliberate damage have been greatly exacerbated by the ensuing effects of wind and weather remaining unchecked. However the ruinous impression of the buildings in their current state, which is certainly compounded by the extent of uncleared debris, is not to be equated with structural disintegration or the unfeasibility of repair. The general findings are as follows.

1.2.22 The in-situ reinforced concrete structures generally appear in sound condition with localized damage resulting from areas of low cover reinforcement corrosion and spalling. A wide range of purpose

designed pre-cast concrete components is used and these are also generally sound, with the principal exception of the post supports to the gallery handrail units on the main building. These posts are failing and would require complete replacement, pending which it is recommended that the handrail units are dismantled for safety and safe keeping. As a generality it has been found that it is the various (ungalvanised) metal fixings and accessories used in conjunction with the concrete components, rather than the components themselves, that have caused failures through corrosion and differential metallic action. These problems are all capable of remediation for which a range of options is available, the resulting upgrading in performance being generally achievable without detriment to conservation objectives or heritage significance. Particular consideration should be given to the conservation benefits of electrochemical means of concrete remediation where this option is technically applicable,

1.2.23 Large areas of the roofs are missing from the main building and teaching block, also from the sisters' refectory and common room, and entirely from the kitchen block, resulting in these internal building environments becoming external with further consequential damage. In the case of the sanctuary and teaching block the remaining roof structure is in a perilous state and if lost entirely will affect the lateral stability of the supporting walls. In formulating repair strategies opportunities should be available for enhancement of roof performance without compromising conservation objectives.

1.2.24 Rough-cast rendered cavity brickwork is used in various ways in all of the buildings – the sanctuary and side chapels, the toilet pod of the teaching block, the subsidiary convent buildings, and the shell of the kitchen block. In all cases there is local damage to the render and to the brick substrate through progressive weather ingress. Full re-rendering with remedial brick pointing and cavity stabilization is recommended.

1.2.25 The highly characteristic rendered vaulted ceilings have suffered damage as a result of weather ingress and have collapsed in various locations as a result of corrosion of the supporting hy-rib formers. But a significant number of those that remain are capable of retention and repair in situ.

1.2.26 The majority of windows, glazing and screens have been lost, but would be capable of accurate replacement through reference to

the ample archival records. Likewise much of the interior joinery, including floorboarding, stair treads, balustrading and finishes are lost or damaged beyond economic repair. This could all be replaced if, and as required.

1.2.27 All services installations are defunct and would require appropriate replacement to suit the relevant option requirements. In all cases there will be need for full removal of asbestos residues from various locations.

1.2.28 The hard external works of the immediate building curtilage are mainly subject to overgrown vegetation and generally require only clearance and routine repair.

1.2.29 There is however evidence of (possibly contaminated) water course ingress into and across the seminary site which should be checked and remedied. Also, the perimeter security fence surrounding the complex has been breached nearby the gap between the sanctuary and the teaching block and likewise requires immediate attention. (Local realignment of this fence is recommended in our proposals for conservation of the immediate setting, Chapter 7.)

1.2.30 Definition of options

A range of options has been defined for consideration as follows –

1.2.31
1. The Consolidated Exhibit – This would secure and conserve the remaining viable fabric of all the buildings (including repairable existing vaults) to achieve a meaningful public exhibit and heritage asset with controlled access, whilst not precluding the possibility of full future restoration and re-use. The immediate setting and the wider estate grounds would also be fully rehabilitated for public amenity use.

1.2.32
2. The Holding Option – This would arrest current deterioration, stabilize, secure and protect the existing buildings on a temporary basis pending further decisions as to their future rehabilitation and re-use. Maintenance and monitoring access by authorized personnel only would be provided to the seminary complex during the holding period, though the wider estate grounds would be fully rehabilitated for public amenity as option 1 above.

1.2.33 3. The Restoration Option – This would fully rehabilitate and upgrade the buildings to produce both a heritage asset and a viable property for re-use. The scope of restoration works is of course notional pending the establishment of a specific use and any related adaptations. It is also assumed for the purposes of the study that works to all the buildings are dealt with as a single operation. (though this would not be essential to its implementation.) The immediate setting and the wider estate grounds would be fully rehabilitated.

1.2.34 4. The Stabilized Structure – This option is proposed in the current listed building consent application prepared by Messrs. CDP on behalf of the Archdiocese and Classical House and would involve removal of all roof coverings and structure (except for the sanctuary roof which would be restructured to provide lateral stability for the curved external wall), retaining pre-cast concrete components but otherwise stripping back the main buildings to their structural frame. One bay of the seminary would be restored to represent an example of the original vaulting, but otherwise the building would be open to the elements. The teaching block would be stripped back to the structural frame and left exposed. Retention of the convent would be optional, while the community room, sisters' refectory and kitchen block would all be demolished. Limited public access would be provided to the ground floor of the seminary block only. (See Supporting Planning Statement, 2004, for further details.)

1.2.35 5. The 'Do Nothing' Option – This is defined in commentary as a continuation of the current state of abandonment and progressive dilapidation. It is not regarded as a viable option and is included for the sake of completeness only.

1.2.36 6. Demolition – This would comprise complete removal and disposal of all remaining elements of the seminary complex and making good the resulting ground footprint and adjacent setting. It has been included likewise for the sake of completeness. Demolition is considered in the context of official policy and guidance and judged to be inadmissible in terms of the prescribed policy tests.

1.2.37 It is noted that the options in the above range are not all of equal

status in conservation or policy terms. Options 1 – 3 have been devised specifically to be compatible with the Assessment of Significance carried out for this commission inasmuch as they are all based around the objective of maximum retention of viable significant original fabric and safeguarding the possibility of re-use. It is also noted that Options 1 & 2 are complementary (i.e. could precede) Option 3 thereby reducing to a greater or lesser extent the scope and costs of work required to achieve an eventual full restoration.
The remaining options are in different degrees at variance with this principle. Option 4, The Stabilized Structure, (i.e. the current Listed Building Application) although theoretically not eliminating possible rehabilitation, would involve extensive removal of original fabric that is considered still capable of retention and repair, and therefore would greatly increase the task of reconstruction were this to occur, whilst Options 5 and 6 (Do Nothing and Demolition) are self-evidently not based upon any conservation principles and are also considered incompatible with current official policy. It is also noted that policy criteria would not admit the funding of demolition by means of 'enabling development'.

1.2.38 Schedule of proposed works

This section provides details of the respective scope of works required for Options 1, 2 and 3 identified above in relation to each of the buildings in turn. Measures vary depending on the option and the building concerned. For example rooflights which would be replaced authentically in Option 3 (Restoration) are replaced in a purely functional manner in Option 1 (Consolidated Exhibit) while their replacement may be avoided in Option 2 (Holding Option) as the building would be temporarily roofed as a whole. In the case of concrete elements the remedial measures also vary depending on whether permanent repair is entailed (Options 1 and 3) or simply arrest of deterioration pending later decisions (Option 2). In the case of the vaulted ceilings works in Options 1 and 2 are restricted to measures for retention of viable intact units only, whereas in Option 3 replacement of lost vaults is also included. The section should be studied in full to appreciate how the principles of each option apply to the element and relevant works entailed. Similarly in respect of building services the provision varies with each option. A spreadsheet in section 6.6 compares the respective requirements for water, power, heating, telecoms, sewerage and stormwater disposal. A variety of options for energy supply is considered including renewable energy sources.

1.2.39 It must be noted that whilst with the exception of Option 2 (the Holding Option) the Options 1, 3 and 4 are conceived so as to be capable of being permanent, in all these cases there would be a continuing need for regular monitoring and maintenance as part of normal good practice in the stewardship of property.

1.2.40 Conservation of immediate setting

Measures are recommended for the rehabilitation and conservation of the immediate setting of the seminary complex for options 1-3. Following clearance of existing debris and overgrown vegetation the different work scopes are prioritized respectively by the need for safety (Option 1), prevention of further degradation (Option 2) and appropriate restoration (Option 3). It is recommended that the line of the perimeter fence is modified locally from the existing installation for enhanced security and improvement of views. An annotated plan provides a detailed description of proposals.

1.2.41 Scheme for appropriate public access

Proposals are made for appropriate types of access for Options 1 and 2. The Consolidated Exhibit Option would offer controlled access to the seminary complex for public visiting. Accessible areas would be limited to the ground and lower ground levels of the main seminary building, but exclude the teaching block and upper levels of the convent. Perambulation within the courtyard would be possible with controlled access from the retained platform into the wider estate. In Option 2, the Holding Option, access to the seminary complex would be strictly limited to authorized maintenance inspection personnel.

1.2.42 Country Park

Beyond the seminary complex itself, detailed proposals are made for public access to the wider estate and for its rehabilitation as a public country park. The estate is considered as a series of character areas with conservation aims and work tasks to achieve them noted in each case. The retrieval of this dramatic landscape and its establishment on a proper managed footing is regarded as a major potential assest for the community of Cardross and beyond.

1.2.43 Maintenance and site safety

All options for a beneficial future of the property entail effective regimes of maintenance management and site safety. Outline schedules of tasks with appropriate frequency cycles are included to provide an indication of what would be required if the considerable,

but currently blighted, social and heritage resources of Kilmahew Estate are to become properly exploited for public benefit. It is the lack of any such regime over many years that has done most to bring about the current degradation of the estate and its buildings and their resultant loss of value.

1.2.44 A summary of measures for Options 1 and 2 with appropriate inspection cycles is proposed for further detailed development, but in any future scenario it is essential that maintenance is not treated as optional but rather as an integral part of protecting the capital investment in the estate once it is committed.

1.2.45 Cost report

A full suite of budget estimates for all options (except 'Do Nothing') is provided in a separate volume which does not form part of this website publication. Executive summaries of each option are included in this volume (Chapter 10) together with a spreadsheet providing a comparative read-across for each option and cost sub-collection – main building, sanctuary, teaching block, convent blocks & kitchen, and external works to the immediate setting. Landscape works to the wider estate to achieve the Country Park are expressed separately. It is noted that the Stabilized Structure option, which was prepared several years ago by others, has required updating to provide like-for-like comparison both in terms of cost index linking and also in respect of various technical aspects as a result of changes in prices and in the condition of the buildings themselves since it was prepared.

In all cases the lists of exclusions should be noted.

1.2.46 Rounded totals for the stated options are as follows –

- Consolidated exhibit £4.08m
- Holding option £2.73m
- Restoration £11.36m
- Stabilized Structure £2.88m
- Demolition £1.66m
- Country Park £1.66m

1.2.47 These figures represent estimated costs for each option treated as a single unified stand-alone project. It should be appreciated however that early implementation of for example Option 1, the Consolidated

Exhibit, would significantly reduce the cost of the later full restoration. The possibility of formulating 'hybrid options' and the effect on cost estimating is also noted in the introduction to Section 10.

1.2.48 Enabling development

Commentary is included on the scheme of proposed enabling development, currently the subject of an as yet undetermined planning application, in relation to the relevant policy tests for enabling development. It is considered that the current scheme *as it stands* does not satisfy the specified criteria. Enabling development in the generic sense is however considered to be a legitimate aspect for consideration in the context of finding a beneficial outcome for St Peter's College as a heritage asset.

1.2.49 Appended material

A range of supporting material is appended to this volume, including a detailed site history and chronology, a separately commissioned archaeology report, a list of archival sources, a bibliography, a copy of the listing entry, extracts from national and international risk registers, a copy of the client brief for this commission, a brief section on other examples of rescue, a synopsis of Consultation feedback and a glossary of terms.

## 1.3 Future

### 1.3.1 Recommendations for further action

Having regard to the findings of this report the following agenda for further action is recommended –

1.3.1.1 Public availability

1. The final issue of the Conservation Assessment should be uploaded to the website of Historic Scotland for freely available public access.

2. The Introduction and Executive Summary from the above Assessment should also be uploaded to the website of Historic Scotland as a separate document to enable easy reference to the principal contents and conclusions of the Assessment.

3. A press statement noting the availability of the documents as above should be issued in the joint names of the Archdiocese of Glasgow and Historic Scotland.

1.3.1.2 Ongoing Management

4. A Steering Group convened by the Archdiocese of Glasgow, and including representatives of the Archdiocese, Historic Scotland and Argyll & Bute Council, should continue to meet regularly, using the Conservation Assessment as a basis for procuring a beneficial future for St Peter's College and the Kilmahew Estate, with specific regard to the following issues.

5. Identification of potential sources of seed funding, such as World Monument Fund and /or Historic Scotland, for the appointment by the Archdiocese of Glasgow of a coordinator to progress development of a conservation management programme for the buildings and estate.

6. Establishment of an interim works budget and implementation programme for addressing immediate measures on the estate. (Note: this, and following items, to form part of the Coordinator's assignment.)

7. Establishment of a site monitoring programme to ascertain and enhance the security and safety of the site, with an appropriate regular inspection and reporting regime.

8. Early action items should include restoration of the integrity of the security fence, precautionary works to address urgent public safety hazards and/or the posting of warning notices, protection/safekeeping of items at risk, and the arrest of any sources of land degradation, including flood water and contamination. The above list is not exhaustive, and other measures that could enhance security of the buildings and the estate should also be considered and implemented as appropriate.

9. Preparation and costing of a schedule of temporary holding measures (as indicated in Section 5.2) with a view to arresting any imminent damage to the heritage asset.

1.3.1.3 Elimination of non-compliant options

10 Having regard to the findings of this report in relation to the 'Stablized Structure Option' (5.4) and Enabling Development (Section 11) the current planning and listed building applications should be withdrawn or rejected.

11. Having regard to the findings of this report in relation to the 'Do Nothing Option' (5.5) and Demolition (5.6) these options should be confirmed as rejected.

1.3.1.4 Progression of options for conservation and re-use

12. The Coordinator to be tasked to progress the following issues (inter alia):

13. Development of a promotional strategy and marketing initiative for canvassing wider interest in the asset, nationally and internationally, (including any beneficial coordination with GKC/Lighthouse exhibition and GKC Archive).

14. Preparation and promulgation of Invitation for Expressions of Interest from any person or organization with bonafide propoals for the conservation and re-use of the buildings and estate to submit these within a specified period.

15. Suggested criteria for evaluation of conservation and re-use proposals to be published as part of the invitation for expressions of interest, (inter alia)

- Provision of sufficient written and illustrative information to enable a full understanding and assessment of the proposals
- Compliance of proposals with the Conservation Assessment Statement of Significance
- Supporting evidence of technical content of proposed conservation and upgrade works
- Compliance of proposals with relevant planning policy and guidance
- Compliance, and limitations of compliance, with Building Regulations legislation
- Demonstrably sustainable Business Case for securing the long term future of the asset
- Detailed Management Plan for stewardship of the buildings and the estate
- Demonstrable local and national public benefits from the proposed use/s
- Compliance of any supporting scheme of Enabling Development with policy guidance and compatibility with Statement of Significance.
- Demonstrable capacity to finance and deliver the proposal to a specified timetable
- An appropriate tenure arrangement in support of the proposal for conservation and re-use.

16. Following closure of period for submission of expressions of interest, the Coordinator to prepare a detailed evaluation of all eligible submissions properly received and report finings and recommendation(s) to the Steering Group for consideration and determination.

17. Following consideration of the Coordinator's report by the Steering Group, in consultation with such other agencies as appropriate, selection of a preferred bidder and scheme for conservation and re-use of the former St Peter's Seminary buildings and the Kilmahew Estate.

18. Undertaking of due diligence as necessary in order to secure

commercial and financial closure of agreement between owner and preferred bidder, within a specified timetable.

19. Appointment of the preferred bidder on the basis of a Development Agreement, the form and content of which has been agreed by all the principal stakeholders, in consultation with such other agencies as appropriate.

20. Implementation of the Development Agreement, with appropriate monitoring and supervision on behalf of the Steering Group and any other key interests.

### 1.3.2 Re-thinking St Peter's Seminary

1.3.2.1 The central purpose of this assignment has been to provide a robust platform of historical research, conservation assessment, survey information, diagnostic and remedial advice and financial forecasting to inform and facilitate the process of decision-making that will guide the immediate and long term future both of St Peter's Seminary and of the Kilmahew Estate as a whole.

1.3.2.2 A benign reading of the study would construe its findings as indicating the possibilities of a positive future for the buildings and the estate, notwithstanding the manifold difficulties that need to be overcome. In other words the situation demands realism but should not exclude aspiration, and is for this reason that the range of options provides for a strategy of aiming initially at more modest objectives that do not preclude the opportunity for the later achievement of more ambitious ones.

1.3.2.3 Thus for example a substantially, or even selectively, consolidated exhibit combined with progressive rehabilitation of the wider landscape setting, could achieve real and meaningful heritage and recreational benefits that would surely represent a considerable improvement upon the current situation. The outcome of such a project might simply remain as a managed amenity, which if secured on a sustainable basis would provide a long term public and community asset. But a consequence of this approach might also be to enhance the possibility of a viable new use coming forward that would build upon the progress already achieved.

1.3.2.4 It should be appreciated that the above scenarios are speculative and intended simply to demonstrate how the report may be used as a basis for new ways of grappling with long-standing problems. Whilst there are already outstanding issues in relation to the determination of the pending planning and listed building applications, and also in connection with minimizing existing hazards on site, which will require early resolution, it will also be desirable to exploit the window of opportunity created by the report itself and the potential added interest following the buildings' addition to the World Heritage Fund Watchlist, and indeed the forthcoming GKC exhibition (November 2007-10th February 2008 at the Lighthouse, 11 Mitchell Lane Glasgow G1 3NU to consider the situation in a broader perspective and allow for any viable new initiative/s to come forward.

1.3.2.5 Thus as the context in which the future of St Peter's Seminary will now be considered is a changed – or changing - one, it will be important to ensure that positive opportunities are not overlooked on account of the extended foregoing history of fruitless effort and failure. With this in mind the following section looks briefly at the aspects of the situation that might assist a positive reading of the possibilities of re-use.

**1.3.3** Consideration of Re-use.

1.3.3.1 It was not a duty of this commission to make specific proposals for the re-use of St Peter's Seminary. This vital process will entail a new managerial and promotional initiative and the further involvement of a wider circle of stakeholders and interests. This section of the study has however been included as an initial aid to that endeavour by providing some positive considerations to build on. (Supporting examples are also included in appendix 12.9).

1.3.3.2 <u>Considering St Peter's as an asset</u>

The seminary and its site have been in a state of dereliction for so long that it is probably hard for many of those involved with its difficulties to regard it as other than a liability. But despite the obvious difficulties (as covered in the main report) in order to move toward a position where a positive future can be contemplated it will be necessary to begin thinking of it as an asset. What are the attributes of the place and its current circumstances that would support this interpretation?

1.3.3.3 Profile - a new moment of opportunity

St Peter's College has a national and, to an extent, an international profile which in the context of a positive initiative for re-use would serve as a platform for its promotion. In this light its listing at Category A must be seen as a register of its importance rather than a constraint on its future use. Additionally, its recent inclusion in the World Monument Watch List 2008, is a measure of its international profile as a heritage asset of unique significance. At the same time the emergence of a more powerful expression of cultural identity following devolution and establishment of the Scottish Parliament provides an opportune context for the promotion of one of its most high profile modern buildings as part of a national process of regeneration. The immediate opportunity for raising the building profile in the forthcoming exhibition of the work of Metzstein & MacMillan is also noted. A positive interpretation would construe these factors as coalescing to provide a new and vital 'moment of opportunity' for St Peter's.

1.3.3.4 Location

The site at Kilmahew is within easy travel distance from Glasgow –under an hour by either car or train in favourable conditions – and Glasgow itself is well served in terms of national and international connections, by air or rail. It is therefore extremely accessible.

1.3.3.5 Situation

By contrast, one of the most unusual aspects of the complex is that despite the accessibility of its location the situation of the seminary itself presents as utterly remote. Its dramatic setting within Kilmahew Estate imparts a uniquely secluded quality to the site which may be promoted as one of its special attractions in offering a place of sequestered retreat that is also within easy reach of 'civilisation'.

1.3.3.6 Residual condition

It will be noted from the technical content of the condition survey that although the building complex is currently derelict and hazardous, the condition of its residual structure is essentially sound and capable of remedial repair where necessary. This also includes the state of much of its pre-cast cladding, where technical failure has generally resulted from deterioration of fixings as distinct from the units themselves. In other words, whilst the soft fabric and services of the buildings would require replacement, the core elements of the asset remain viable for regeneration.

1.3.3.7 Adding value

There are many opportunities in both the buildings and the site for adding value. The issue of enabling development is discussed elsewhere in this study and requires the most careful assessment in order to avoid harm to the heritage values of the buildings or landscape, but there can be little doubt that if correctly exploited these opportunities could contribute significantly both to the capacity and flexibility of the potential asset.

1.3.3.8 It is also evident that there is considerable opportunity for technical upgrade of the buildings themselves. The need for general replacement of the external envelope fabric – roof coverings, windows and screens – and services, provides ample scope for achieving significant but architecturally discreet improvements in technical performance, including insulation values, efficacy of drainage, weather resistance, energy efficiency, communication systems, etc, etc.

1.3.3.9 There are many precedents in the field of modern building conservation to demonstrate the feasibility of combining technical upgrade with conservation objectives. In other words the extent of replacement that would be needed in fitting the buildings to a new use actually enlarges the opportunity to enhance the buildings' performance to meet current standards and in doing so, eliminate all of the technical shortcomings that have been cited as contributing to its early closure.

1.3.3.10 Spatial capacity and typology

The seminary complex contains both a significant quantity of floor area and wide variety of spatial types as follows:

Main building (inc. Sanctuary) – Approx 6,568 sm Gross Internal Floor Area, consisting of very large high- ceiling halls, galleries and cloisters, interconnecting core areas, semi-private spaces, small cells.

Teaching block - Approx. 949 sm Gross Internal Floor Area, consisting of four approximately equal sized floorplates of 225 – 250 sm.

Convent Blocks and Kitchen – Approx 445 Gross Internal Floor Area, consisting of a range of smallish office type and communal rooms, and a larger floor plate of approx. 140sm.

In addition to the spatial offer of the seminary complex, approaching 8,000 sm in total, there is associated outdoor space in the immediate

courtyard that lends itself to beneficial use in conjunction with activities in the buildings. There are also opportunities to create additional floorspace for new or bespoke uses in the vicinity of the complex or the wider site environs, provided such opportunities are exploited creatively with due regard to the sensitivities of the situation and setting.

1.3.3.11 Flexibility

It may be seen from the above analysis that there is considerable variety in terms of spatial format within the complex. In essence the church could be interpreted as a performance space with a stage (the sanctuary), a back-up area (the sacristy) and an auditorium (the chapel), supported by a large foyer (the refectory). But many other interpretations are possible - a gallery, a lecture theatre, and exhibition hall, etc.

1.3.3.12 The challenge in adapting the buildings to a new use is to achieve a good fit that runs with the grain of the design. If this is intelligently and imaginatively conceived there should be ample scope for flexible adaptation. It may be useful to approach this task by inverting the usual Modernist mantra ‘Form follows Function’ to become ‘Function follows Form’. This mindset could assist in the appropriate application of new uses to some of the more specialized aspects of the original design. For example it has been noted in previous unsuccessful schemes for re-use that the study bedrooms are too small for satisfactory residential conversion. This suggests that if comfortable residential accommodation is required in a regeneration project it may be better located elsewhere on the site and be provided through new build development that could be purpose-designed to appropriate standards and compliance, rather than attempting to ‘force’ current templates for such accommodation into a pre-existing structure which may not readily assimilate them.

1.3.3.13 It should also be noted that although a notional scope of works has been assumed for the purpose of generating a budget estimate of cost for the Restoration Option (Chapter10) there should be ample opportunity for imaginative adaptation in the design and detailing of an actual project that could still be consistent with and sympathetic to the principal heritage values noted in the Assessment of Significance (Chapter 3) and the Analysis of Conservation Issues (Chapter 4).

1.3.3.14 Natural resources

The extensive landscaped setting of the buildings has received considerable attention in this study, and must represent one of the most valuable components of the overall asset. But in addition to its outstanding amenity value, the site also offers opportunities for considering the potential contribution of natural resources in the form of solar and wind power, borehole water, biomass fuel, ground source heating energy, on-site sewage treatment, etc which may enhance the attraction of a regeneration scheme in advancing the green agenda and promoting a model of sustainability.

1.3.3.15 Collateral resources

Records - One aspect which deserves particular comment in relation to any discussion on re-use is the uncommon, possibly unique, extent of surviving original documentation of the building. From an initial assessment it appears that virtually the entire archive of design and detail drawings of the St Peter's building remains in existence under the custodial care of the Mackintosh School. The comprehensiveness of this production information at the time of original building is unusual enough, but the remarkable and seemingly complete survival of this record would potentially enable the recreation of any lost element of the building to be achieved without any conjecture in relation to authenticity.

1.3.3.16 Popular/local support – It is believed that there is a strong body of support for positive regeneration of the site and the buildings, both locally within the Cardross community and Glasgow, and further afield in various voluntary and professional organizations.

1.3.3.17 The Cardross Trust, a local charity established in 1934 which has provided a valuable range of local amenities for benefit of the village community, has confirmed its interest in taking over the Kilmahew Estate following its rehabilitation to hold it in trust as a public amenity and secure its integrity against further development. The St Peter's Preservation Trust, a more recently formed organization, has also called for beneficial re-use of the buildings.

1.3.3.18 The St. Peter's Preservation Trust has indicated that it would be prepared to take over the seminary buildings (as distinct from the wider estate), monitor their security on a weekly basis, and organize fund raising activity towards their eventual conservation and re-use. (It would prefer to share any long term responsibility/liability of the complex with Historic Scotland.)

1.3.3.20 Argyll & Bute Council Employability Team has indicated that it can provide a supervised team of workers to projects where project materials and overheads are funded. The Helensburgh team may be able to carry out a landscaping contract works as part of the formation of the country park.

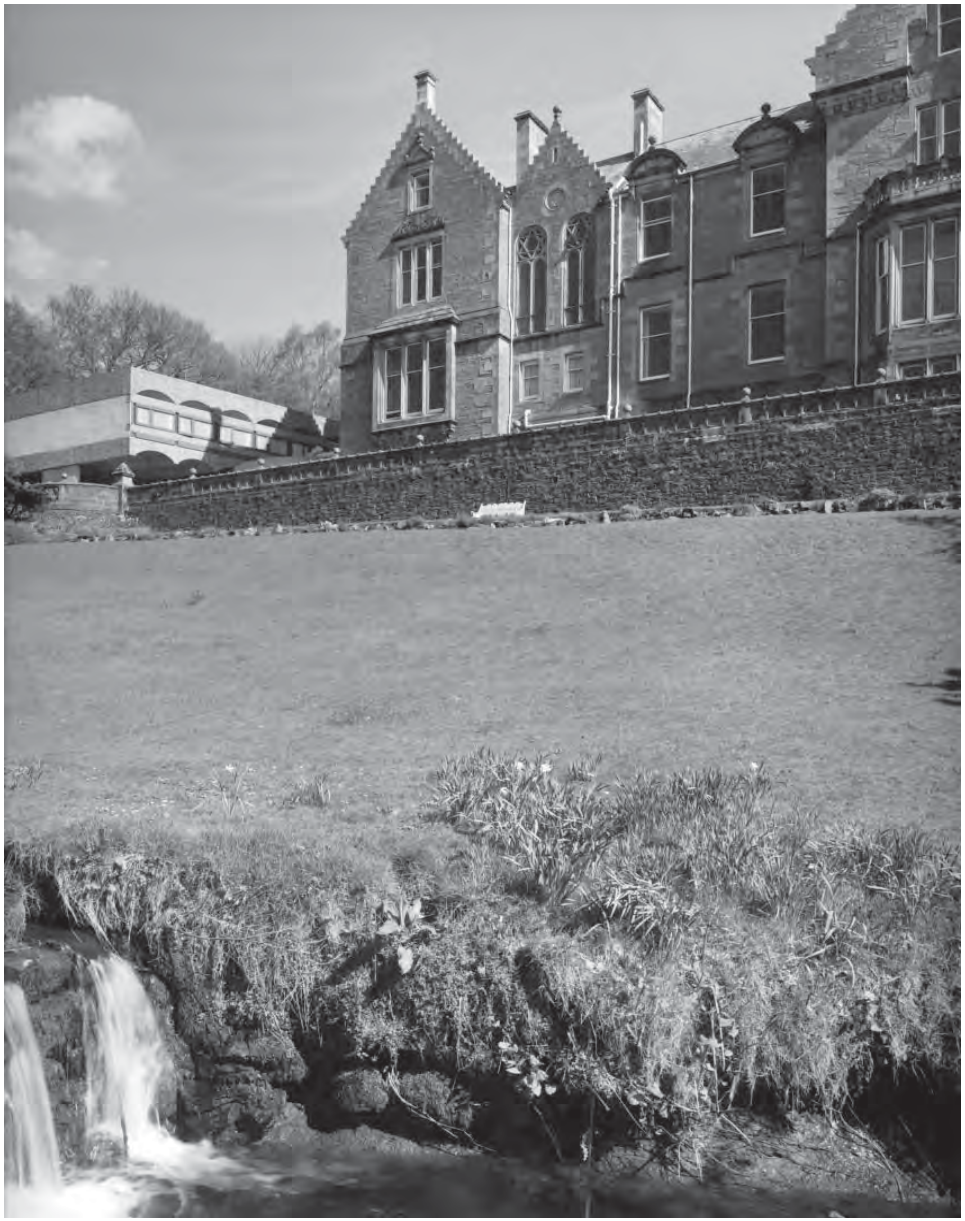
1.3.3.21 It may also be noted that the original architects, Professor Metzstein and Professor MacMillan, are still living locally and might be consulted in the process of developing potential new uses for the buildings.

1.3.3.22 In addition there is likely to be support, and possibly some financial backing, from other official organizations who could be involved with any scheme of re-use. If effectively coordinated these resources could become a significant enabling factor in mobilizing a project.

1.3.3.23 It is hoped that this section, read in conjunction with the study as a whole, will help to cultivate a positive context for the evolution of possible schemes, and assist in the evaluation of any such proposals.

# Section 2

## Summary Description of the Original Asset



View from the west of Kilmahew house and the convent (left)

*This section provides a brief summary of the background and context of the original development.*

**2.1 Original House and Estate**

Located on a limited, level area in steeply sloping woodland, Kilmahew House, a Scots baronial mansion was originally built in 1865-8 to the designs of John Burnet the elder, for John William Burns, son of the founder of the Cunard Line. Kilmahew was a compact, turretted design in the tradition established by J. Gillespie Graham. All of the usual Scottish elements were employed, together with a noteworthy Star of David tracery in the tall staircase windows. The house was destroyed by fire and was demolished in 1995.

**2.2 Gillespie Kidd and Coia**

2.2.1 James Salmon, senior (1805-1888), commenced practice in 1830 and was joined in 1860 by his son William Forrest Salmon (1843-1911). Grandson James Salmon joined in 1898. John Gillespie became a partner in 1889, creating Salmon, Son & Gillespie.

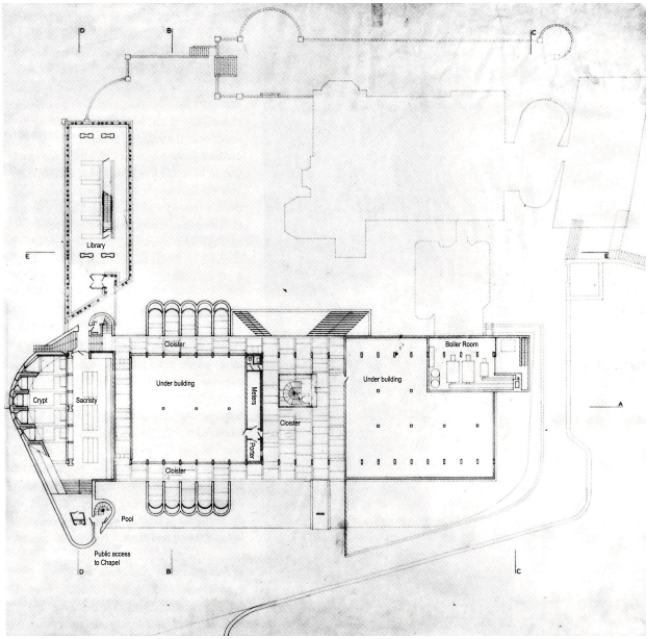
2.2.2 John Gillespie left the partnership to set up his own practice, and was later joined by William Kidd. In 1914, Giacomo Antonio Coia joined as an apprentice whilst studying part time at the Glasgow School of Architecture. After graduating, Coia spent a short spell with A.N Paterson and later A.D Hislop. He then sought his fortune in London, before returning to Glasgow at the invitation of William Kidd following Gillespie's death and became a partner in what was then Gillespie Kidd & Coia. He later became the sole partner after Kidd's death in 1928.

2.2.3 Coia continued the practice until building came to a halt during the war. After the war, Isi Metzstein joined as an apprentice and then later in 1954, Andrew MacMillan joined at Isi's suggestion. Design control of this new atelier-like practice was passed from Coia to Metzstein and MacMillan in 1955. The practice closed in 1986.

**2.3 Original Brief and Client**

2.3.1 A new college was required following a fire at St Peter's, Bearsden in 1946. Archbishop's Campbell and MacDonald entered into discussions over the formation of a new national senior seminary and male teaching college. Various sites were considered including a site in St Andrews until eventually Archbishop Campbell was encouraged to withdraw the idea of a joint venture. He then decided

View south over the main seminary block and kitchen (centre foreground)




Plan of the complex at lower floor level

to look at extending Kilmahew House already in the ownership of the Archdiocese, and in early 1953 Gillespie Kidd and Coia were approached to design a new seminary building.

2.3.2 The brief required accommodation for 100 students, classrooms, library, dining area, chapel, convent block, and swimming pool. The latter element was later deleted from the brief.

Note: For the purposes of describing the original asset the *present* tense has been used, except when considering the original Kilmahew House.

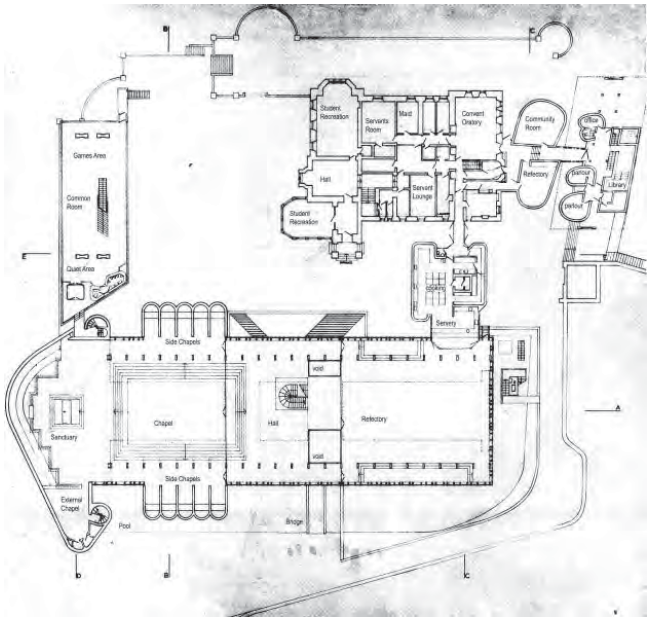
**2.4 Site Layout/Composition**

2.4.1 Four buildings cluster around the existing baronial house, making an open sided courtyard. The main block is stepped in section and provides accommodation for 102 students above a large chapel and refectory. The block has a curved sanctuary at the southern end which includes the altar, crypt and sacristy. At right angles is a three storey block, which includes a common room at cloister level, lecture rooms above and a library below. Linked to the north wall of the existing house, which housed the teaching priests, is a two storey convent block for eight servant sisters. A single storey building closes the northern side of the courtyard and provides a kitchen linked to the refectory and back to the mansion.

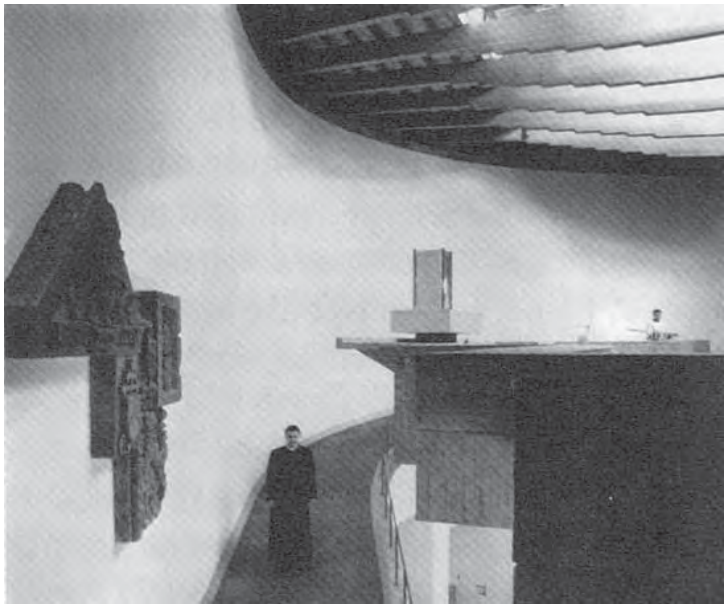
**2.5 Main Block**

2.5.1 The main block is symmetrical in cross section, the stepped back structure of the 80'x184' main block derives from a series of combined frames and cross walls of reinforced concrete placed in situ at 8 ft centres and supported on columns at ground floor level. These include deep double cantilevered beams, between which non structural vaulted ceilings of metal lath and plaster are placed.

2.5.2 The refectory and chapel which at their centre rise to triple height are located at the ground floor and are divided by a top lit centrally located stairwell. The chapel has a sunken centre surrounded by steps on three sides and above are three cantilevered floors of student accommodation which step inwards towards each other. The refectory and the chapel space are formed vertically by the stepped cantilever of the upper two levels with open galleries above the refectory and closed timber galleries above the chapel. The cantilevered floors at the north end of the refectory space are cut




Plan of the complex at ground floor level



The ramp leading up to the sanctuary

back and the space is terminated with a large stepped gable screen window with randomly spaced mullions.

2.5.3 The rooms on the first, second and third floor levels have access to an external continuous balcony which leads to the external escape staircase at the northern end of the block. The top floor has an internal corridor between the two banks of rooms.

2.5.4 The cloister level features a covered, external perimeter walkway below the block and is reached by a bridge which crosses over a shallow pool fed from a natural spring forming the initial entrance to the complex, leading under the main building to two banked flights of steps, one angled to the main house and the other to the classroom block.

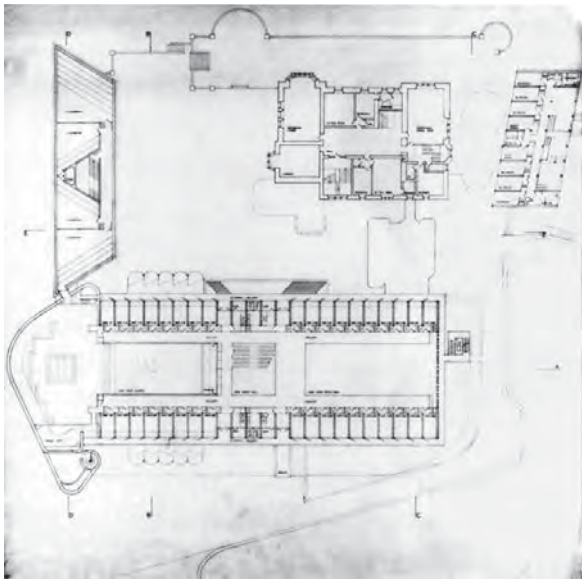
2.5.5 To either side of the main block are a group of five silo shaped chapels which emerge from out of the shallow pool on the east side and are accessed by the seminary community, on the east and west flanks of the chapel.

**2.6 Sanctuary**

2.6.1 The externally harled load-bearing curved form terminating the south end of the main block rises from below cloister level to the height of the first floor. A serrated balcony at altar level overlooks a processional ramp which rises up the inside of the white painted curved wall from the lower crypt to the sacristy cloister level and then up to chapel. Small beton glass coloured windows are placed in deep reveals in the outer wall of the lower church. The sanctuary is top lit from a wedge shaped stepped rooflight. Daylight is filtered through a grid of radiating Oregan pine laminated roof beams located below the rooflight. A small externs chapel is located adjacent to the sanctuary, below the organ loft, and could be accessed from the eastern approach by a coiled spiral stair by visitors without entering the courtyard complex.

**2.7 Teaching Block**

2.7.1 The teaching block is situated at right angles to the south of the main block, accessible from the courtyard and is located on one of the existing terraces of the original house. The library, is partially sunken behind the existing retaining wall and is enclosed by randomly spaced concrete mullions. Above this, at *piano nobile* level, four columns within the common room support two 4ft deep beams which



Plan of the complex at first floor level

The convent block from west

The kitchen block located between Kilmahew House (left) and the main seminary building (right)

in turn support two beam walls spanning the length of the block and cantilever over the east and west ends of the common room enclosure. The common room is a large open space fully glazed with a central teak staircase rising to the lecture room level.
The lecture rooms are planned as two sub-divisible spaces, providing four teaching rooms. The seating is stepped and this is expressed in the sloping soffit of each cantilever. Expansive views of the estate are available from the upper lecture room level, west facing glazed screen. The roof of the lecture room is constructed of laminated timber beams which laterally stabilizes the beam walls running the length of the classroom. The beam walls are divided externally into 7 bays; 5 rectangular and two wedge shaped sections, one at either end. These are then further divided into panels of diagonally herringbone board marked insitu concrete. The sectional profile of these walls splays outwards at the top and bottom edge of each elevation. Daylighting is provided by a combination of roof lights and random glazed screens at the east and west ends of each lecture room. Opening horizontal panels are integrated into the roof structure to provide ventilation.

## 2.8 Convent Block and Kitchen

2.8.1 Convent Block

Planned as a self contained community the convent block provides six rooms for the sisters, a guest suite of two rooms, dining and community rooms, library, reading and a sewing space. The palate of materials used is similar to the main block but adopts a framed structure in lieu of the cross walls of the main block, and designed on a smaller more intimate scale. The sister's rooms are angled to the facing wall of the old house to enhance privacy and offer wider views of the surrounding landscape. The community room and dining rooms are free form in plan and section and are functionally separate from the convent block. The two harled load bearing structures are bisected by a corridor which links to the main convent block. Both load bearing forms have roofs which are curved and sweep up towards each other and are clad internally with varnished timber and externally with copper sheet. The rooms have high level randomly placed windows providing daylight giving the spaces a 'degree of privacy and individual character' Essay by Metzstein p.113 Jack Coia, Robertson, WKC Roger,.
Three other thematically similar, free form volumes containing the ancillary room, servery and office are tucked under the soffit of the double cantilevered upper floor level of the convent itself.

View of the refectory, looking north

Sister's room in convent

View of the chapel and sanctuary.

The refectory, showing vaults at ground and gallery levels.

2.8.2 Kitchen Block

Harled load bearing single storey rectangular volume with rounded corners situated between the original house and the main block. The kitchen is linked to the existing house by way of a narrow corridor and a servery forming the connection to the refectory of the main block. The space is lit by high level strip windows, small irregularly placed windows above the worktops and by two swept copper clad rooflights.

**2.9 Interior arrangement**

2.9.1 Student Room's

There are 102 individual student rooms arranged on the upper three floors of the main block, each accommodated within an 8' barrel vaulted bay width. Each room has direct access to a continuous external balcony and includes a single bed, desk, wash hand basin, wall shelving unit and wardrobe. The rooms are day-lit from a full width timber glazed screen and door with curved vaulted clerestory light above.

2.9.2 Shower/Bath and Toilet Facilities

Five bays on the west and east sides of the upper floors accommodate communal bath, shower rooms and toilet facilities and direct access from the central circulation spaces to the external balconies and staircase.

2.9.3 Refectory

One of the two principal spaces in the main block, the refectory is collegiate in plan and provides ample space for the three sided dining table arrangement. The student tables were located to the west and east sides of the main space under the deep overhang of the first floor with the high table located in the central high space under the large stepped gable north facing window. Food was served via the servery which connected the kitchen block to the main block.

2.9.4 Chapel/Sanctuary

The central area of the chapel is sunken with steps on three sides and had stepped bespoke bench seating to the west and east sides. The altar is located on a raised platform to the south end of the chapel in the sanctuary space and is constructed from a large granite stone resting on a smaller granite base. The private chapels also lead off this space. A processional ramp leads down to the sacristy following the curve of the rear wall of the sanctuary space. The

The crypt with its series of recessed chapels

The central staircase leading up from the common room

curved backdrop wall is white painted and is embedded with carved stone crests of the Archbishop Eyre and Beaton.
The sanctuary space is top lit by a wedge shaped stepped rooflight filtered through a grid of radiating timber beams as described previously. The main chapel space is also lit from high level clerestory glazing at second floor level and from full height screens between the sanctuary walls and the private side chapels.

2.9.5 Sacristy

Reached from the processional ramp and cloister levels, the sacristy is a large space and had wardrobes, storage and three vesting tables allowing ample space to prepare for large scale ceremonies.

2.9.6 Crypt

The floor of the crypt stepped downwards following the natural slope of the site. There are five deep recesses formed in the thick load bearing external wall, with small punched windows of beton glass.

2.9.7 Library

This room is located beneath the common room and accessed internally by the main stair and externally from the cloister level of the main block. The room is glazed on all four sides between randomly spaced concrete mullions. The internal floor, ceiling, wall lining, windows and book shelves are all constructed in timber.

2.9.8 Common Room

Large fully glazed space, articulated by the four large columns supporting the lecture rooms above. The common room could be accessed from a bridge across from the main block and from the steps leading up from the west side of the courtyard. The main internal staircase is constructed in situ concrete with chunky teak treads and risers, stepped teak handrail and passes through a rhomboid shaped void in the timber clad ceiling of the common room to a glazed corridor leading to each lecture room/classroom

2.9.9 Lecture Room

The lecture rooms are planned as two sub-divisible spaces, providing four rooms. The seating is stepped with adjustable writing desks.
The day lighting is provided from triangular shaped roof lights and random glazed screens at the west and eastern ends of the block.
The roof is constructed of laminated timber and comprises a double grid of structural timber tie trusses, braced by short posts that house bespoke made lighting globes.

Sister's room showing timber clad interior

Sister's common room

Sister's Refectory

2.9.10 Kitchen

The kitchen is rooflit with its windows restricted to high level, ventilation slots and carefully positioned small windows. The space is of modern design, fully equipped with cold rooms, storage, vegetable preparation areas, an extensive servery, and dishwashing provision. Its internal finishes comprises a combination of glazed white tiling, quarry floor tiles, timber ceilings, teak worktops and stainless steel equipment.

2.9.11 Sister's Rooms

These rooms are similar to the student cells in size and detail except the walls are plywood lined, and they have no access to an external balcony. The rooms are all angled away from the house so as to open towards views of the surrounding landscape and improve privacy.

2.9.12 Sister's Common Room

The common room is curved in plan and has an upward swept curved ceiling clad in timber. The walls are white painted plaster with small randomly placed windows inserted at different heights. Lighting is provided by a series of lighting globes fixed to the timber ceiling.

2.9.13 Sister's Refectory

The refectory is curved in plan with an upward swept curved timber clad ceiling. The space is top lit by a high level clerestory strip window positioned above in-built timber cabinets.

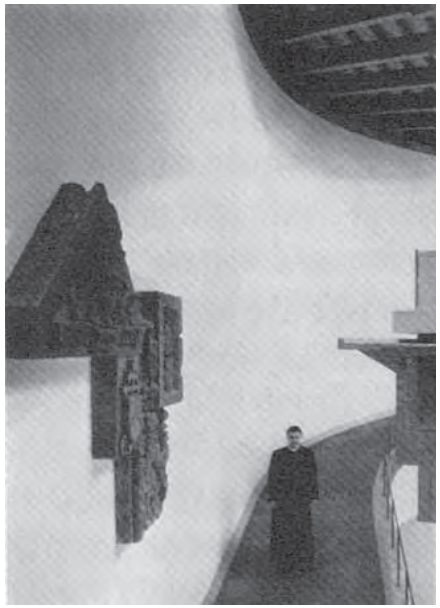
2.9.14 Sister's Library

Self contained space situated below the floor of the upper level of the convent block. The room is stepped in section with a series of steps bisecting the space. The library is pine clad with built in shelving below timber windows and white painted plastered vaulted ceiling as elsewhere.

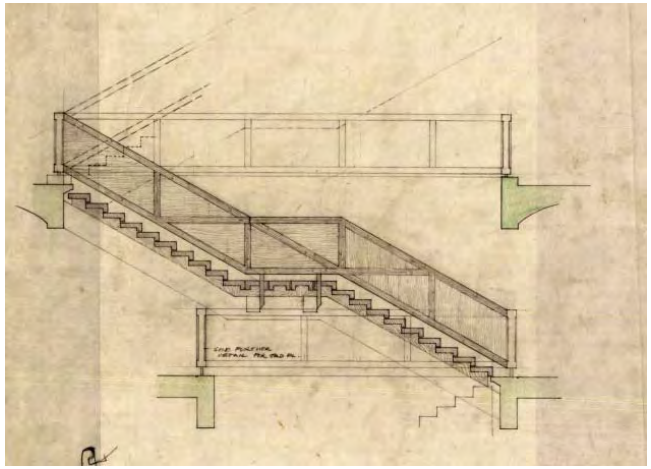
2.9.15 **Furniture & fittings**

2.9.16 Furniture

All bespoke furniture is made from wood, simply constructed in the form of intersecting and overlapping planes. The refectory tables, chapel seating, lecterns, library shelving, classroom seating, writing surfaces and the convent oratory seating were all designed specifically for the building.



Carved stone crests of Archbishop Ere and Beaton



GKC drawing of main staircase

2.9.17 Light Fittings

Light fittings were bespoke designed for the building. In the classroom block these take the form of glass globes fixed to stub timber posts fixed to the timber grid ceiling structure, and in the sisters common room these are glass globes fixed to the upswept timber clad ceiling. Elsewhere fluorescent tubes are hidden or concealed so that the source of light is concealed out of sight. Located at each landing of the main stair of the main block are projecting arms which terminate with a square plexi type light fitting.

2.9.18 Altar

Large granite slab cantilevered from a central granite block situated on a raised stepped platform in the chapel.

2.9.19 Ornamental/Religious

Above the altar, mounted on the curved rear wall of the sanctuary are carved stone crests of Archbishop Ere and Beaton.

View from beneath the west cantilever of the teaching block

**2.10 Structure**

2.10.1 Main Block

The Main Block is a five storey opposed cantilever structure comprising a combination of in situ reinforced concrete columns, walls, beams, slabs and retaining walls together with pre cast reinforced concrete slabs, cladding panels, balustrade handrails and posts. Timber joists have been used to form most of the upper floors and the main flat roof. An external in situ reinforced concrete staircase was designed as a fire escape and provides access between external gallery balconies located on the upper levels.

2.10.2 A variety of concrete finishes have been used including uncoated timber board to internal columns and beams, decorated fairfaced internal walls, decorated fairfaced pre cast floor/gallery slabs, uncoated fairfaced pre cast gallery balustrade stub columns and inner face of gallery handrails and exposed aggregate to gallery handrails and cladding panels.

2.10.3 Floor soffits are generally concealed by vaulted ceilings formed from plastered metal hi rib arching between concrete cross walls.

2.10.4 Sanctuary Block

The Sanctuary Block is located at the south end of the Main Block and comprises an altar, chapel, side chapels, sacristy and crypt. The structure to the main flat roof over the altar comprised substantial glulam timber beams supported on the main block and a curved external masonry wall. The side chapels are semi circular and built in cavity masonry walls topped with concrete half cupulas.

2.10.5 Internal finishes are generally similar to those within the Main Block together with rough cast render to the external faces of the masonry walls and half cupulas to the side chapels.

2.10.6 Classroom Wing

The Classroom Wing is a three storey building linked to the south west corner of the Main Block and comprises an in situ reinforced concrete hollow pot and beam floor, concrete walls, beams and columns together with timber flat roof. Extended cantilevers are used at each end beyond the primary grid. Pre cast reinforced concrete stub columns are located on the perimeter below the ground floor slab and external ground level.

2.10.7 A small in situ concrete spiral staircase and bridge links the Classroom Wing to the Main Block.
The external wall surfaces have a chevron timber board finish whilst longitudinal timber board finishes have been used on beams, columns and staircase surfaces.

2.10.8 Convent Block
The Convent block is a two storey building located in the north west corner of the site.
The building is trapezoidal on plan and is constructed in a combination of in situ reinforced concrete walls, columns, beams and slabs together with exposed aggregate pre cast cladding panels, rendered block walls and steel mullions.

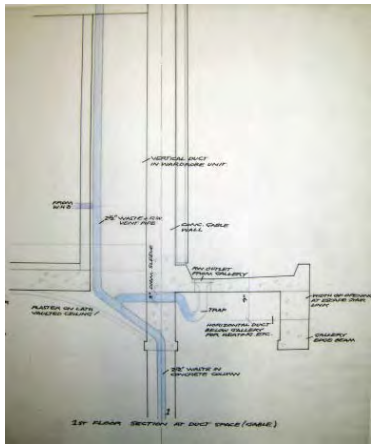
2.10.9 The Community Block is located alongside the front, south west elevation and is attached at ground level.

2.10.10 General
The substructure remains of Kilmahew House are located to the south west of the community block and the footprint of the building is clearly discernable at ground level and also when viewed from the galleries on the north west elevation of the Main Block.

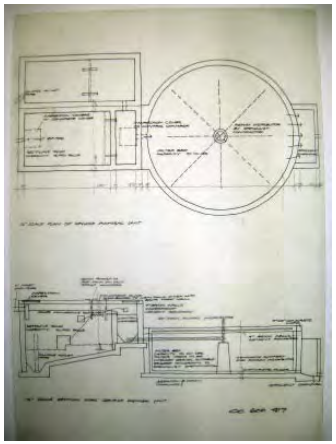
2.10.11 Many of the original Kilmahew House hard landscape features including freestanding walls, retaining walls and steps are located to the north west of the old building footprint extending between the Convent Block and the Classroom Wing.

2.10.12 Modern in situ reinforced concrete retaining walls form a boundary to the north and south east corner of the site forming a damn to streams flowing down the adjoining eastern valleys.

2.10.13 An access road links the approach road located at the southern corner with the service yard which is located between the Main Block and the Convent Block.



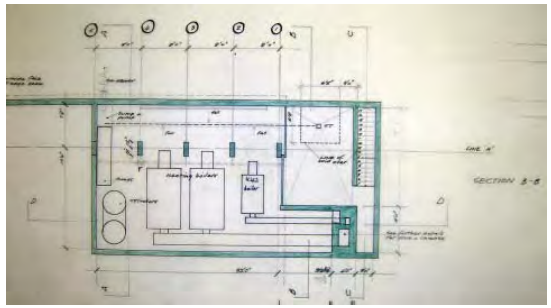
Drainage pipework concealed in the fabric



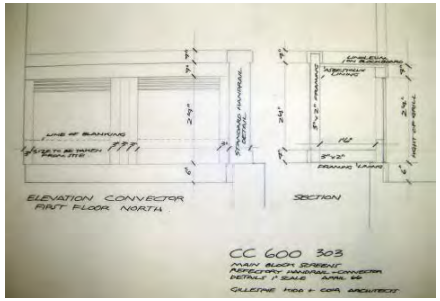
The sewage treatment plant

Sewage treatment plant

Chain feeding lower pool



Boiler room installation




Concealed convector units

## 2.11 Services

2.11.1 Water

The building was relatively self reliant in its needs. It had a private sewage treatment plant adjacent to the site, with treated effluent being discharged into Wallaceton Burn. Surface water drainage from the roofs and hardstanding on the site discharged into Kilmahew Burn.

2.11.2 Fresh water for the site as supplied from a local reservoir and stored in tanks on the roof. The upper pool in front of the main block was fed from a spring. The lower pool was fed from a pipe connecting the two.

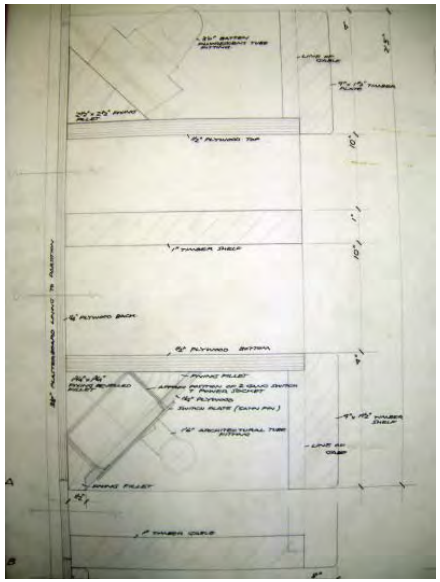
2.11.3 Water was piped around the building in concealed copper pipework and drained through plastic and copper pipework to the cast iron below ground drainage installation.

2.11.4 Heating

The building was heated from a oil fired boiler plant room through copper pipework to concealed finned tube convector heaters in the bedrooms and toilet areas, to fan convectors located in cupboards in the larger spaces and some small radiators in ancillary spaces such as the kitchen. The system was designed and installed by Weatherfoils ltd.

2.11.5 It is likely that the output of this system could not match the high rates of infiltration in winter and the huge heat loss through the considerable areas of single glazing.

Sister's room showing concealed lighting above bed



Detail drawing of the concealed lighting over beds

2.11.6 Lighting

Concealed uplighting in the refectory and bedrooms reflected and enhanced the natural light streaming in from above the side chapels. It's effect can be seen in some old photos

Elsewhere exposed fluorescent tubes washed the walls and provided subtle indirect light.

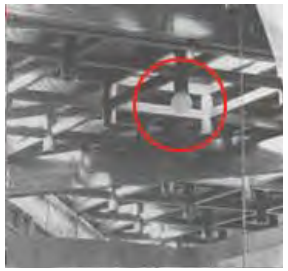
Fittings were generally bespoke and designed specifically to suit their context.

2.11.7 Ventilaton

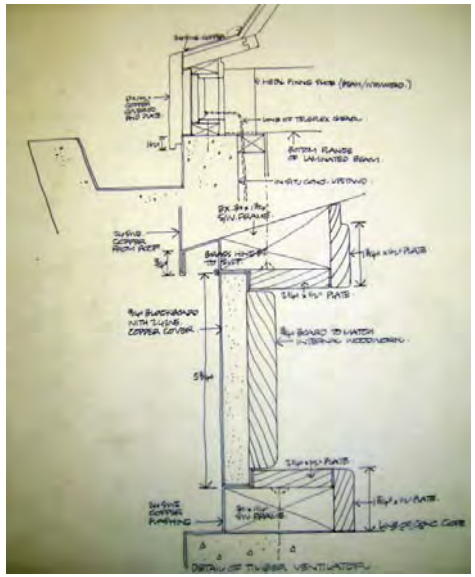
The buildings were mostly naturally ventilated with a combination of manually opening and powered windows and high level ventilators. Air was spread around the larger spaces such as the refectory, library and chapel through fan convectors.

Natural light

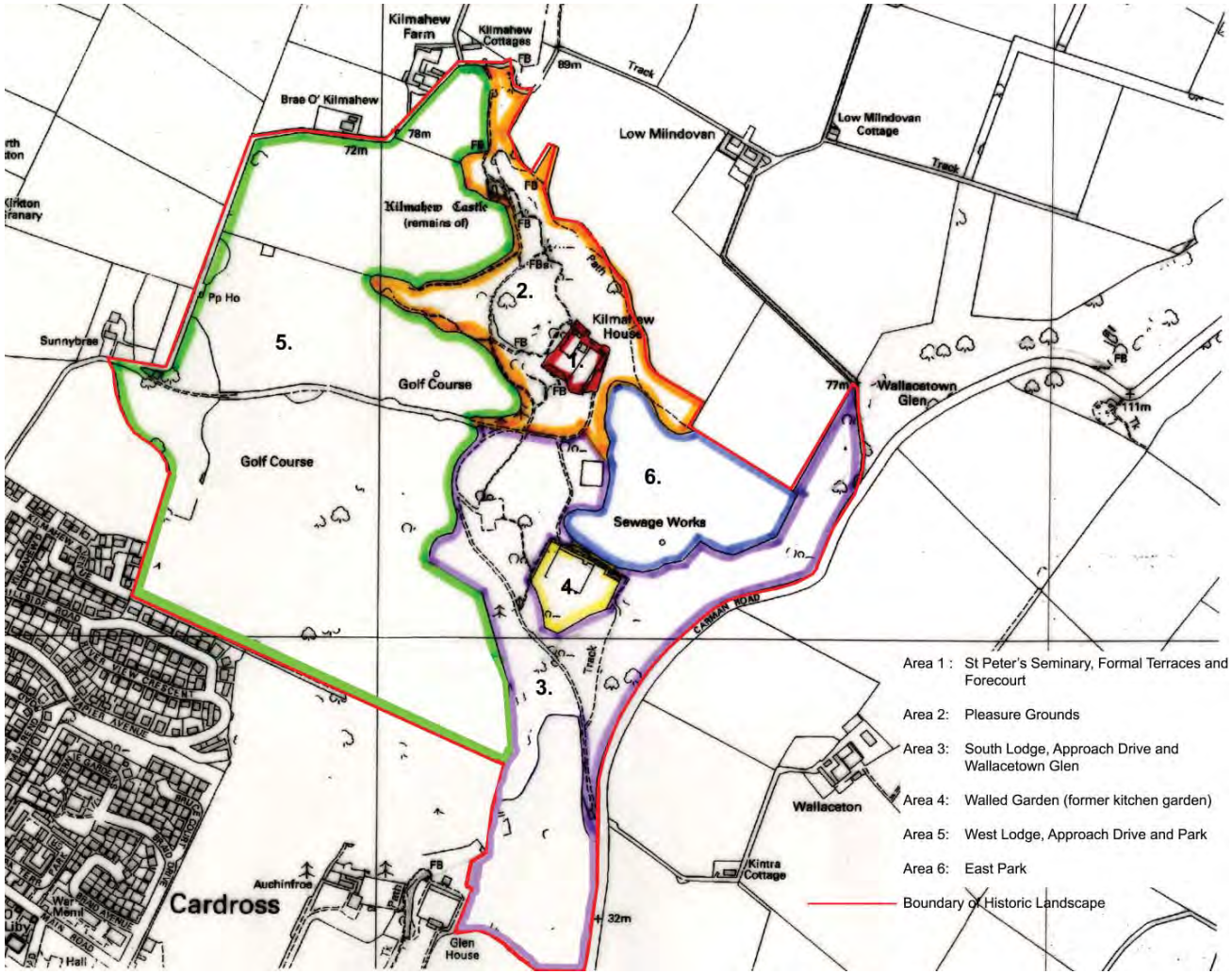
Bespoke light fittings integrated in the teaching block lattice beam structure



Concealed fluorescent lighting



High level ventilator in teaching block




## 2.12 Landscape

2.12.1 To assist the descriptions, the site has been subdivided into the following six character areas:

| | |
|---|---|
| Area 1: | St Peter's Seminary, Formal Terraces and Forecourt |
| Area 2: | Pleasure Grounds |
| Area 3: | South Lodge, Approach Drive and Wallacetown Glen |
| Area 4: | Walled Garden (Former Kitchen Garden) |
| Area 5: | West Lodge, Approach Drive and Park |
| Area 6: | East Park |


Kilmahew, The Seat of John Burns, *The Book of Dumbartonshire*, 1879

Below the Terrace, *The Gardeners' Chronicle,* 1938

Kilmahew, Cardross, Postcard, Helensburgh Library, early C20

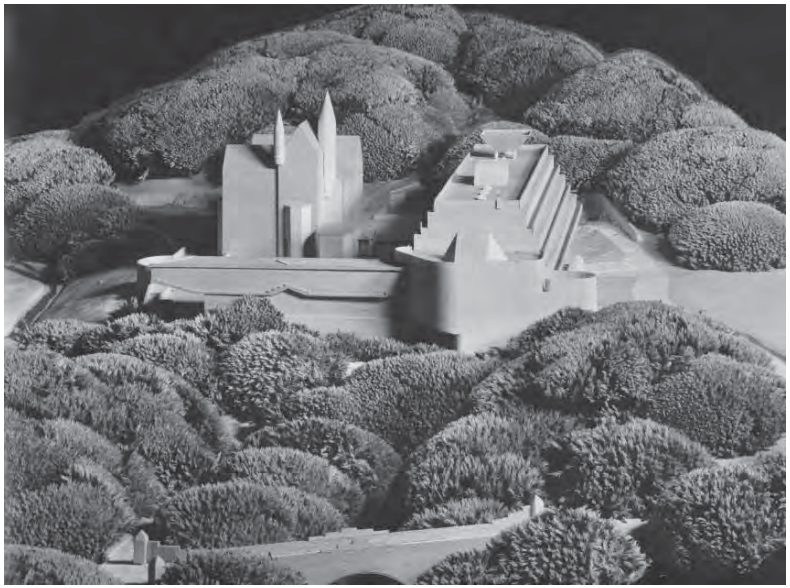
2.12.2 AREA 1: ST PETER'S SEMINARY, FORMAL TERRACES AND FORECOURT

2.12.3 Early county plans show this area as wooded. The site was levelled to create a broad terrace and the late 19th century mansion house sited in amongst the trees, protected from prevailing winds but high enough to allow the upper storeys to command spectacular views over the Clyde estuary. The eastern aspect was open, with a generous turning circle and views from the upper storeys of the mansion overlooking the sloping east park beyond. Steps led down to a broad south terrace with central fountain, parallel to the southern façade. The west terrace commanded dramatic views of the glen to the north and the lake to the west. Steps led to the glen in the north west corner. The north bank was wooded and sloped down towards the house. Another flight of steps invited the visitor to explore the paths in the woodland to the east of the house.

2.12.4 A late 19th century engraving of 1879 shows the south terrace in some detail and gives a flavour of the planting which appears typically Victorian in character such as pampas grass, Aucuba japonica, and rhododendrons. In a later 20th century photograph the shrubs have matured and there are low clipped mop-head trees above the terrace. Photographs of the west terrace reveal how imposing the house must have seemed when approached from the south with its distinctive south gable as the central focus. A photograph in The Gardener's Chronicle, 1938 shows the border beyond the west terrace with a path and bench, and the lawn banking down to the burn.

2.12.5 In the early 20th century, alterations to the south terrace formalised its shape and saw the replacement of the fountain with a sundial. The view to east park was opened up a little more, perhaps in compensation for the planting screening the new tennis courts which slightly would have restricted the view.

2.12.6 Gillespie Kidd and Coia's (GKC's) seminary buildings were largely confined to the footprint of the formal gardens that formed the immediate setting of the mansion house. The main block was located to the east of the mansion on the site of the turning circle, obstructing views at ground level to the east park. The teaching block was located in the northwest quadrangle of the formal garden terrace. The only built features to interrupt the 19th century footprint was the convent block located to the north of the balustrade (steps still remain)



GKC Model c.1965 of St Peter's Seminary

View of courtyard from Teaching Block looking towards Kitchen Block

and the retaining wall that wrapped around the north east corner. Much of the stone balustrade was left untouched.

2.12.7 The grouping of the seminary buildings was intentionally introspective and consciously formed a framework for 19th century setting and surroundings. A photograph of a contemporary model of St Peter's Seminary reveals that in addition to respecting the 19th century footprint of the formal gardens, the architects wrapped the buildings around the mansion at a lower level thus preserving views both to and from the upper elevations in such a manner that the buildings were almost subservient to it.

2.12.8 The arrangement of the new buildings incorporated the original mansion to form a Modernist version of a monastic cloister. Contemporary photographs show that the landscape treatment was bold and functional using granite setts and to relieve the visual impact of large areas of tarmac in the service area and for paths. A concrete ramp sloped down from the mansion house terrace level to connect with the undercroft of the main building and there were steps cut into it in two locations. Grass lawns softened the visual impact of the hard paving and 19th century steps were retained.

2.12.9 The existing approach to the mansion house was maintained, continuing as the service access around the north east corner of the building, as before. Side chapels against the east façade emerge from a reflective pool parallel lying to the main block. Further north a dry moat swept round the northeast corner of the building. The main entrance was via a bridge that crossed the north end of the pool and entered the centre of the main block. The quadrangle was laid to setts and lawn. Three mature cypresses along the south terrace bank were retained.

2.12.10 In 1995, following two fires, the house was demolished and only the masonry base course retained which indicates the original building footprint.

2.12.11 AREA 2: PLEASURE GROUNDS

2.12.12 This area lies to the north of the main approach drive. It includes the formal grass terraces to the west of the west terrace, the lake and rhododendron tunnel, Kilmahew Castle, and the north section of Kilmahew glen and burn.


Kilmahew from the Swan Pond, 1900
Helensbrugh Library

2.12.13 Formal Grass Terraces

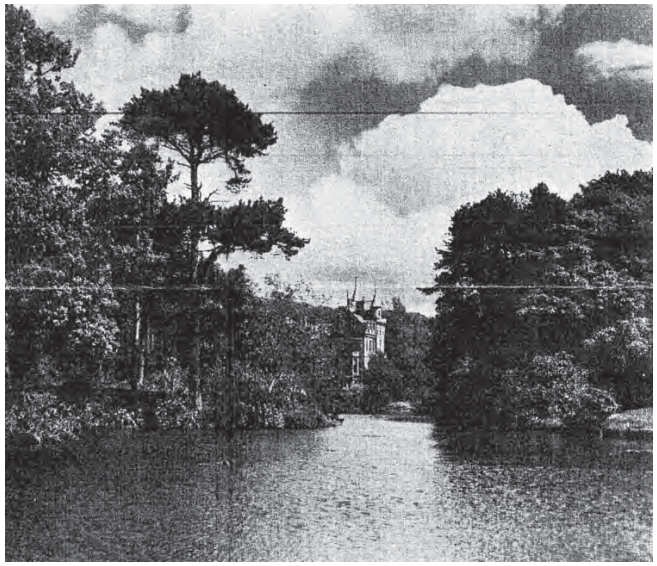
First visible in the 2nd Edition OS map, 1896-1900, the bank lying north of the west terrace was laid out as a formal garden. An herbaceous border was planted on a terrace between the buttresses of the west terrace. Climbers were planted against the high retaining wall. A much lower rockery type wall retained the herbaceous border terrace, and a path ran at the foot of the wall. A seat placed centrally would have enjoyed views over the wooded glen augmented with ornamental trees and shrubs. A manicured lawn swept down to the burn, straightened and domesticated with ornamental planting. The area is best illustrated in a photograph from the Gardener's Chronicle, 1938. By 1960s contemporary photographs of the seminary, show that the area has been simplified. Much of the planting was removed and the walls are exposed. The bank down to the burn was maintained as lawn but appeared more natural and less manicured.

2.12.14 The Lake

Early maps show part of this area as woodland with a track from Kilmahew Castle defining the north edge of the woodland. Laid out in the late 19th century, the lake was one of the principal features of the pleasure grounds. A depression visible in the Aerial Photograph, 1946 suggests that it could have been created by damming a spur of Kilmahew burn visible on early maps. The lake is first visible on 2nd Edition OS Map, 1896-1900 labelled "Fish pond". It was an informal shape with a large island in the centre. The existing woodland was extended to envelope the lake, with specific gaps left to frame views in particular to and from the Castle. A circular path circumnavigated it. An early 20th century photograph shows the view from the western bank of the lake (the 'Swan Pond') looking east towards the house. It appears open with planting yet to mature. By 1938, a photograph in The Gardeners' Chronicle shows the planting has matured and there is the distinctive profile of a mature Scots pine on the island framing the view to the house which suggests that the lake must have been raised up to some extent to facilitate this view.

2.12.15 Rhododendron Tunnel

Located on the main route to the lake from the carriage drive to the west of Kilmahew Burn, the tunnel was probably planted with Rhododendron ponticum. This was presumably planted and trained in the late 19th century, however it is neither visible on any maps nor mentioned in any historical accounts.



Kilmahew Castle, The Lake: *The Gardeners' Chronicle,* 1938

College from Lake: *St. Peter's College Magazine*, 1948

Early c20th Postcard of Kilmahew Old Castle
Helensburgh Library

2.12.16 Kilmahew Castle

For more detail on the history of Kilmhew Castle refer to Archaeological Assessment Report in Appendices 12.2. Formerly a tower house or keep, Kilmahew Castle is situated on the west bank of Kilmahew Burn, north west of the St Peter's Seminary. Probably dating from the 16th century, it was perched in a defensive position above a steep ravine with panoramic views over the Clyde estuary. The 1st Edition OS map, 1865-8 shows that in the mid 19th century the Castle lay to the west of the woodland adjacent to a track. As part of the creation of the late 19th century pleasure grounds, the castle was drawn into the woodland area and presented as a picturesque ruin. Park railings swept around it and some tree clumps were planted to the west, suggesting a park-like setting.

2.12.17 Kilmahew Glen (North)

The relationship between the burn and woodland is visible on early county maps, see Blaeu's map, 1654. The distinctive profile of the woodland visible in the 1st Edition OS map, 1865-95 was left largely unaltered but simply extended in specific areas when the pleasure grounds were laid out in the late 19th century. A path running parallel to the burn in the 1st Edition OS map, 1865-8 was augmented in the late 19th century with an intricate network of footpaths and bridges leading the visitor to all the main attractions of the glen including waterfalls, the Castle, the lake and the rhododendron tunnel.

2.12.18 An account in The Gardeners' Chronicle of 1938 describes the character of the planting and suggests that due to its natural beauty an unusually non-interventionist approach was taken:

'Thus it is, that the more flamboyant hybrid Rhododendrons and other decorative shrubs are not included, and the subdued tones of R. ponticum reign undisturbed with rightful dignity among Silver Birches and Scottish Rowan trees. Here and there, but not obtrusive in the general vista form the terrace, we found many plants of an obvious exotic nature. Japanese Maples, Tricuspidaria lanceolata, Pieris (Andromeda) japonica var. variegata, sheltered the sturdy growths of Lilium giganteum which were thrusting boldly through the rich dark soil. Beneath the plantings of shrubs and trees a fine collection of hardy Heaths was flourishing …'

The most ornamental species were probably confined to the bank opposite the formal terraces.

Blaeu Atlas, based on Pont's map, 1654

Herman Mill's map, 1745

Charles Ross's map, 1777

John Thompson's map, 1820

John Ainslie's map, 1821

1st Edition OS, 1854-8

2.12.19 Curling Pond

A curling pond was laid out towards the end of the 19th century immediately south west of the seminary within a distinctive u-shaped bend of Kilmahew burn. It was still functioning when the priests arrived in the mid 20th century. A contemporary photograph corroborated by the GKC site plan suggests that it was drained, and laid to macadam as car park.

2.12.20 AREA 3: SOUTH LODGE, APPROACH DRIVE AND WALLACETOWN GLEN

2.12.21 South Lodge and Approach Drive

South Lodge is positioned to the west of Carman Road. It is also Scots Baronial in style, and probably to designs by John Burnet, it comprised a stone lodge with a set of gates. Providing the secondary access to the house, it would have serviced both the walled garden and the stables. The southern section of the south approach drive followed the alignment of the lane that originally led to a house dating back to at least the 18th century, called the "Triangle of Milndovan" on early maps as far as a spur leading to the kitchen garden and Wallacetown Glen. The spur continued on this alignment whilst the south approach drive swung away from it round to the west.

2.12.22 New woodland was planted to screen views from Carman road, however to the west there were filtered views to open parkland and Kilmahew glen. The drive swept round to the east, crossing the intersection of the two burns over a double stone bridge with portholes, then circumventing the stables and uniting with the west approach to reach the mansion house. Here it crossed a stone bridge with Gothic detailing and substantial piers over Kilmahew burn. At the entrance to the bridge, an imposing view of the south gable towering above opened up. Either side of the approach drive was verge, with a mixture of evergreen shrubs was planted to provide a flowering border to the woodland behind.

2.12.23 When St Peter's Seminary was built, South Lodge became the main entrance. Presumably the enclosed wooded character of the south approach drive, with dramatic views over the burns was considered more appropriate, reinforcing the seminary's sense of removal from the outside world. It was probably in the 1960's that the drive was laid to tarmac.


General Roy's map showing 'indication of emparked' landscape c.1750's

2.12.24 Stables (or Offices)

The stables or offices were built in the late 19th century to service the mansion house, probably to designs by Burnet. They were laid out as a typical steading, with a coach house behind. The existing woodland was extended to screen the buildings from all viewpoints. By 1918 the courtyard had a glazed roof, a gasometer was added to the east of the coach house and a new drive linked the stables with the main approach drive. A description of 1948 suggests that by the time the Archdiocese acquired the site, the stables had been converted to "… garages, stable, ball-court, three dwelling houses and other offices,…"

2.12.25 Kilmahew Glen (South)

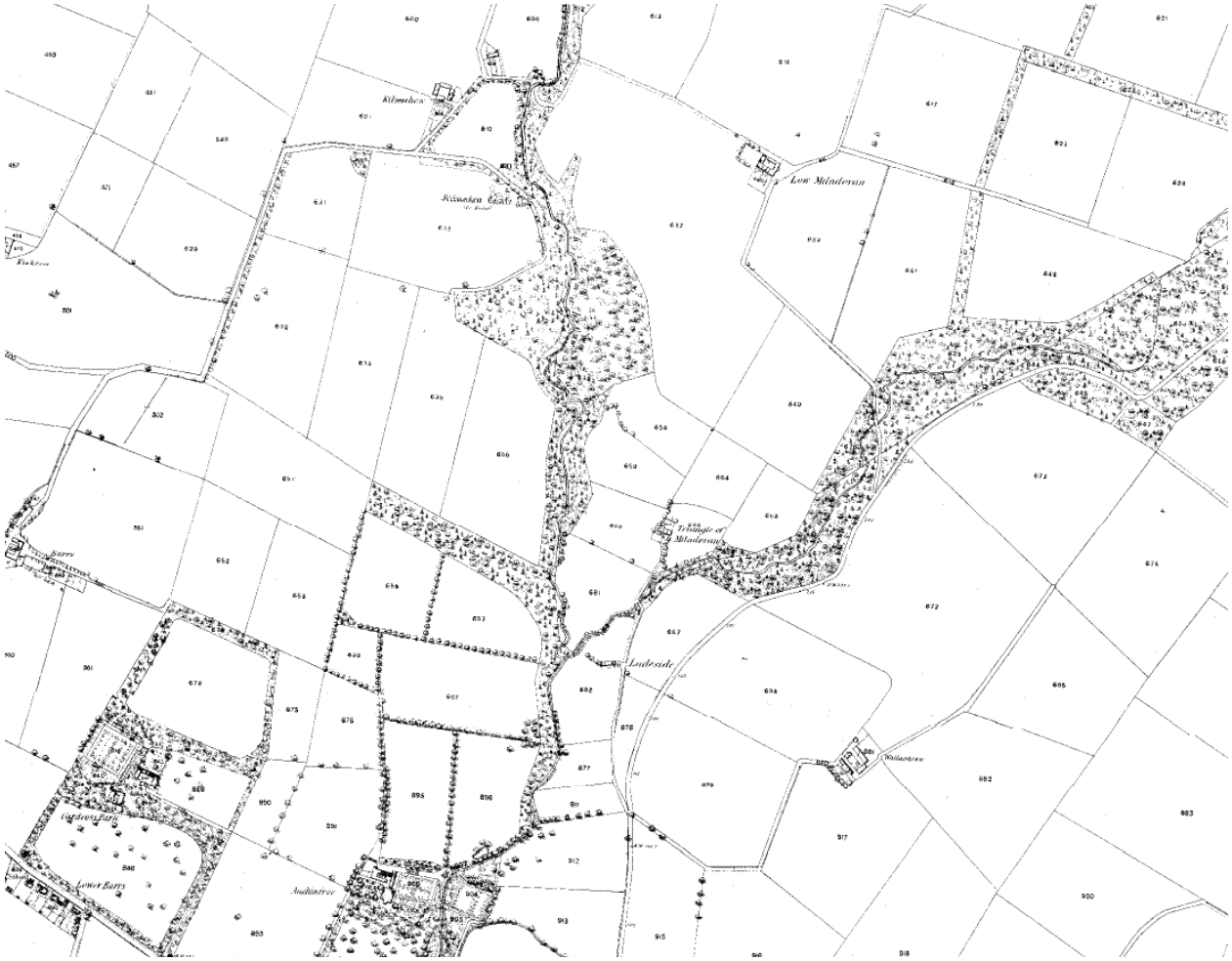
The banks of the burn were wooded well before the creation of the late 19th century estate mainly because they were too steep to farm. Existing vegetation was extended in places, in particular to screen late 19th century additions such as the south approach drive, stables and kitchen garden.

2.12.26 In the late 19th century a network of paths linked the mansion house with the walled garden and stables and also ran south along the bank of Kilmahew burn, thereby linking the estate with the estates of Auchinfroe and Bloomhill.

2.12.27 Wallacetown Glen

This is shown as a wooded glen on early maps. Carman Road, which now forms the east boundary of the estate, first appears in Thomson's map of 1820. In the late 19th century, the profile of the existing woodland edge was retained. A path ran parallel to the burn, crossing it in several places, before continuing northwards with the burn. A spur linked the glen with the pleasure grounds via a path along the north boundary of East Park. This suggests that the glen was considered part of the pleasure ground circuit walk in the late 19th century.

2.12.28 The spur off the south approach that leads to the glen via the walled garden followed the alignment of the original lane to the "Triangle of Milndovan" and would have been the main service route for the garden. It still crosses Wallacetown burn in exactly the same location.




1st Edition OS map, 1865-8

2.12.29 AREA 4: WALLED GARDEN (FORMER KITCHEN GARDEN)

2.12.30 The walled garden is situated at the apex of a triangle of land created by the union of the Kilmahew and Wallacetown burn. The walled garden was laid out as a kitchen garden in the late 19th century and map evidence suggests the layout could be an adaptation of the 18th century emparked area.

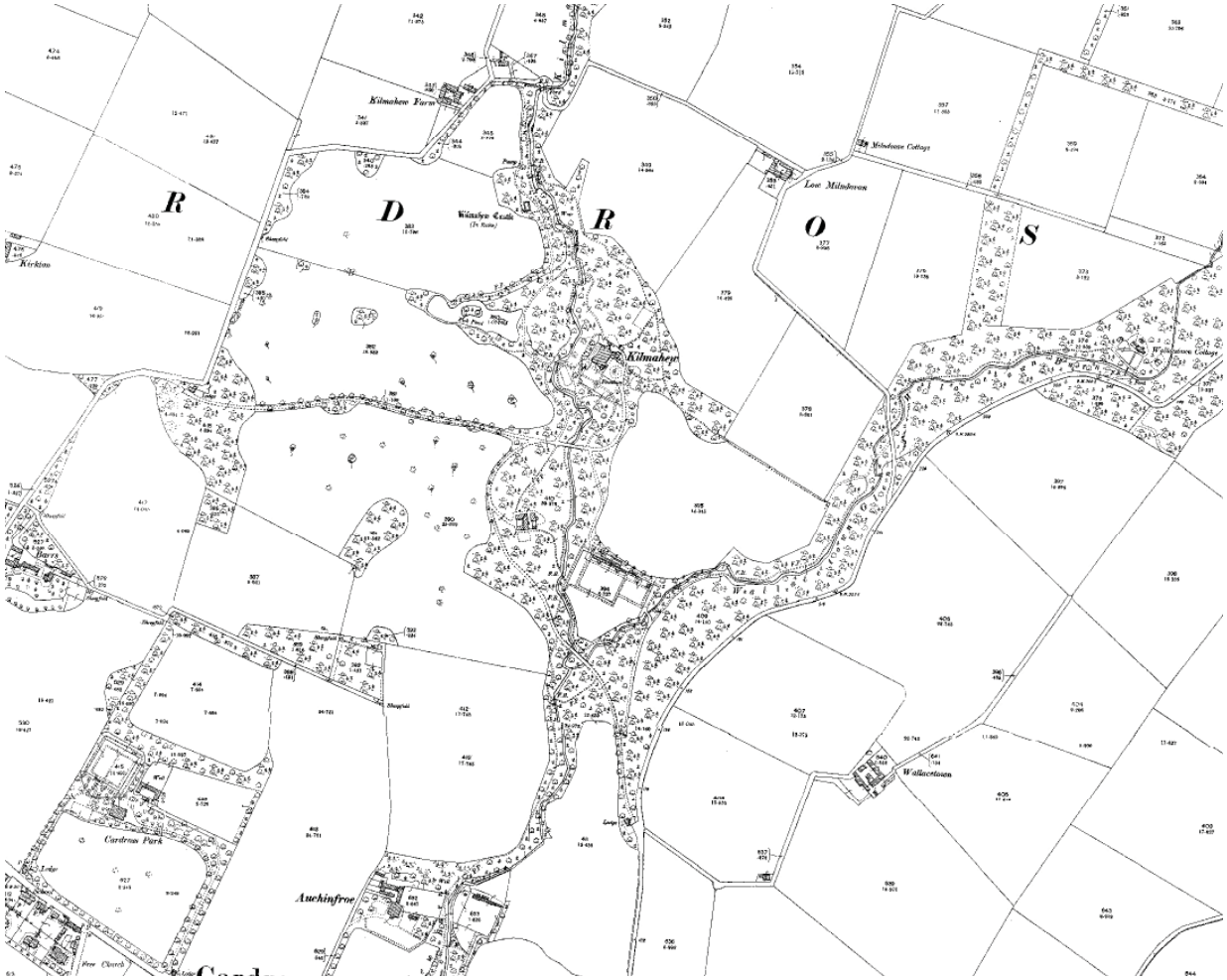
2.12.31 The kitchen garden was laid out in three sections, with transverse paths. Additional brick walls with two arched doorways created an inner enclosure that was probably the main kitchen garden. The outer areas were planted with fruit trees. South facing glasshouses continued all the way along the north wall. The 2nd Edition OS map, 1896-1900 shows an enclosure around the entire garden but it is unlikely to have been completely walled.

2.12.32 The service drive entered the garden beneath a broad arch in the east wall with a generous stone lintel. The north wall continued down the east side of the garden, terminating just beyond the service access entrance. Beyond the wall a yew hedge and a decorative iron fence defined the east boundary. The path running parallel to the east park from the mansion house, entered the walled garden beneath an ornate stone archway at the west end of the north wall. By the time of the 3rd Edition OS Map, 1918-22 a shelterbelt is planted along the west boundary and a sundial positioned in the square area to the east of the walled area suggesting this could have been laid out as a formal garden. On the north facing side there were cold frames, potting sheds and bothies.

2.12.33 New woodland was planted between the outer enclosure and the burns, thus views from the walled garden appear to have considered important to 'contain'.

2.12.34 AREA 5: WEST LODGE, APPROACH DRIVE AND PARK

2.12.35 In the late 19th century the new carriage drive from the west was laid out as the principal approach to the mansion house, with a lodge and gates probably designed by James Burnet. Field boundaries visible in the 1st Editon OS map were removed to create parkland on either side of the drive and trees were planted in clumps and shelterbelts to frame views to and from the mansion house and Kilmahew Castle (across the lake.)




2nd Edition OS Map, 1918-22

2.12.36 The 1st Edition OS Map, 1864-5 shows a track leading to the castle across the north section of parkland. The 2nd Edition OS Map of 1918-22 shows this removed as part of the creating of the parkland.

2.12.37 It is quite difficult to determine the exact extent of the 'designed' parkland to the south. In 1895 a putting green was laid out in the southern section of the park. The Aerial Photograph, 1946 shows that views looking north west to the mansion house were preserved and its setting was not affected. In the 1960s Gillespie Kidd and Coia changed the main access to the south approach drive. Over the latter half of the 19th century the golf course has expanded over the whole of the park and the character of the parkland changed and, by implication, the views and setting of St Peter's Seminary and Kilmahew Castle.

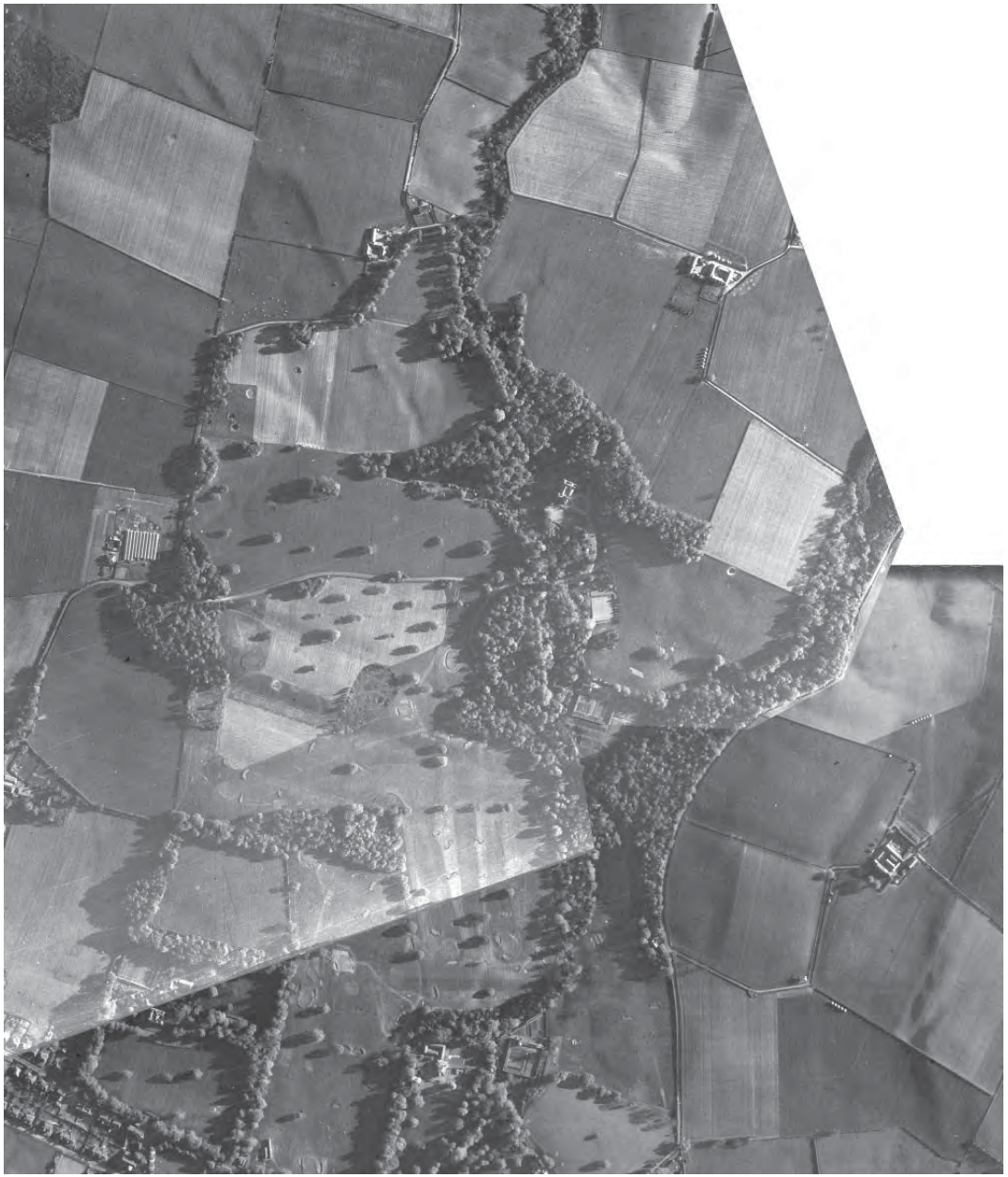
2.12.38 AREA 6: EAST PARK

2.12.39 The 1st Edition OS Map, 1864-5[2] shows a network of smaller fields in this area and a settlement called "Triangle of Milndovan" to the west of a triangular shaped field. It is probably of medieval origin[2] and from its shape, clearly not a farmstead. Along with the farms at Low and High Milndovan, the name "Milndovan" seems to be associated with the lands relating to the ruined medieval castle of the Napiers.

2.12.40 Early county maps suggest the upper terrace in the East Park could be the location of an earlier castle/house and formal emparked garden visible in Roy's map.

2.12.41 Field boundaries were removed to create the east park at the end of the 19th century. No new trees were planted, however, four oak trees visible in the 2nd Edition OS Map, 1918-22 and now to the west of the existing sewage filter, could be remnants of a hedgerow that formed the west boundary of "Triangle of Milndovan" visible in 1st Edition OS Map, 1864-5. A path is shown parallel to the northern boundary along the brow of the hill connecting Wallacetown Glen to the pleasure grounds. Ornamental planting framed views from the mansion house to the east park.

2.12.42 As part of the early 20th century improvements to the estate, a sewage filter was installed in the southwest corner of the park and tennis courts were laid out, altering the shape of the west boundary. New trees were planted to screen views form the mansion house. The alignment of the planting framing the view from the mansion house



Aerial Photograph 1940's

was opened up to compensate.
GKC positioned the main block of the seminary on the forecourt of the mansion house, thus severing the visual link at ground level. Views from the upper storeys were preserved and the bedrooms on the east side of the main block enjoyed the views that the mansion house once had. Despite the retaining wall erected to level the site of the main block, the boundary of the east park was not altered.

(Endnotes)
1.Visible but not labelled in the 1st Edition Ordnance Survey, 1854-8 (small scale)

2. In 1553 there is a reference to it being acquired by John Wood of Geilston, a neighbouring property. Writing in 1880, David Murray, author of Old Cardross describes some stones inscribed with the date 1732 located 'a little above the garden ... near the site of the former house of Triangle', alongside initials of Robert Bontine of Mildovan and of Margaret Bontine his wife.

# Section 3

## Statement of Significance


The altar in its current state, 2007

## 3.1 ARCHITECTURE

### 3.1.1 Introduction

3.1.1.1 Before embarking on a detailed statement of significance it may be helpful to set out the methodology of this study. Whilst some of the issues may be already familiar to those most closely involved with the current predicament of the property it is hoped that these preliminaries will be of assistance to others who though not 'stakeholders' in the formal sense, may yet have a genuine interest in the future of St Peter's and its site, or have become aware of its high profile and wish to understand or follow its story. The statement of significance of the building itself is introduced through a brief note on the concept of 'modern heritage' and on the position of the firm Gillespie, Kidd & Coia (GKC) within the wider architectural context.

3.1.1.2 As will be evident in the references appended to this document, there is no shortage of coverage of the building in previous studies and articles, and although basic descriptive summaries are necessarily included in order to produce a stand-alone document we have generally sought to avoid so far as possible the duplication of work that has already been done and is available to any interested parties.

### 3.1.2 Methodology – what is a Statement of Significance ?

3.1.2.1 It is widely accepted in the application of principles of good conservation practice that the first step is to attempt to define and locate what is of significance or value in the designated building/s and/or site – generically termed the 'heritage asset' - and that this task of identifying such significance should be 'scheme neutral'. That is to say the resulting assessment should not be predicated on or aligned towards any particular set of proposals which may already be in existence or in a state of preparation.

3.1.2.2 The rationale for this principle is that in order to serve as an effective instrument in considering the appropriateness of any proposed response the Conservation Plan should be focused on an informed understanding of the asset itself and which of its attributes are most in need of safeguarding in order to extend those heritage values that underpin this significance. The Plan thereby should serve as a tool for evaluating the suitability or otherwise of any set of proposals, whether they are already at hand or are stimulated by the enhanced

understanding of and interest in the asset that the Plan may itself stimulate.

3.1.2.3 The 'neutrality' of the Plan should accordingly work to increase its durability, for it is conceivable that the most appropriate mode of conserving the asset in question may not occur simultaneously with the production of the Plan but may emerge at some future date as a result of unconnected or unforeseen factors. In such a scenario it would be important that the Plan remained a valid evaluative tool that commanded the respect of stakeholders and other interested parties at the time.

3.1.2.4 The interlocking of this principle of 'neutrality' with the concept of 'future proofing' is particularly apposite in the case of St Peter's Seminary Cardross, as its predicament is characterized by the recurrent failure of various previous schemes for re-use over a period of many years. Although this narrative could suggest that a beneficial future for this building was therefore a hopeless prospect, the existence of a robust Conservation Plan at the outset might equally have indicated that the previous proposals were themselves unsuited to or incompatible with the significant characteristics of the asset and that the succession of disappointing answers might accordingly have resulted from asking the wrong questions.

3.1.2.5 The complication in this case is that alongside this inconclusive pattern of past endeavour the asset itself has deteriorated to an extreme degree with the extensive loss of original fabric. The current task of compiling a Conservation Plan must clearly be cognizant of this foregoing narrative, and its consequences, but it must also attempt to look beyond it. Thus while it may certainly be used as an assessment tool against which to judge the suitability of current proposals for the site, it must also be sufficiently 'generic' in nature as not to preclude future possibilities for the building and the site that despite this history of previous failure may yet be forthcoming.

3.1.2.6 <u>Modern Heritage</u>

3.1.2.7 Before considering the specific case at hand it may be helpful to comment briefly on the concept of 'modern heritage' and the implications this might have for the assessment of St Peter's, Cardross. Statutory protection of modern buildings by listing is a relatively recent development. In the specific case of post-war

buildings the number of listed examples is still a small fraction of all listed buildings. And this small fraction is itself of course an even smaller fraction of the vast number that were built from 1945 up to 1977 (ie. 30 years ago, after which they would not normally yet be eligible unless of outstanding significance and under imminent threat of demolition.)

3.1.2.8 Inasmuch as the 'thirty year rule' itself is a recognition that a certain period of time must elapse before any kind of objective assessment of a building is possible, this paucity in number of modern designations itself may not be surprising. But in the case of modern architecture particular difficulties tend to arise, due partly to the circumstances of its development, partly to its own representation and partly to its social reception. The phenomenon of change is also a particular feature in the consideration of modern heritage. These issues are touched on briefly in turn.

3.1.2.9 *Circumstances of development*

The initial period of national reconstruction after World War II necessarily focused on the immediate provision of essential buildings and infrastructure. Although a residue of pre-war themes can be traced in some of the building work of the initial years of peace the dominant new direction was characterized by an emphasis on progress, economics and delivery. Leaving aside some notable exceptions, much of what was produced was essentially utilitarian and repetitive, with scant opportunity for 'fine architecture'. Moreover the development of new techniques and experimental use of materials in the post-war building industry led in many instances to failures in service, frequently compounded by inadequate management and maintenance. Such output offers few candidates for listing, and it may be significant that of the handful of works of Category A status built in the first decade after the war three are by GKC, two others are war memorials and one other is a power station.

3.1.2.10 *Representation*

The 'service ethos' that tended to characterize both society's and the architectural profession's definition of its mission in the first post-war period - whereby buildings were conceived primarily as instruments rather than monuments - was also not conducive to its perception as 'heritage'. This assumption continues to feature in current debates over the appropriateness of listing modern buildings and the degree of interventionary license that may be exercised in undertaking

works to those that are listed. The perception of Modernism as a movement predicated on change, flexibility and the tabula rasa tends to be associated with the argument that would exclude modern architecture from the conventions of conservation as philosophically contradictory to its underlying intentions. Against this proposition it is equally claimed that the residue of the Modern Movement, at least in its most significant manifestations cannot uniquely escape history and is no less valid as a cultural asset to be safeguarded for future generations. The generality of such arguments is however of little assistance when considering the specifics of a particular case. Both in the training and practice of architectural conservation the preponderance of experience and theory is based on historical periods and styles, and the discourse associated with modern patrimony is still in its developmental stage. Important exemplars are in the making and Cardross could be one of them.

3.1.2.11 *Social reception*

Lastly, the public reception of modern architecture of this period, especially social housing has frequently been unfavorable, and the criticism of its more dramatic failures by the public and media has produced a culture of scepticism as to its eligibility even to be regarded as 'heritage' or worthy of the conservation response that would be considered quite normal in the case of historic buildings. This has led to the contention that listing must necessarily be controversial in the case of modern buildings, since it must run ahead of popular taste to secure the most significant buildings that might otherwise be at risk.

3.1.2.12 *The phenomenon of change*

Even in relatively young listed buildings of the post-war period it is rare for the original design not to have experienced alteration in the subsequent life and use of the building. Indeed such was the specificity of much modern design in its close formulation of the brief or 'programme' that the pressure for change which is synonymous with modern life has often been more difficult to assimilate without significant interventions than might not have been the case with more traditional 'loose-fit' architectural solutions. To this may be added the further need for intervention that has often been occasioned by failings in the construction and performance of much modern architecture – achieved as it so often was within limited budgetary constraints and with experimental techniques.

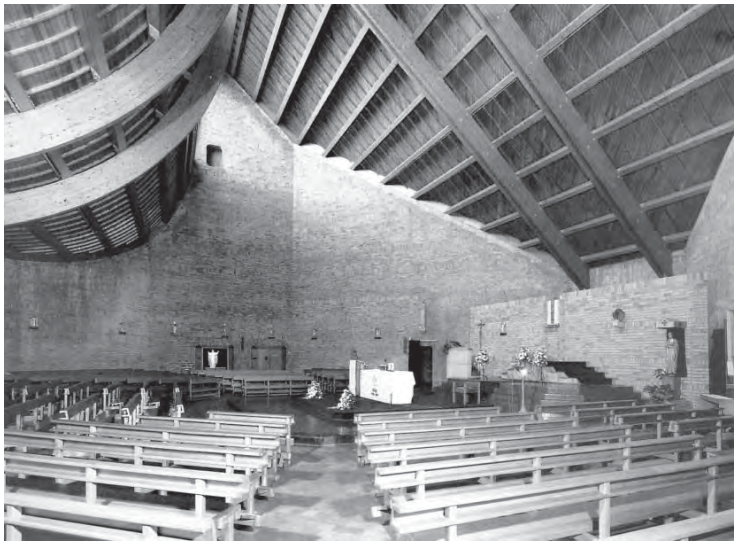
Photograph of the original model

3.1.2.13 The degree to which St Peter's Cardross remained unaltered during its period of occupation may be attributed in no small measure to the unusual brevity of that period – a mere 14 years - and it may be conjectured that had the building remained in continuous use what we would see today could very well comprise some significant modifications of what was originally built. One could speculate as to whether such alterations might have been triggered by new operational requirements or in response to latent constructional problems. But in any such circumstances it would be normal to take account of the extent to which any subsequent modifications had impacted on the significance of the original asset and whether opportunities might be identified to correct or reverse detrimental alterations.

3.1.2.14 In the unusual case of St Peter's however, instead of dealing with a surviving but changed building, what we have is the derelict original one. Indeed, more than derelict, the current state of the property can only be described as ruinous. This extraordinary transformation effectively also necessitates a double assessment of significance – the significance of St Peter's as built, and the significance of the building in its current state.

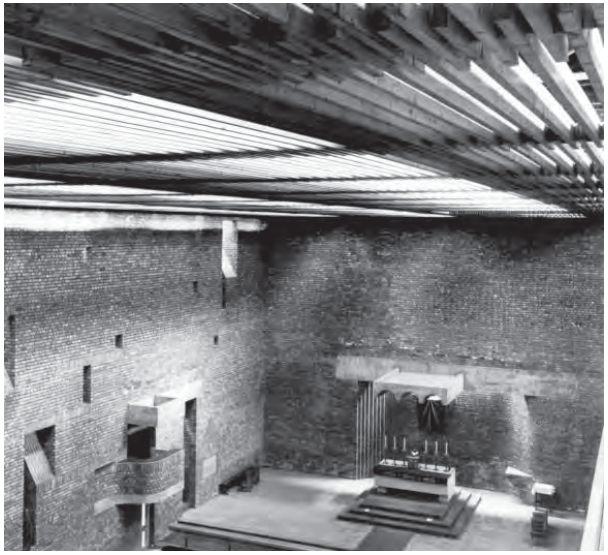
3.1.2.15 *Relevance to St Peter's, Cardross*

All of these considerations have some bearing on current perceptions of the significance of St Peter's, Cardross. Firstly, as will be explained in more detail below, the circumstances of its development were far removed from the production imperatives of much post-war building. Its evolution and design were consciously understood to be profoundly 'special' and intimately related to the circumstances of its use, meaning and setting. This quality of uniqueness seems to have been a defining feature in the minds of the key participants, both client and architect, who were concerned to produce something as specific and enduring as it was believed were the purposes it would accommodate. Both Metzstein and MacMillan have recalled their appreciation of the rigidity of the brief whereby almost every aspect of life at the seminary was the subject of a prescribed ritual or routine which could be translated architecturally with commensurate certainty. Its particularity in every sense thus distinguishes it from the general architectural and building culture of its time and suggests St Peter's compatibility – unusual for a modern building - with the traditional interpretation of listing.



St Benedict's Drumchapel (1965-76) prior to demolition

Cumbernauld Technical College Dunbartonshire 1972-75



St Bride's East Kilbride 1963-64

3.1.2.16 In the interests of balance, however, this proposition should not obscure the fact that for some observers the critical importance ascribed to St Peter's Cardross is difficult to understand, especially in its current state. To this position the reasonable response of its admirers might be that while opinions may indeed differ as to the significance of the building, the fact of its listing and the survival of physical evidence maintains the opportunity for conservation and a potential future.

### 3.1.3 The positioning of Gillespie, Kidd & Coia in Scottish architecture

3.1.3.1 If listing in itself may be taken as a simple measure of perceived significance there can be no doubt as to GKC's unique position within the modern Scottish canon with their contribution to religious architecture. Of the 31 post-war buildings currently listed at Category A, no fewer than 9 are by this firm – more than twice as many as the next contender. (Second on the list in terms of numbers is the firm of Spence, Glover & Ferguson with 4.)

3.1.3.2 A preponderance of church buildings characterizes their representation in this list, and indeed the firm's output as a whole, such that it is virtually possible to describe the evolution of the most significant 20th century religious architecture in Scotland through the work of this single practice. This in itself underscores the 'group value' of these buildings inasmuch as together they can be seen as documenting a continuous narrative of architectural thought through the work of the same authors.

3.1.3.3 But in addition to simple numerical supremacy in terms of listing, the positioning of GKC's work in 20th century Scottish architecture raises other more critical themes. After the initial period of post-war reconstruction in which modernism was recruited by most public institutions in delivering the new social infrastructure of the Welfare State, a new dimension emerged alongside, and partly in reaction to, Scotland's mainline architectural development from around 1960. In contradistinction to the official and corporate identity of much of this mainstream work - which might be regarded as representative of Scotland's strong scientific and mercantile history - the alternative canon, within which the church designs of Metzstein and MacMillan in general – and Cardross Seminary in particular - may be clearly placed, could be seen as representing the romantic and poetic

Jack Coia: Early portrait by Hugh Adam Crawford

Isi Metzstein (left) and Andy Macmillan in the office of Gillespie Kidd & Coia

traditions, even Dionysian traits, that have also always characterized and contributed to Scotland's cultural identity – partly in parallel, partly in opposition to the former. Whilst both strands could be identified with the inheritance of the Enlightenment, the first might be regarded as reflecting the rationalist, normalizing disciplines of that cultural watershed, where the other would emphasize its interrogative and critical tendencies.

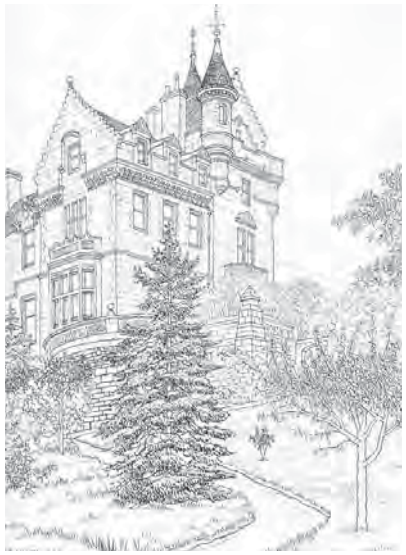
3.1.3.4 In architectural terms this alternative direction, which in a generic sense was of course not exclusive to Scotland and for which parallels occurred in other Western European countries, might be characterized as a quest within the oncoming generation of younger architects for deeper social engagement and a greater reflection of the emotional complexity of human needs than the earlier 'functionalist' programmes had acknowledged.

3.1.3.5 It may therefore be contended that over and above any particular building example that can be analyzed specifically, the totality of Metzstein and MacMillan's contribution to the Scottish architecture of its period is of such significance that without it the nation's architectural self-portrait would be incomplete. In supplying not a gratuitous addition but an intrinsic dimension of the national cultural account that would otherwise be missing, their work serves both to complement the 'mainline' tradition as represented by such firms as Sir Robert Matthew, Johnson Marshall & Partners (RMJM), Reiach, et.al. while at the same time maintaining a strain of coded 'resistance' that may be read as a critical commentary upon it. This fusion of GKC's Scottish sensibility with a deep assimilation of wider European architectural culture surely accounts for unusual international recognition of the firm.

**3.1.4** **Assessing the significance of St Peter's, Cardross - Values**

3.1.4.1 The search for significance begins with the definition and location of cultural and natural heritage values, for it is in the cumulative sum of such values that the overall significance of the asset resides. This part of the study accordingly attempts to capture and articulate these values. Whilst some descriptive coverage is included for purposes of identification the aim is to go beyond mere description and analyze the significance of what is described. In this way it is hoped that consideration of immediate or longer term action is informed by a clear sense of what is most important to preserve and,

View from the West, St Peter's College, Kilmahew
*St Peter's College Magazine*



Current view of the remains of Kilmahew House

where possible, enhance, and equally what may be altered without detrimental impact.

3.1.4.2 The values of the asset are those aspects of worth or importance that may inhere in the material fabric of the asset itself or in the qualities that people may ascribe to it. Emerging policies and guidance in the field of conservation have proposed that the significance ascribed to designated places and buildings should be understood as the summation of cultural and heritage values – these being grouped in a series of different categories. (Refer Conservation Principles, English Heritage, February 2007) This 'family of heritage values' includes;

- evidential values
- historical values
- aesthetic/ architectural values
- communal/social values – including spiritual and symbolic values.

3.1.4.3 Additionally, in the case of St. Peter's Seminary, in view of its unusual history there may, as already indicated, be different 'readings' of value depending on whether the aspect under consideration relates to the institution in its original form or the buildings in their current state. The study will examine these in turn.

3.1.4.4 It should be noted that in this section the attempt is made to capture the principal heritage values of the complex and consider the main aspects of special architectural interest in generic terms. Detailed comment on each individual element of the buildings is addressed in the next chapter of the study.

3.1.4.5 EVIDENTIAL VALUE
This definition of value relates to 'the potential of the buildings and site to yield primary evidence about past activity.' (Conservation Principles, p.25) In the case of St Peter's Cardross there is much to be derived from what remains in relation to the period in which it was conceived and built, and the extent to which the buildings serve as a document of their time.

3.1.4.6 <u>Evidential value of the site</u>
The considerable significance of the larger site within which the seminary complex is located is dealt with in more detail in the landscape assessment. This will include not only consideration of the

Current view of sanctuary

other building remains within the site, such as the old outbuildings of Kilmahew House which were part of its supporting infrastructure, and the historic castle, but also the land beyond the site boundaries which 'frame' the site and provide its setting. Here the focus is on the principal buildings. The most important element of evidential value relates to the surviving fabric as a record of previous lifestyles.

3.1.4.7 19th century evidence

The remaining physical outlines of Kilmahew House bear testimony to the tradition of baronial mansions that were a powerful expression of Scottish economic achievement following the Industrial Revolution and continued through a vigorous period of commercial productivity in the 19th century. Kilmahew House, built 1865-68 to the design of John Burnet for John William Burns, son of the founder of the Cunard Line, was a typical example of the Scottish baronial mansion – a building type which flourished in this period. Original photos indicate that views of the Clyde were obtainable from the upper levels of the old house, would have provided an additional historical reference given the original owner's association with the shipping industry – which at its zenith made Glasgow and the Clyde an industrial centre of international significance.

3.1.4.8 This tradition of romantically towered and turreted mansions for wealthy dynasties, within substantial landscaped settings, is a well-established typology in 19th century Scottish architecture, and numerous examples survive. Kilmahew House with its grassed platforms, handsome retaining walls and extensive landscaped grounds, kitchen garden and lodges was representative of this genre, and although the house itself has been lost the surviving physical remains and immediate curtilege retain a significant trace of its existence. This evidence is worthy of preservation. Initial consideration of how these remains should be addressed is given later in the report.

3.1.4.9 20th century evidence

The seminary itself, even in its present state, provides powerful evidence of a particular set of beliefs in relation to training for the Roman Catholic priesthood. The decision of the Archdiocese to acquire the original house in 1948 and then develop the site into a training facility reflected the contemporaneous doctrine that preparation of novices for religious office should be situated in a sequestered location. St Peter's Seminary at the time of its

completion and original inhabitation thus exemplified a specific form of social organism resulting from this religious policy.

3.1.4.10 What are the implications of these evidential values for the future of the site ? It would clearly be both unrealistic and unreasonable to argue that recognition of this evidential significance in any scheme of re-use would necessitate the re-creation in some form of an equivalent closed religious community. It might however be suggested that a social model for any scheme involving residential re-use should be characterized by a comparable sense of common purpose, possibly though not necessarily educational, and the concept of 'retreat'. This should not be regarded as prescriptive, but open to imaginative interpretation, particularly as the perception of Kilmahew Estate as 'remote' is in any case effectively a state of mind rather than an actuality – being as it is within barely 30 minutes travel time from the centre of Glasgow.

3.1.4.11 HISTORICAL VALUE

'Historical value relates to the ways in which the present can be connected through a place to past people, events and aspects of life. It tends to be illustrative or associative.' (Conservation Principles, p. 25)

Staff and students of St Peter's College seen in 1968

3.1.4.12 St Peter's Seminary was built at a moment in Western social history when after the initial austerity of the post-war years increasing prosperity and wider distribution of educational opportunity and resources were acting to emancipate young people from the immediate circumstances of family and domicile. The resident community at Kilmahew, by contrast, was deliberately established as an isolated enclave, separated and distinct from the 'outside world'. The impact of that post-war secular drift and diminishing church membership on the occupancy of St Peter's itself has been well-noted, (Watters, p.65) and was clearly compounded by the pastoral changes emanating from the Second Vatican Council (1961-65) in relation to the preferred mode of training for the Roman Catholic priesthood which henceforward favoured the integration of trainees into a community setting.

3.1.4.13 St Peter's early closure as a substantial consequence of these (and other) factors is itself evidence of the relative rarity and growing incongruity of its original social model in modern times. Being initiated at a moment of anticipated expansion in the church's

View over the southern part of the complex showing main block, chapels, sanctuary (with pyramidal rooflight) and teaching block (right)

development then rendered 'redundant' by virtue of almost concurrent doctrinal changes it was caught within a particular historical time capsule. It was a rarity within a genre that was itself already rare.

3.1.4.14 Other than specifically monastic communities, closed societies of this nature in the West are usually associated in the case of young people with boarding schools or reforming institutions where a comparable principle of removing young members of society in order to prepare – or repair - them for it, may be seen at work. Significantly perhaps, such institutions are frequently to be found in large secluded mansions set in extensive grounds - not unlike Kilmahew House - suggesting that such establishments provide a good fit for their social and spatial requirements.

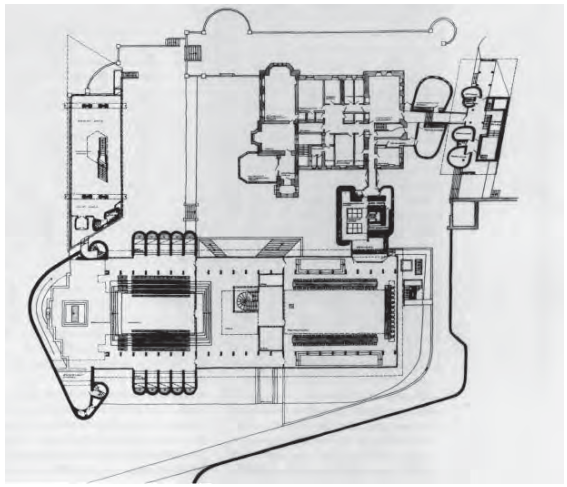
3.1.4.15 Unlike traditional boarding schools however, where despite a typically spartan ethos the underlying economic reality is a function of class privilege and social advantage, the community at St Peter's Seminary was joined in asceticism and frugality. The ideal of 'noble poverty' is a common theme in such institutions (and was specifically invoked in St Peter's close cousin, La Tourette). This ethical dimension of the social model represented by St Peter's gives it a particular significance in contradistinction to its historical context of growing affluence. Its continuing sense of being a 'place of retreat' may also be relevant in consideration of possible new uses.

3.1.4.16 ARCHITECTURAL VALUES

'Aesthetic – or architectural – value relates to the ways in which people derive sensory and intellectual stimulation from a place'. (Conservation Principles, p.26) A distinction is made between 'design value', meaning the aesthetic qualities generated by the conscious design of a building, structure or landscape, and 'artless beauty' which may arise from the action of natural elements on human works – sometimes identified in the perceived enhancement of a building through the patina of age. Both these types of value need to be considered at St Peters.

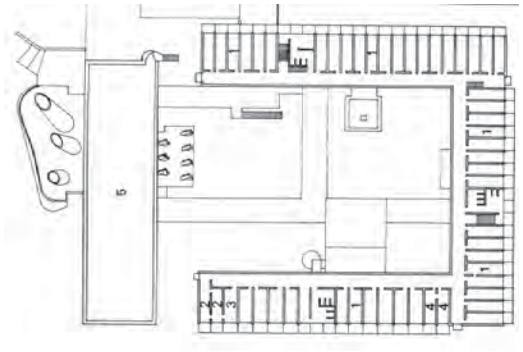
3.1.4.17 <u>Design Value</u>

St Peter's Seminary occupies a special, possibly unique, place in the canon of modern architecture in Scotland. The assertion that it is 'Scotland's 'most important historic modern building' is frequently made and still intensively debated and is itself evidence of the conspicuous position the building holds in the national consciousness. It may be legitimate to suggest its significance in



St Peter's Seminary 1968
Ground Floor Plan

Saynatsalo Town Hall 19451-52, Alvar Aalto
Courtyard level plan



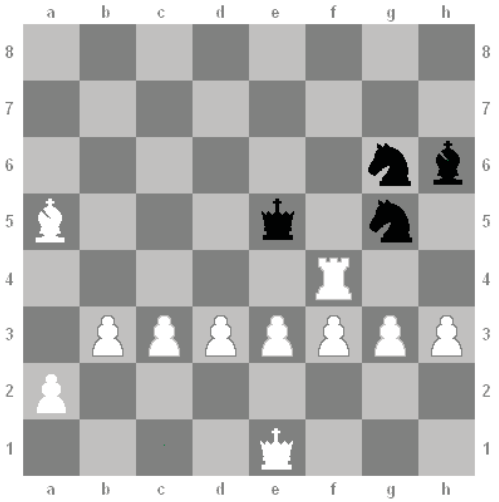
Monastery of Sainte-Marie-de-la Tourette 1956-59, Le Corbusier
Fourth Floor Plan

Scottish architectural culture is akin to, say, that of the key works of Charles Rennie Mackintosh, that earlier pioneer of national architecture and design. It is noteworthy that Metzstein himself has stated, 'the importance of Cardross, and of our work in general, was that it tried to re-define Modern architecture'. (Watters, p.32.)

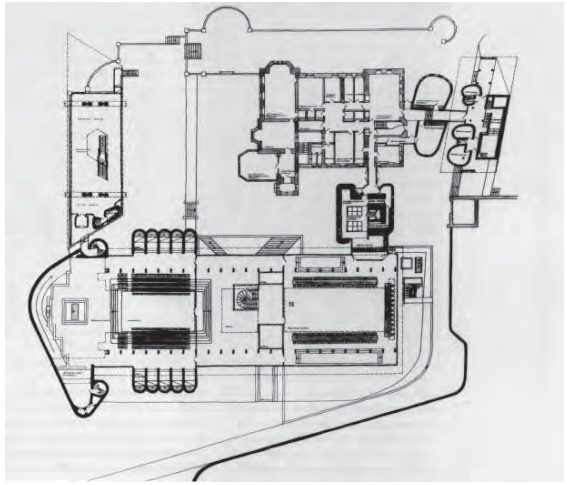
3.1.4.18 Reference has already been made to the exceptional position of GKC in relation to the mainstream output of the Scottish architectural profession during the period of its activity under consideration. Gillespie, Kidd and Coia was pre-eminent in its pursuit of an expressive interrelation of social organisation and architectural form. Their overtly dramatic compositional manner stands in critical opposition to the hygienic anonymity of 'orthodox' contemporaneous architectural production and this search for new meaning and expression reached its apogee at St Peter's where an unusually specific operational programme together with highly charged project aspirations found its locus in a spectacular setting. The examination of architectural values therefore begins with a consideration of the complex as a whole, then looks at each constituent building in turn.

3.1.4.19 <u>Group value</u>
A large part of St Peter's significance derives from its identity as a composition of buildings of differing but closely interrelated character. Even in their ruinous state it is clear that the form and juxtaposition of the buildings is anything but 'merely' functional – though of course the operational requirements of the brief were an intrinsic formative factor. The composition may be seen as a family of architectural forms, each highly charged and intensely specific. Including the original 19th century Kilmahew House, there were six distinct 'pieces' in all – the main seminary building, the teaching block, the kitchens, the convent's community rooms and the convent itself – insofar as the last two may be identified separately on account of their clearly differentiated formal expression.

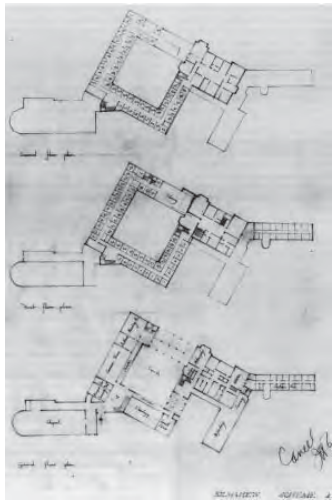
3.1.4.20 There are relatively few modern precedents of comparable potency. Weissenhofseidlung Stuttgart, Aalto's Saynatsalo Town Hall ensemble or his Seinajoki Centre and perhaps the Bauhaus group at Dessau might be cited. None of the above entail juxtaposition with a pre-existing building in quite the way that occurred at Kilmahew and it is also arguable than none involved a comparable landscape setting. In the case of La Tourette the neighbouring chateau building is too remote from the modern work by Le Corbusier to participate in the composition in an equivalent way.



A chess analogy



St Peter's Seminary 1968
Ground Floor Plan



Kilmahew House, proposed extension, second scheme, 1953 by Father McRoberts working with Jack Coia

3.1.4.21 The situation at Kilmahew is thus both dissimilar - in the sense that the individual buildings deliberately displayed markedly different architectural personalities - and more rich - in the dramatically charged contribution made to the ensemble by the natural *mis en scene*. The six pieces were placed in intimate proximity, as if engaged in an intense dialogue – inviting the analogy of some critical moment in a monumental game of chess, in which the virtually square containment of the immediate site itself becomes the chessboard. The king (the original house) is defended from the massed phalanx of pawns (seminary) by a single rook (kitchen block), the nearby nuns' community rooms (knights) turning this way and that, while on each side the scene is poised between the diagonal geometry of a pair of bishops (the convent and the teaching block).

3.1.4.22 A measure of the radical nature of Metzstein and Macmillan's solution may be gained from comparing the initial proposal by Jack Coia where a conventional cloister block is conjoined with the old house in an orthogonal relationship, with splayed wings housing the chapel and sisters' rooms - an arrangement that would both have obscured the identity of the house and eliminated the dramatic view westward towards the lake. (see Watters, p.36.)

3.1.4.23 Clearly the loss of Kilmahew House as the centerpiece of the composition diminishes its group value. In preserving the significance of the remaining ensemble as a heritage asset it would therefore be vital to ensure that this sense of buildings in dialogue that was achieved by Metzstein and Macmillan is neither further eroded nor suppressed. It provides an early and rare exemplar of dynamic modern contextualism – that is to say, the introduction of uncompromisingly modern buildings into a pre-existing historic setting - and demonstrates the potential for enrichment that such an intervention can produce in the hands of outstanding architects.

3.1.4.24 In the event that the now vacant space previously occupied by Kilmahew House itself – the now vital missing 'king' in the above analogy – were to be redeveloped (which this Conservation Plan explicitly does not rule out), it would be of critical importance that any replacement structure was sensitive to and appropriate for this pivotal role.

3.1.4.25 In formulating the architectural brief for such an intervention due consideration should accordingly be given to the 'disjunctive' function performed by the historical character of the old house in relation

Juxtaposition of old and new

The complex from the south-west showing how the seminary is kept within the tree line, leaving Kilmahew House roof line unchallenged.

to the GKC buildings. The frisson of that relationship derived from the close juxtaposition of old and new, and accordingly in any new scheme such a relationship should similarly be achieved through idiomatic resonance rather than literal resemblance. This would surely rule out any new building that attempted a GKC pastiche. On the other hand, a faithful reconstruction of Kilmahew House itself whilst theoretically conceivable, seems too improbable to warrant serious consideration. This suggests that any new development on the site of the original house should be *sui generis*.

3.1.4.26 Another specific issue to address would be the relationship of any such new structure to the surviving perimeter footprint of the old house, which though now consisting only of plinth courses of sandstone, remains a palpable trace of what originally existed on the site. It would seem essential to allow this to remain a legible outline and contain any new building within it – the new building perhaps echoing the cubic form of the original though preferably imposing its own geometry on the platform rather than 'shadowing' the outline of its antecedent.

3.1.4.27 Finally, with regard to any redevelopment in this pivotal location, the question of height should be carefully considered. It is clear that although the extent and bulk of Metzstein and Macmillan's interventions certainly dominated the site, they were careful to avoid challenging the height and roofline of the old house and its turrets. These were left to provide the vertical foil against which were read the horizontally proportioned slabs of the main GKC buildings. While it is not appropriate to be prescriptive in a document such as this, it may be noted that as the roofline of the original Kilmahew House was critical to its anchoring function in the ensemble, so accordingly a new intervention might also be justified in rising higher than the surviving GKC buildings.

3.1.4.28 <u>External spatial values</u>

The organization of the immediate environs of the buildings in spatial terms was closely derived from the operational programme and is rich in signifying the symbolic aspects of the complex. The protracted experience of reaching the settlement through its wild woodland environs would have already conveyed the sense of its remoteness and seclusion, and this quality of introversion would have been intensified by the detailed design of the arrival sequence. The seminary not being a public building as such, this experience was

View across moat to main entrance over bridge to cloister level of main seminary building

View of servicing courtyard with kitchen (centre), Kilmahew House (rear) and convent (right).

one of layered revelation rather than grand entry, involving an oblique approach from the south alongside a shallow moat across which a low bridge gave access onto the main building platform. Passing through the open cloister under the belly of the principal block the axis shifted again via a short rise of skewed steps to bring the visitor up to the porch of Kilmahew House – the administrative reception point.

3.1.4.29 Various metaphors present themselves in the reading of this presentation. Was the settlement a 'castle', a 'ship' or perhaps an 'island' ? Any such interpretation carries the connotation of a place apart, yet the evident shallowness of the moat itself and undefended character of the bridge suggested that the society within was 'protected' by faith rather than by force. Indeed the only other means by which the building was accessed here is the extern's chapel at the outer tip of the sacristy enclosure, where – again surely symbolically – the chapel itself 'stops' the water to make the connection between the outside world and the sacred offices within. In any event the symbolism of a religious community separated at the last from the world by water – which must be traversed to gain admission – would be an important feature to retain and reinforce in any new access arrangement.

3.1.4.30 The enclosed inner site was effectively subdivided by the kitchen block into two domains – the 'collegiate' U shaped courtyard with its lawn, trees and fine views north-west towards the lake, and a service area accessed via a separate ramped roadway that passed behind the rear of the main block. The clarity and significance of this arrangement is currently diminished as a result of the security fence blocking the main approach, making opportunist entry only available via missing staves in the fence opposite the narrow gap between the sanctuary and classroom block. Restoration of the original access sequence would be critical to the full appreciation of this significance.

3.1.4.31 The original effect of this subdivision of the site was emphatically to partition the environment of the convent, reinforcing its servant status, from that of the remainder of the complex. Again, the evidential value of this socio-spatial segregation is currently weakened as a result of dilapidations, causing the site to appear as a single entity, but its social and spatial subdivision needs to be recorded as a crucial determinant of the original layout. Indeed such was the rigidity of the social organization that the only interface

View of external spaces:(above) looking towards the teaching block across the main courtyard

(above) View through the framed void at Monastery of Sainte-Marie-de-la Tourette 1956-59, Le Corbusier

View from convent undercroft towards grassed platform of Kilmahew House

Retaining garden walls of the west terrace of Kilmahew House

(above View through the framed void separating the seminary from the teaching block

between the student priests of the seminary and the occupants of the convent was the kitchen servery, the linking corridor through Kilmahew House in effect functioning as a sort of social valve.

3.1.4.32 The relationship of the classroom block to the seminary itself is another highly charged space in the overall composition. Although their separation has a structural justification in allowing differential movement between such different buildings there is no doubt that more was intended than simply a technical exigency. Whilst the sanctuary and the classroom block are both 'closed' – or self-contained - forms in architectural terms the intimacy of their geometric relationship again reinforces the connotation of indivisibility between the principal elements of the trainees' experience – learning, recreation, contemplation and worship. (See further below.) At the same time there is a distinctly castle-like quality to the space itself, with its vertiginous proportion and narrowed outlook aligned precisely on the north-south axis. Again a parallel with La Tourette with its framed outlook to the landscape beyond is surely discernable.

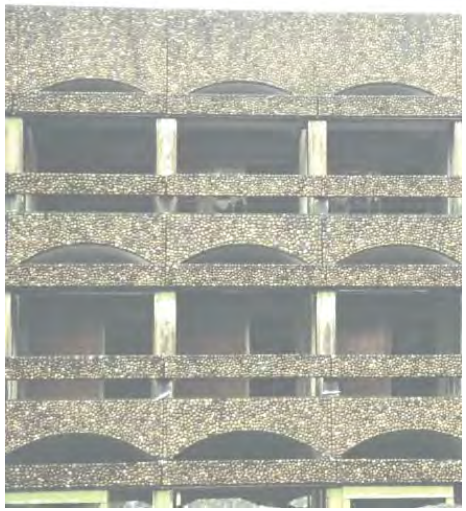
3.1.4.33 Other features of the original external spaces include the tree planting in the main courtyard and some hard paving. Notwithstanding the extensive devastation, there remains evidence of the granite setting used in various areas of the external spaces and also in the undercroft of the convent block. These finishes convey the sense of durability and permanence intended by the original design and should be conserved.

3.1.4.34 Finally, the remaining garden walls surrounding Kilmahew House are of critical significance in describing the extent of the original curtilage and demonstrating how despite the massive intervention of the seminary project they were left scrupulously undisturbed.

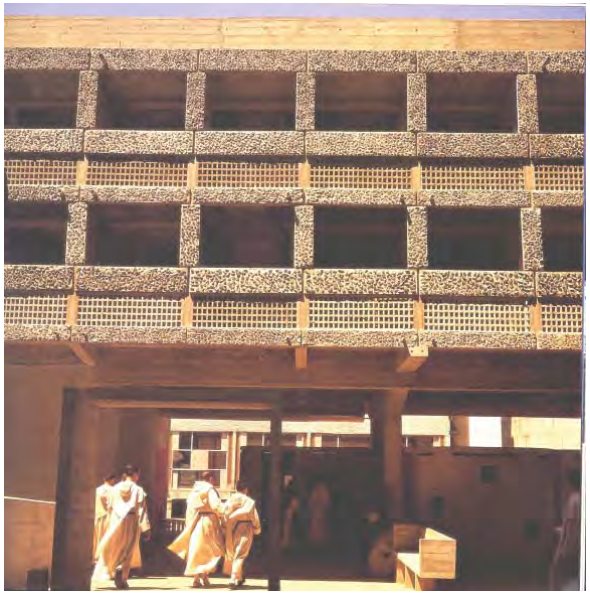
3.1.4.35 <u>Materiality values</u>
Among the many architectural values of the original buildings was their expressive and articulate use of a limited range of materials. This section analyses the principal materials used and considers their contribution to the significance of the asset as a whole.

3.1.4.36 Concrete
The material used to most versatile and dramatic effect through the complex was concrete.
It was employed in two principal forms and finishes – cast in-situ for

Villa Savoye south west facade, 1928-1930
Le Corbusier



Expressive pre cast concrete at St Peter's Seminary



Monastery of Sainte-Marie-de-la Tourette 1956-59, Le Corbusier
Exposed pebble panels

structural members (columns, beams and walls) or copings, where a boardmarked finish is employed; and in pre-cast panel components generally finished with a large gauge pebble facing. The quality of concrete construction was of a high order and provides an indication of the strategic as well as architectural intentions of the designers. The use of in-situ concrete for the structural carcass of the three principal buildings (seminary, teaching and convent blocks) and the separate manufacture of cladding by off-site precasting enabled a greater level of consistency and quality control to be achieved than might otherwise have been possible in what would in any event have been a difficult construction project. This is illustrated in the extent to which despite its prolonged neglect and exposure the concrete fabric now constitutes the main surviving material evidence of the original buildings. (As reported in the structural investigations, it is in fact not so much the concrete itself that is the cause of current difficulties and defects as deterioration of the fixings used to secure it.)

3.1.4.37 The 'politicization' of concrete has been a perennial theme of the Modern Movement in architecture, and Cardross seminary represents a particular position in this story. From its early use in pioneering structural applications such as bridges and industrial buildings, reinforced concrete became in the interwar period a symbol of liberation in modern architecture, embodying not only powerful evidence of technical progress but also an overlaid message of social progress as well. Such 'monuments' as the sanatoria at Zonnestraal Hilversum or Paimio, Finland, the Villa Savoye near Paris or the Highpoint apartments in London – and many others – projected an image of lightness, cleanliness and purity to contrast with the degradation, dirt and squalor associated with the 19th century city.

3.1.4.38 But this image relied upon the maintenance of their immaculate initial condition – an ideal which soon proved problematic. Indeed the constructional and expressional limitations of this concrete vocabulary had become clear to many modern architects even before the war and following Le Corbusier's innovations at Unite d'Habitation, Marseilles, Maison Jaoul and Ronchamps the architectural use of concrete began to take a quite different direction. It should of course be understood that concrete itself as a formless material consisting of cement, sand, aggregate and water has no particular character until designed for a specific application. By the early post-war period instead of the smooth, reflective, machine-like 'dematerialised' forms of the International Style concrete was being

Punched windows in the sister's parlour

Upswept timber roof of the sister's refectory

Rendered masonry of the side chapels

Structural timber in sanctuary roof

Timber used in flooring, panelling and staircase guardings

re-interpreted in terms of its constituent reality – stones and cement – to create a new architectural vocabulary characterized by weight, roughness and texture. In place of lightness and abstraction came mass and presence.

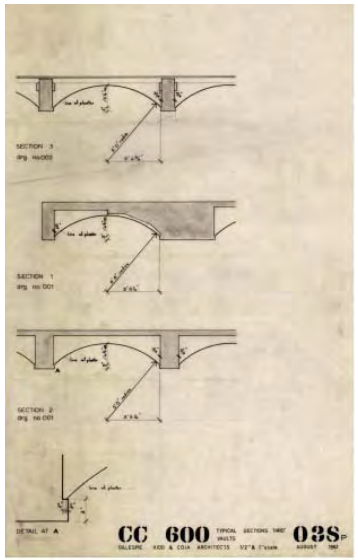
3.1.4.39 Cardross belongs firmly within this later interpretation, but is distinguished by the unusual richness of its expression, especially the large variegated pebbles used in facing the pre-cast cladding panels and the boardmarked finish to the diaphragm walls of the classroom block. This gives a particular bespoke character to the external envelope of the main buildings – which is still evident in their sense of specificity, rootedness, or belonging to the local environment. Such a stance in architectural terms could be seen to be a clear and direct repudiation of the corporate anonymity characterizing mainstream architectural practice of the time.

3.1.4.40 Rendered masonry

Wherever curvilinear geometry was employed in the building plan rendered masonry is used. This enabled dramatic and expressive forms to be achieved as a foil to the prevailing rectilinear discipline of the main enclosures. Thus rendered cavity brickwork was used in the formation of the sanctuary and related spaces, the side chapels, the nuns' refectory and common room, the kitchen block with its rounded corners and the subsidiary building in the undercroft of the classroom block. Deeply splayed reveals of the 'punched' windows were also achieved in render – emphasizing the thickness of the fabric penetrated. As a traditional Scottish building technique harling imparted an indigenous identity to the seminary – being the one walling material built up literally from the (Scottish) ground. It is generally used in the external facing of cavity brick walls, while smooth plaster render was used in the interior. Two exceptions are the external smooth rendered blockwork gables to the main building and convent block.

3.1.4.41 Timber

Timber was used extensively and in a variety of ways throughout the complex. It was used structurally to dramatic effect in the roof beams of the sanctuary (main building) and lecture theatres (classroom block). It was used in narrow laths as a soffit lining to the classroom block, and in a similar manner to the upswept roofs of the nuns' common room. It was used in frames and mullions in windows and screens generally, and in composite elements such as the longitudinal dado 'cradles' which were devised to form the screen




Original GKC Drawing of Vaulted Ceiling

View of vaulted ceilings, formed with metal hy-rib section, and showing also the timber cradle screen header

heads along the cloisters. Additionally it was widely used internally in flooring and in a natural finish for doors, guarding panels and fittings. Wherever it was used the timber and joinery work imparted a warm and humanizing character to the buildings, thereby providing an important counterpoint to the 'geological' quality of the concrete.

3.1.4.42 Not surprisingly it is the timber out of all the principal materials used which has been most vulnerable to the depredations of weather, vandalism and neglect. However, some evidence does remain of most of the forms of use indicated above. Whether for documentation or conservation reasons it would be desirable to salvage examples of each use type while still possible.

3.1.4.43 Metalwork

There was little visible use of architectural metalwork in the buildings. Its most conspicuous use is in the staircase and ramp handrails in the sanctuary and at the central staircase at lower level. The detailing is minimal and unmannered to the point of seeming elemental, even primitive, as though these applications could have been derived from ancient medieval practice. It appears that even here a message of 'noble poverty' was intended. The other use of light metalwork was of course in the formation of the vaulted ceilings to the galleries and trainees' cells. Much of this is now visible as a result of damage to the flooring and rendered coatings themselves. The use of this detail was a key factor in the formation of the buildings' character, translating the arched outline of the individual bays into an extruded section through to the interior, and would be a vital element to consider in any consolidation or conservation project.

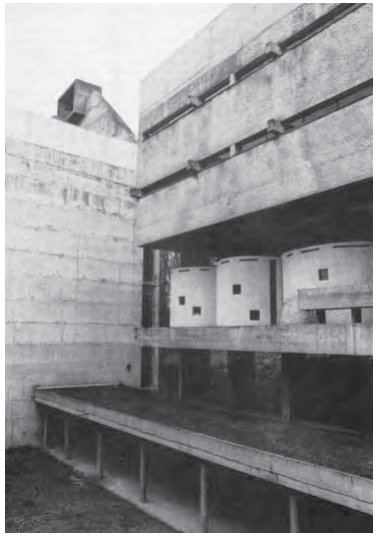
3.1.4.44 Summary

Despite the fact that none of the principal materials described above were intrinsically 'valuable' the way they were used created a distinctive architectural language for the complex and their variety of expression contributed to a sense of richness that intensified the architectural character of the buildings. This has clearly been significantly diminished by the extent of damage and any appreciation of the materiality value of the complex would be limited without either representative or full reinstatement.

3.1.4.45 <u>Building by building analysis of significance</u>

The purpose of this section is to identify those aspects considered to be of most significance through an analysis of the range of values in

The seminary's two main spaces, the chapel (left) and the refectory (right)



Monastery of Sainte-Marie-de-la Tourette, Eveux-sur-l'Arbresle, 1956-59, Le Corbusier

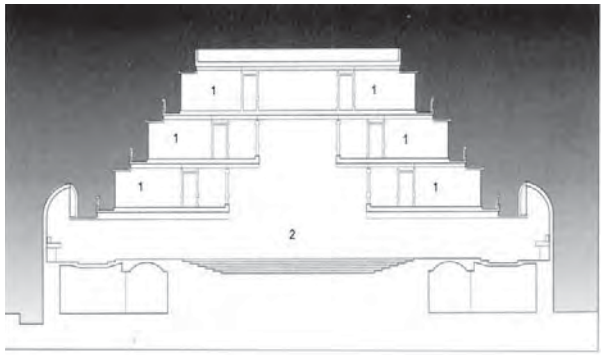
each of the seminary buildings. (The coverage is not intended to be exhaustive, as detailed consideration of each element is included in the chapter dealing with consolidation options.)

3.1.4.46 1. Main Seminary Building

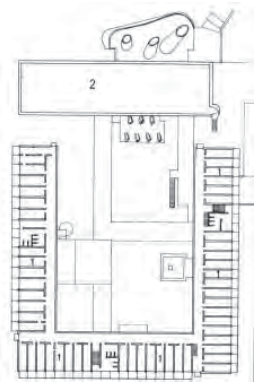
3.1.4.47 Symbolic values
The main building comprised two major spaces – the chapel and the refectory divided by a central stair and landing core which give access along galleries to the bilateral tiers of cellular rooms. The two main spaces thus opened to each end, the refectory northwards to the external stair (wrapped around the boiler flue) and woodland beyond, the chapel southwards towards the sanctuary. Though the internal screens enclosing these two major spaces have disappeared it is till relatively easy to read the spaces themselves.

3.1.4.48 Reference to the work of Le Corbusier is a recurrent theme in the literature on St Peter's, and the architects themselves are candid in recalling their inspiration from this great architect of the 20th century. Specifically the example of La Tourette is commonly quoted as the key antecedent. This is self-evident in the similarity of programme, the seclusion of the site, the asceticism of its community, and the expressive use of materials – all of which along with La Tourette's own rich array of historical references adds an international dimension to the significance of the buildings at Cardross.

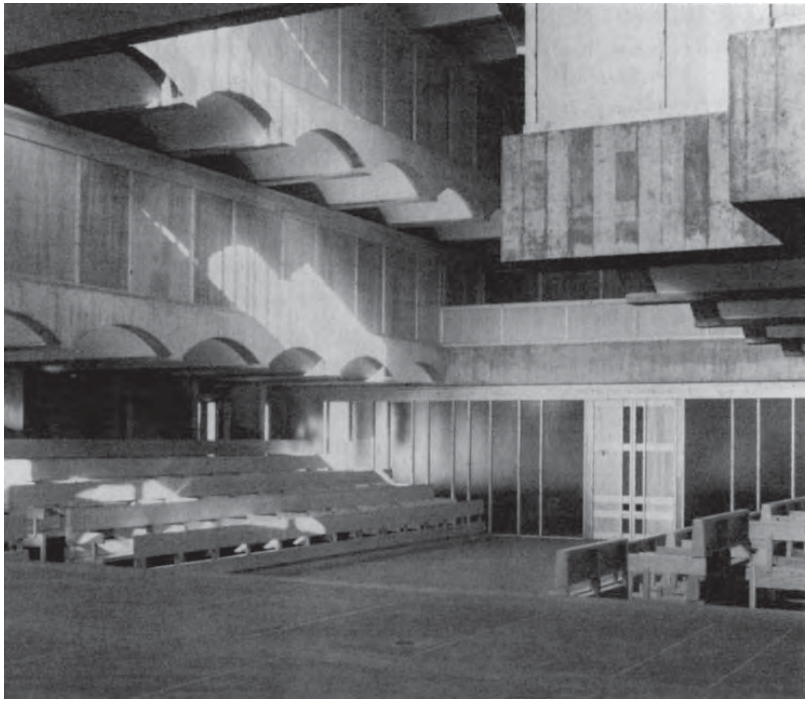
3.1.4.49 But there are also aspects of the Metzstein/ Macmillan design that may be differentiated, and which by so doing contribute further to the specific significance of their scheme. This concerns the sectional organization of the main building and the import intended by its fusion of secular and sacred functions – as explained by Metzstein himself. Whereas Le Corbusier, following monastic precedent, separates the church and its related spaces – chapel, crypt and sacristy – from the secular buildings of his community presenting the church as a discrete object, Cardross attempts a more ambitious arrangement whereby the residential and refectory elements are integrated with the chapel into a single architectural organism. This is often explained in terms of the contemporary use of the 'megastructure' in various Scottish (and other) projects of the period, notably the Brunswick Centre, Bloomsbury (1967-72), Cumbernauld Town Centre (1955), Our Lady's High School (1963-64) and Cumbernauld Technical College (1972-75) – the latter two both by Metzstein and Macmillan themselves.




Section through main seminary building
1. Student study rooms
2. Chapel




Fifth Floor Plan of La Tourette
1. Accommodation cells
2. Chapel-separate



The 'inhabited roof' view of chapel showing formation of the space by aggregation of individual students study rooms

3.1.4.50 But the import of this arrangement at Cardross assumed an altogether more symbolic significance. Instead of La Tourette's implicit separation of sacred from secular, and the 'privileging' of the former through departmentalization of the plan, here what is being suggested is that these two aspects of the young students' existence are inextricably fused. The architectural form is used specifically to reinforce the core purpose of an institution seeking to inculcate in its trainees a sense of the unity of their life and their faith. With the necessary exception of the sacristy itself - since as Macmillan points out 'you cannot plan a bed over an altar' - the priests' cells literally provide the protective carapace for their places of worship and congregation, the community's shared spatial asset being created and secured as it were through the sum of its individual members' contributions. Thus, in a variant of the architects' well known signature device 'the inhabited wall', Cardross exemplifies 'the inhabited roof'.

3.1.4.51 This integration of secular and sacred may be seen to be taken a stage further in the detailed planning whereby the screen wall between the chapel and the circulation core is located on a line already within the stepped section of the chapel itself. It is as though the religious purposes of this space symbolically and literally pass beyond its physical envelope. From the hall side the implication is that by descending the steps towards the chapel entrance the priests were preparing themselves to enter it. Conversely from the chapel side the implication is that its sense of religious observance extends beyond the space where it is celebrated.

3.1.4.52 Unless any re-use of the building were similarly to involve a religious content, which seems unlikely, the implications of the above considerations would seem to be more of spatial than symbolic significance – suggesting than in any alternative formulation neither should the main spaces 'created' by the cellular structure overhead be further subdivided, nor should the individual spaces above be 'knocked through' to create larger combinations. This would argue against a previous suggestion that in terms of purely technical analysis it would be structurally feasible to remove every third crosswall. In other words it is the dramatic contrast between the private cellular units and the large social space they create by aggregation that is of significance. It is however considered that this need not preclude conjunction of adjacent cells by means of interconnecting doorways, provided the spatial identity of each cell remains legible.

Staircase and boiler flue 'closing' the ziggurat composition

Endlight- North end of the refectory

Ondulatoires at La Tourette

3.1.4.53 This is also not to say that the main spaces within the ziggurat form could not accept the introduction of other objects, only that in order to preserve the sense of the space as a whole any such intervention should read as an object within it, rather than an element subdividing it. For example, in the event that lift access to the upper levels was proposed, it would seem most appropriate to introduce this as a 'vertical sculpture' on the refectory side of the existing stairwell, where vertical circulation is already part of the plan.

3.1.4.54 Architectural values - Light
The above discussion of architectural symbolism leads directly to consideration of the use and manipulation of natural light in the main seminary building. The devices employed can be broadly categorized in relation to whether it is admitted as endlight, sidelight, clerestory light or toplight.

3.1.4.55 Endlight - As Metzstein has noted, the sectional form of the main building, whilst in one sense 'generic', was absolutely not intended to signify the concept of infinite extendibility. The closure of this form is thus emphatically marked at each end by the external staircase/ boiler flue and sanctuary respectively. The retention of these elements in any future scheme is intrinsic to the significance of the block as a whole.

3.1.4.56 But the manner of closure contributes importantly to the significance of the building in the different ways natural light is admitted. At the north (boiler house) end the internal cantilevered tiers stopped short of the envelope line both to signify the finiteness of the ziggurat section and also to allow the end glazing to spread across the girth of the gable itself, revealing its pyramidal section. The architectural treatment of this glazing is highly significant. The use of randomized mullions (borrowed certainly from Le Corbusier's ondulatoires) was intended to signify the continuity of opening associated with the larger social spaces that lay adjacent and thereby 'scramble' any reading of these horizontal slices of light that might suggest subdivision by conventional windows. The loss of this randomized glazing in its entirety now prevents a proper reading of the architectural envelope.

3.1.4.57 Sidelight – The use of randomized mullions as a signifier of social space occurs again along the sides of the building at ambulatory level, but in the upper levels the cellular structure of the residential floors the light is 'individualized' through the repetitive screens that

above and below
Mrs Manorama House Sarabhai's house , Ahmendabad, India, 1955 Le Corbusier
Vaulted section

Top light filtering through timber beams of sanctuary roof

Sidelight 'pulled through' by the vaulted section

The rooflight over the central staircase

enclose the trainees' cells. It is here that the vaulted section of the cell ceilings, springing from the head of the door and window screens, enables this light to be 'pulled through' to illuminate the galleries and central space generally. For this reason the vaulting itself with its reflective white coating, is vital to an authentic reading of the interior. Parallels with Le Corbusier are again in the vaulted section.

3.1.4.58 Clerestorey light – This specialized form of lighting was reserved for the ten side chapels, where daylight is introduced through cowled openings at high level, again no doubt borrowing a motif from Le Corbusier – in this case Notre Dame du Haut, Ronchamp. Here - as also in the case of the sanctuary – concealment of the source of light is used to signify the 'mystery' of the functions being housed.

3.1.4.59 Toplight –
The fourth means by which light is manipulated – toplight – is perhaps the most imaginative in the way it enriches the symbolic significance of the design. Rooflights are located in key positions over the central stairwell and above the sanctuary. In the former case the social significance of the central core is indicated, this light eventually reaching down to the lower level of the entry passage which is marked with additional light wells in the ground floor. The inference here is secular.

3.1.4.60 At the sanctuary however an altogether different effect was obtained. Here the ziggurat section of the main building is terminated by the sculptural plan form enclosing the crypt, sacristy, extern's chapel and sanctuary itself. Through a large cut-out in its roof - supported by composite timber beams – a glazed lantern, made as if in a rotated and miniaturized version of the ziggurat form of the building itself, brought light down over the altar. Such was the complexity of the array of roof beams and indeed the framing of the lantern itself that the actual source of light would have been sufficiently unclear as to seem as if concealed. The cantilevered sanctuary floor, separated from the backwall by the ramp well to the crypt, appears suspended in space becoming as it were a metaphor for 'the edge of the world'. The dramatic effect of this arrangement is greatest (no doubt intentionally) in long views from within the chapel towards the celebrant, where by virtue of the backwall's avoidance of corners and unaccountable luminance, the altar cross was made to appear silhouetted as if against a horizon of clear sky.

Top light in the sanctuary, washing the curved rear wall and silhouetting the altar cross

The teaching block nearing completion

3.1.4.601 Whilst the contrivance of indirect light to the altars of churches has been a leitmotif of religious design for centuries, there can be few modern examples to compare with the brilliance of St Peter's Seminary. But the appreciation of this achievement is crucially dependent upon retention of the sanctuary roof and rooflight, and maintenance of the white plastered rear wall.

3.1.4.62 Architectural values - Interior space
The principal spatial partie in the main building is the extreme contrast between the constrained cellular character of the priests' rooms and the amplitude of the principal collective spaces – the refectory and the chapel. This dramatic and symbolic distinction between community and privacy (though reputedly diminished somewhat by poor acoustic separation) is a key attribute of the architectural character of the building.

3.1.4.63 But connecting the largest with the smallest spaces there are many intermediate areas of considerable drama and subtlety – the low level and ground floor cloisters, the pivotal central stairwell, the upper galleries, the side chapels and of course the virtuoso array of spaces around the sanctuary with its coiled extremities – the sacristy, crypt and associated processional ramp, the extern's chapel, the outdoor shrine and the two spiral staircases plausibly echoing the turrets within the old Kilmahew House.

3.1.4.64 Altogether the building contains a remarkable range of spatial typology, and much of its architectural value lies in the preservation of the distinctive character of each type. In its current gutted state and consequent loss of numerous modes of enclosure these values have been seriously though not completely eroded. In formulating any future interventions care should be taken to ensure that the distinctive character of each of these spatial experiences is not contradicted or impaired.

3.1.4.65 2. Teaching Block
Architectural values – planning
The planning of the teaching block is of considerable interest as a synthesis of functional requirements and contextual site considerations. What might have been conceived as a simple rectilinear box is given a dynamic rhomboid form thereby dramatizing its relationship both with the main seminary building and with the larger landscape setting. At the east end its separation from the parallel geometry of the sanctuary produces a vertiginous spatial

crevasse bridged and balconied from the main building. At the west end the upper lecture room projects far out over the escarpment as if transmitting its geometric energy into the landscape beyond.

3.1.4.66 While the lower level of the common room the plan outline carefully observes the outline of the retaining wall of the old house, the interior planning above exploits the oblique geometry at both ends to form four separate classrooms with tiered seating – the outer two reflecting this section in the splayed external soffits that 'terminate' the building as an architectural form.

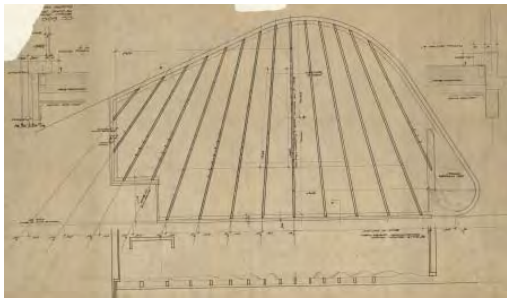
3.1.4.67 Original photographs and drawings show that the diagonal geometry was also taken up into the treatment of the triangulated copper roof coverings and rooflights to produce a vigorous material pattern of the planning below. Whether all these moves are regarded as ingenious or simply willful, there can be no doubt that the result is a building of powerful individual identity.

3.1.4.68 Architectural values - structure
The teaching block although smaller than the main seminary building was no less structurally ambitious. Raised on four massive piers the building is presented as a series of floor trays held above a pillored concrete plinth. The plinth itself employed the ondulatoire idea in structural terms, using a randomized arrangement of concrete piers to enclose the library and support the 'piano nobile' above that was the students' common room. The cantilevered upper level, especially along the south side where it is extended by the oblique plan geometry, shows extraordinary structural audacity. The long sides were conceived as giant vertical beams stiffened by their intermediate concrete diaphragm walls expressed externally in diagonally shuttered concrete panels. The top and bottom chords are splayed in cross section, providing a gutter and a skirt respectively. The technical virtuosity of this reinforced concrete structure is perhaps the principal architectural value of the building, and fortunately remains essentially intact despite its ruinous condition elsewhere.

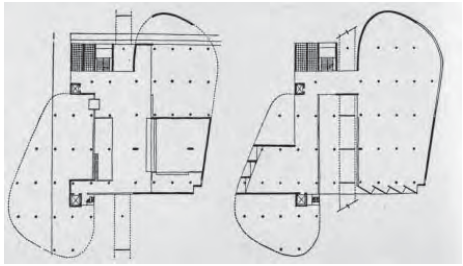
3.1.4.69 However, the other structural elements, now largely lost or collapsed, were also of considerable interest. The timber roof structure was comprised of a series of glulam beams supplemented by an intermediate system of diagonal timber lattices which also provided the arrangement of internal lighting to the upper level.

The teaching block oversailing the original site ramparts

Timber lattice beam roof structure of teaching block



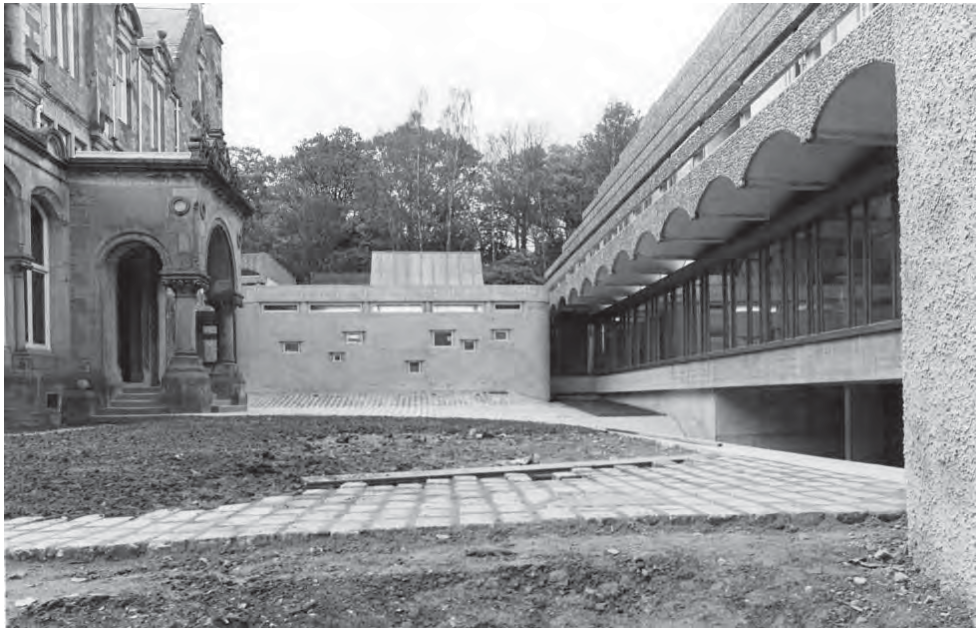
Original GKC drawing of Sanctuary beam layout



Carpenter Centre for Visual Arts, Harvard University
Cambridge, Mass: Le Corbusier 1961-64


Community and Refectory rooms of Convent block

The convent block with its social spaces separately expressed



3.1.4.70 It will be seen that, just like the main seminary building – indeed perhaps even more so - the teaching block was a highly bespoke architectural conception. Every aspect of the design, from the structural partie to the internal planning and material detailing, was uniquely customized to the project. This imparts a very high order of architectural significance to the building indeed.

3.1.4.71 3. Convent Buildings
Architectural values
These buildings consist of two distinct components – the single storey refectory and common room, and the adjacent two storey residential block that closes the site ensemble on the north side. The former, though tiny, are intensely characterized in architectural terms. The rooms are expressed individually as two lobes between which passes the access corridor to the main building in a planning arrangement that lightly recalls Le Corbusier's Carpenter Centre for the Visual Arts in Harvard – albeit in miniature form. The sectional treatment of the buildings is exalted, each being given its own upswept roof and clerestory in a manner surely adapted from the same architects' design for St Benedict's, Drumchapel.

3.1.4.72 The residential block, raised above several cave-like rooms at ground level provided eight bedrooms in a cellular arrangement resembling the main seminary building, though inflected to a parallelogram format to suggest its free standing status and formal dissociation from the old house. Less individualistic than the other buildings the convent nonetheless remains of architectural interest for the manner in which it uses elements and motifs from elsewhere in the complex to create a distinct though subsidiary identity that is clearly part of the family of architectural forms.

3.1.4.73 4. Kitchen block
The kitchen block, although of modest architectural interest, performed a vital function, not only in the operational sense of serving all three residential buildings – the seminary, the convent and the old house – but also in providing the socially segregating element between them. Built simply of rendered cavity brickwork, with the inward sloping cast in-situ coping employed elsewhere, the block acted as the physical separation between the domain of the priests and that of the nuns. Though now roofless and dilapidated, the evidence of its presence is an important aspect in understanding the functioning and social organization of the College.

Current view looking from a former student study room

3.1.4.74 Artless Beauty

The concept of 'artless beauty' – that is the fortuitous enhancement of a place through the actions of time or elemental forces – requires some consideration in relation to St Peter's on account of its current state. There is evidence that to some observers the ruinous appearance of the seminary that has resulted from years of abandonment carries a sort of picturesque or elegiac potency. Photographers have attempted to capture the 'poetry of the ruin' and debate has been joined as to whether the seminary is now more properly understood and represented in terms of its present than its original state, and thereby be deliberately recognized as 'a modern ruin'. Similar claims are made in connection with the surrounding site, which through the same process of neglect has been transformed from a designed landscape to become a rampant wilderness.

3.1.4.75 Whilst this proposition may appear to have some plausibility, more considered scrutiny may suggest it is not without flaws. For one thing, the import of artless beauty is difficult to square with the gratuitous vandalism that accounts for much of the current condition of the site. This is not the patina of age, or even the innocent effect of nature – it is gross and willful violation of property. There are also grave health and safety considerations that make the concept of a 'do nothing' or 'let it be' option quite untenable. The related proposal for a 'stabilized structure' is discussed elsewhere in this document.

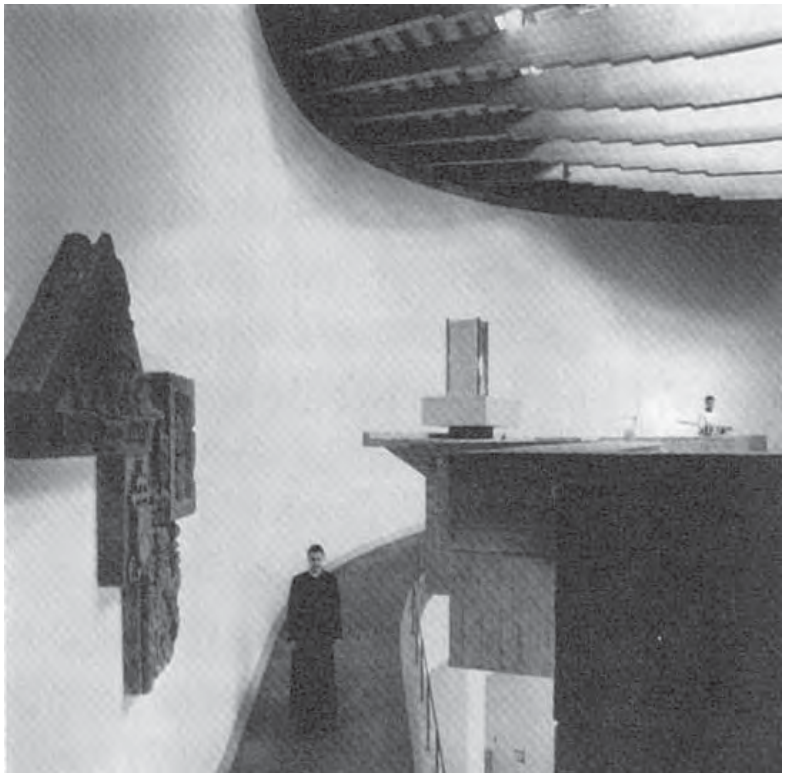
3.1.4.76 But there is also a question as to the value or significance illustrated by the seminary's current condition. It may in certain circumstances be possible to identify heritage significance in destruction where for example this has resulted from an act of war, a famous battle or an important historical event. In such cases the destruction is an integral and causal result of the significant event – and thus literally 'illustrates' it.

3.1.4.77 The change of religious practice that brought about the evacuation of St Peter's by the Archdiocese may be regarded as a 'significant reason' for its initial disuse. Yet this would not necessarily lead to abandonment and ruin, which could be regarded as a contingent rather than an inevitable outcome of that change of practice. Many historical buildings survive discontinuation of their original use, and indeed much architectural heritage is characterized by properties and sites serving different purposes to their initial ones. Whilst the problems of fitting a sustainable new use to St Peter's should not be

War time fete at Kilmahew House 1917, Helensburgh Library

War-time fête at Kilmahew 1917 (Text page 24)

Carving in altar stone



underestimated, loss of original use would not necessarily or normally be regarded as sufficient justification per se for the destruction of a significant building.

3.1.4.78 The value of artless beauty that might be invested by some in St Peter's as it currently stands therefore needs to be tempered by careful evaluation of this significance in relation to the gratuitous circumstances that have contributed to its condition.

3.1.4.79 COMMUNAL VALUES

'Communal value relates to the meanings of a place for the people who relate to it and whose collective experience or memory it holds. It may embrace symbolic, social and spiritual values.' (Conservation Principles, p.28).

3.1.4.80 Social Values

The considerable social interest of the site is documented in detail in the Appendix, see 11.2 Site History and 11.3 Chronology.
There is evidence still available in older members of the local community that Kilmahew House occupied an important place in the social life of Cardross until it ceased to be a family residence. Peoples' recollections of visiting the house, of garden fetes and other seasonal events provide colourful accounts of a type of country estate lifestyle that has become increasingly rare. There appears to have been a strong culture of respect for the resident family and its patrician ethos and conduct. The dedication and discipline of working community on the estate, notably the team of gardeners, is also consistently mentioned. Whilst these collective memories are now attenuated by the loss of the house itself, the beneficial use of the site for general recreational amenity has become an important social value of the property in its own right. While the future of the seminary remains uncertain and access to it may require restriction, this social value of the estate as a country park must be identified as one of the most significant aspects of the asset.

3.1.4.81 Spiritual Values

The religious purposes that motivated the original St Peter's Seminary project and the sacred nature of some of its functions confer a spiritual value on the site and its buildings notwithstanding its current condition. This spiritual significance is not, or should not, be ultimately dependent on the specific religious faith (or absence of faith) of visitors or observers. In a country where freedom of

Kilmahew Burn, 2007

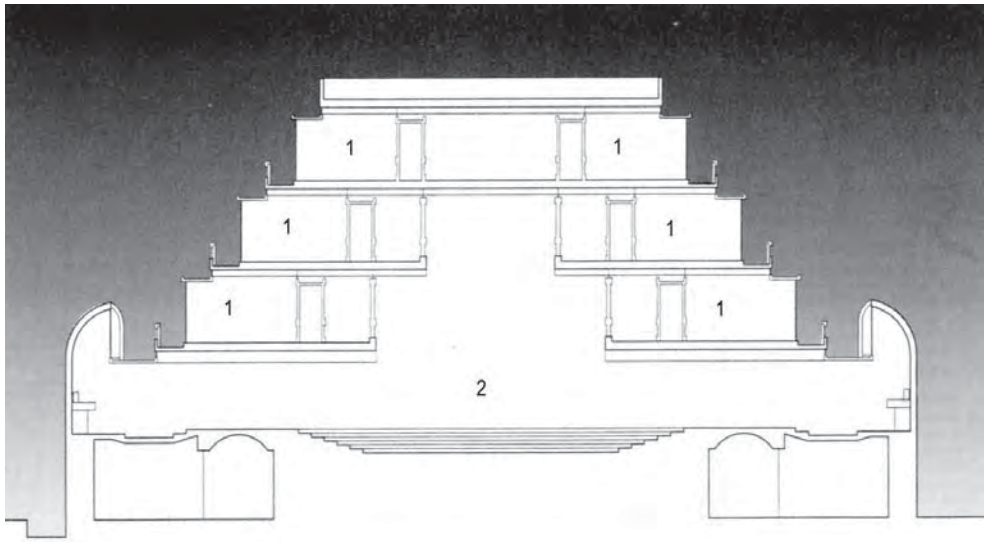
religious practice is accepted as an inalienable human right there is a reciprocal understanding that the spiritual significance of sacred places should be accorded no less respect by those who may not share the specific faith represented by them.

3.1.4.82 The fact that neither of the original architects is known to have been religious may be noted in this context – together with the reasonable assertion that this in no way diminishes the assessment of spiritual values in the building. It is surely this consideration of its spiritual dimension that makes the willful desecration of the buildings all the more obscene. An equivalent degree of vandalism and damage in a secular environment such as say a housing estate or school while being no less reprehensible, would not, one feels, carry the same sacrilegious connotation.

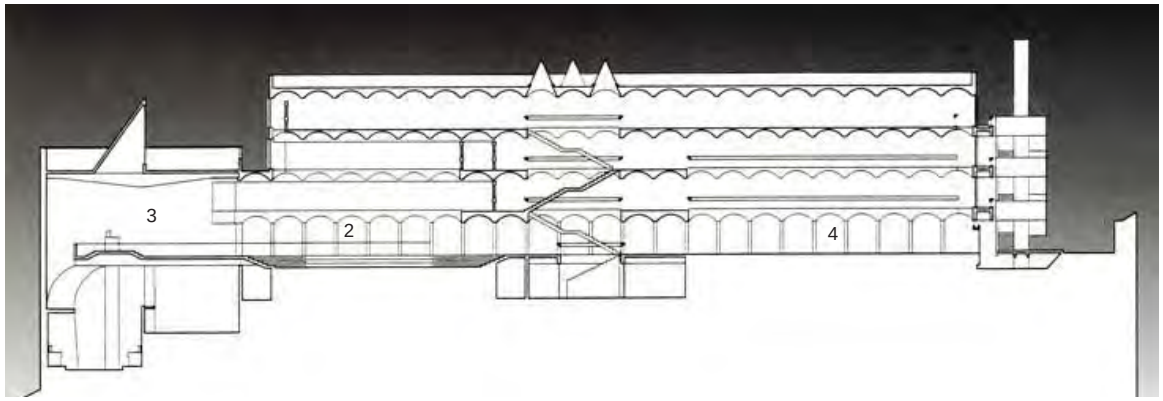
3.1.4.83 At Cardross this spiritual quality could be extended beyond the seminary complex to embrace the numinous qualities of the setting itself. Anecdotal evidence of visitors' experience of the site suggests that many ascribe a powerful and moving aspect to the natural setting and its capacity to instill feelings of awe and introspection. These qualities are both vital and elusive and require particular consideration and care in considering an appropriate conservation response.

3.1.4.84 Interventions in the setting that might be regarded as entirely acceptable in a more secular context require particular critical evaluation here in order to ensure that incompatible or incongruous development in relation to the spiritual qualities of the building and its setting is avoided. It is however arguable whether this consideration may be deemed to apply to such a degree with the seminary in its derelict state – or if the example of locating a discordant use adjacent a disused church or 'holy place' is still comparable.

3.1.4.85 Finally there is also a communal value to be attached to the St Peter's diaspora, the surviving erstwhile members of the seminary's resident community, whether former students, or sisters who have subsequently relocated in Glasgow and the West coast, or further afield. This dissemination of the Church's mission in the wider community could indeed be regarded as the real spiritual legacy of the original project.




Diagramatic section through main block. 1. Student rooms, 2. Chapel




Diagramatic long section through main block. 2. Chapel,3. Sanctuary, 4. Chapel

## 3.2 STRUCTURE

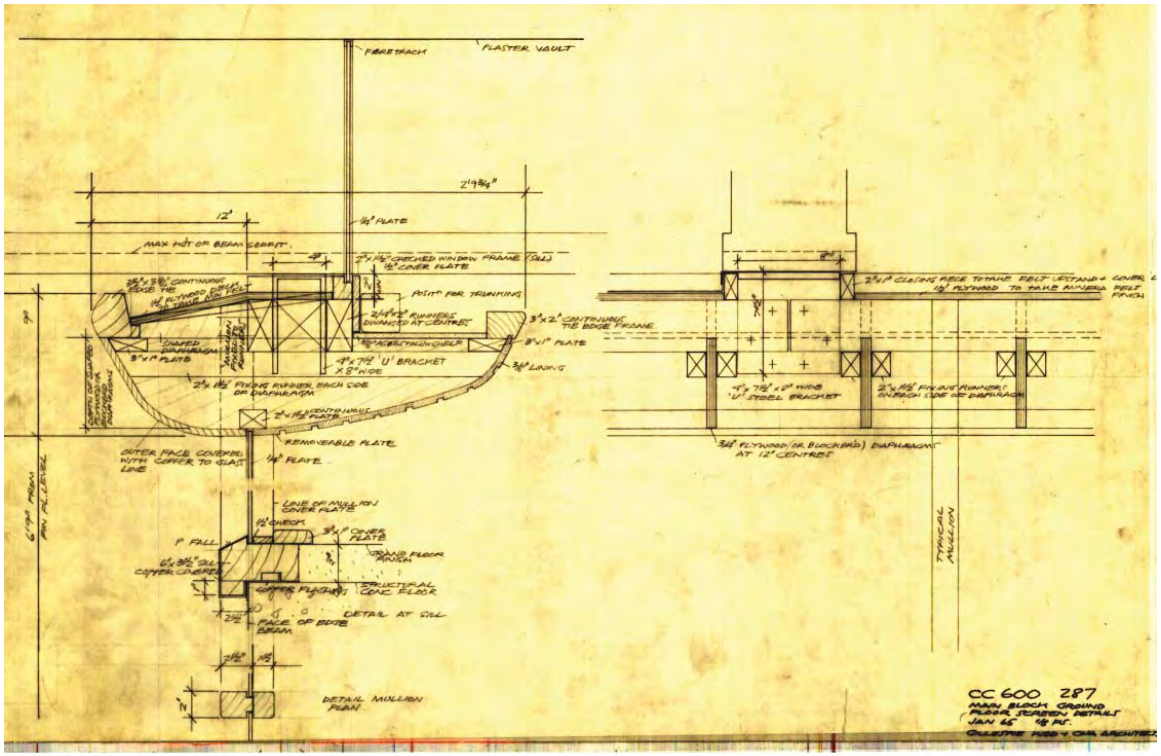
3.2.1 The use of in situ reinforced concrete as the dominant material to construct the principal structural frames in these buildings has allowed the designer to express the robust form of the structures and readily expose both external and internal elements. In the Main Block the internal main grid beams and gallery cantilevers supported on slender columns clearly express the structural form. The massive balanced cantilever beam walls to the main facades of the Teaching Block are profiled to define their truss form and patterned with timber board panels. The double balanced cantilever form is again used as the principle main frame form on the Convent Block.

3.2.2 The structural form is also very apparent in the external staircase located at the end of the Main Block to create an open, sturdy, robust staircase cantilevering off the flue/service riser.

3.2.3 The external zigguarut like shape of the Main Block shares similar structural stepped form as the Brunswick Centre, Alexandra Road and Whittington Estates. The massive internal space within this block reflects the external form and was made possible by the use of in situ reinforced concrete construction.
The in situ concrete rib and clay pot floor within the Teaching Block utilises this relatively lightweight form to span unsupported between the main façade truss walls creating a totally free space below.

3.2.4 The use of exposed aggregate cladding panels was becoming popular in the mid 1960s with many industrial pre cast system residential blocks (Large Panel Systems) being built in many cities in the UK. The Cardross cladding panels provide a very uniform coloured, patterned and textured finish to the Main Block and Convent Block facades; such uniformity and evident quality control in the manufacturing process being one of the perceived benefits of using off site products. The use of a significant proportion of the factory made façade elements would presumably also have helped maintaining construction progress on site in adverse or inclement weather conditions.

3.2.5 The designers would have envisaged, as was often the case in the early 1960s, that selecting reinforced concrete (in situ and pre cast) as one of the main façade treatments would have provided maintenance free durable external finishes.




Trough detail of glazed refectory screen indicating concealed service routes

**3.3 3.3 SERVICES**

3.3.1 The architects were intent that the services should be carefully concealed and the elements of the building expressed uninterrupted by light fittings, radiators and so on.

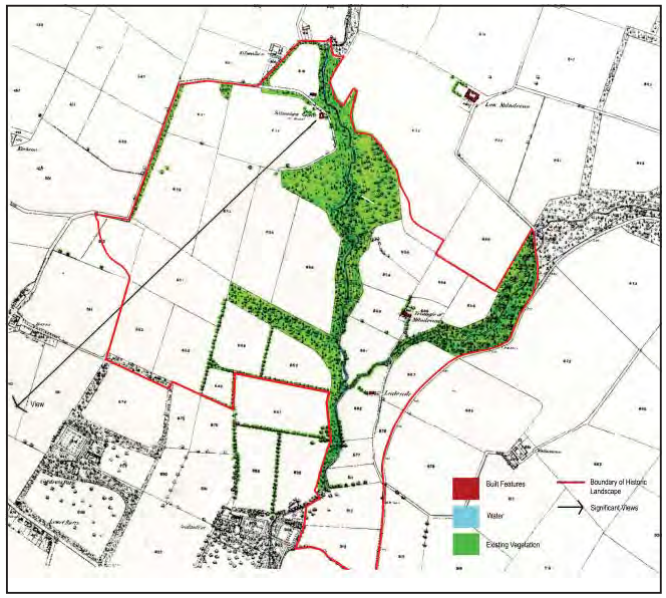
3.3.2 This defined the approach to the services, which in places can still be seen to be very thoroughly integrated into the fabric.
Unfortunately the mechanical services in particular did not perform at all well. Both personal recollections and the literature note that the building was usually very cold.

3.3.3 Poor construction, especially sealing around the large areas of glazing, and heat loss through the fabric were incompatible with the relatively modest convector heating system.
Natural ventilation, whilst a laudable strategy in the current climate of energy conservation, was not well controlled and would have contributed to the uncomfortable conditions in winter.
On hot summer days however, the easy availability of lots of large, opening windows, the exposed concrete soffits and the open core would have been very successful at preventing overheating. This is confirmed by the evidence we have found.

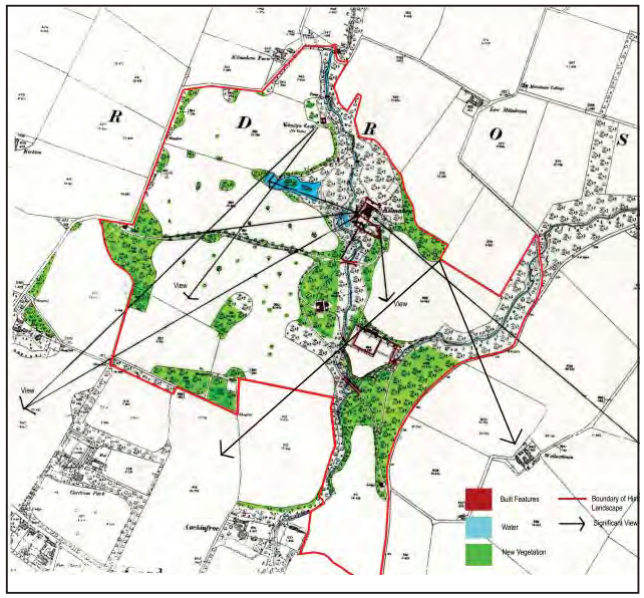
3.3.4 Natural light was used both in the secular and spiritual sense and is one of the great successes of the project, one that can be enjoyed a great deal even in its current condition. Artificial lighting was generally concealed and indirect, with uplighting to the coffers which could enhance and also substitute effectively for daylight.
Despite some of the above, the approach to services in these buildings draws much closer comparison to what we try to achieve now than almost all of its contemporaries.

3.3.5 The site was quite self sufficient, natural light was prioritized over artificial, and exposed mass combined with natural ventilation provided a means of heating and cooling without any energy input.

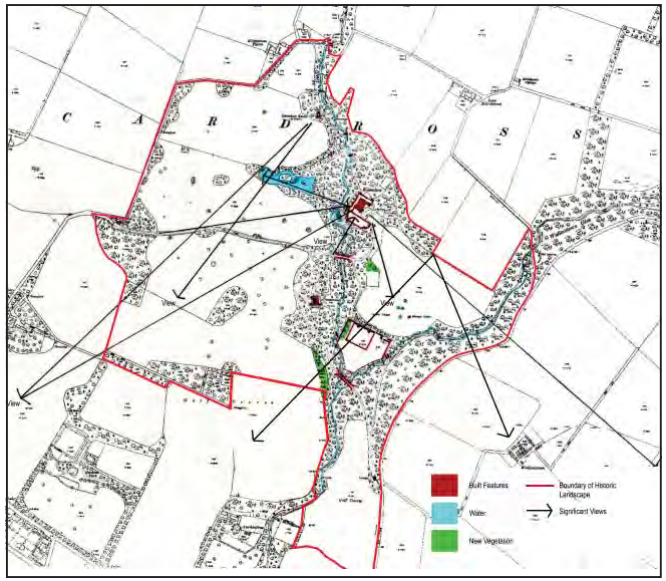
3.3.6 There is little of the mechanical and electrical systems which was unique to St Peter's, though the use of concealed fluorescent light fittings would have been uncommon at the time they were installed.



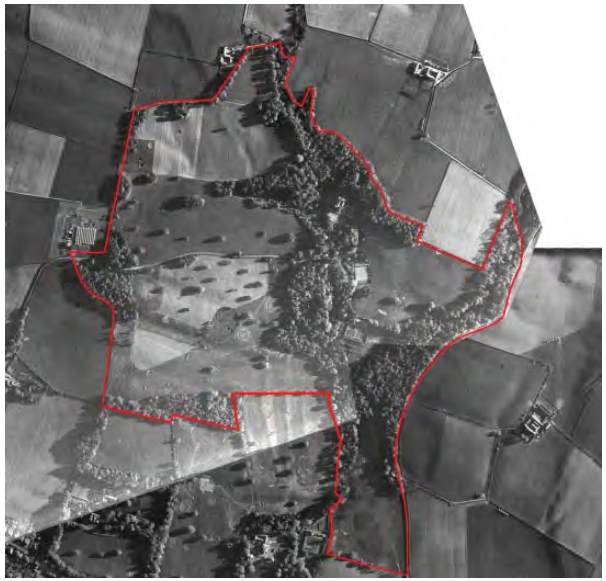

Historic Overlay Plan based on 1st Edition Ordnance Survey, 1865-95




Historic Overlay Plan based on 2nd Edition Ordnance Survey, 1896-1900




Historic Overlay Plan based on 3rd Edition Ordnance Survey, 1918-1922



Aerial Photograph 15 May 1940

## 3.4 LANDSCAPE

3.4.1 Aesthetic Interest
Although St Peter's Seminary buildings made and still make a bold impact on the 19th century designed landscape, closer investigation reveals that the architects went to great lengths not only to constrain the buildings to the formal garden footprint but also to incorporate 19th century elements where feasible. They also respected and retained the wider setting of the 19th century mansion, which remained largely undisturbed. One major aesthetic alteration was the fact that the South approach drive became the principal approach, more in keeping with the secluded, retreat-like character they were trying to instil, whilst the West approach drive became secondary.

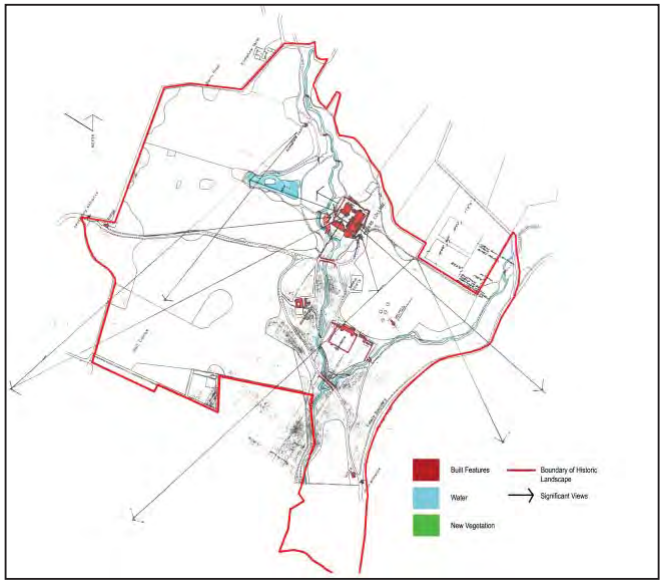
3.4.2 The "designed profile" of the 19th century woodland edge visible in the 2nd Edition OS map was retained and still exists, largely thanks to Victorian park railing.

3.4.3 The wider landscape setting in West Park is still parkland however its character has changed due to the fact that the land is now laid out as golf course and under different ownership. East Park has remained relatively unchanged and the character of old, un-improved parkland pasture has been retained.

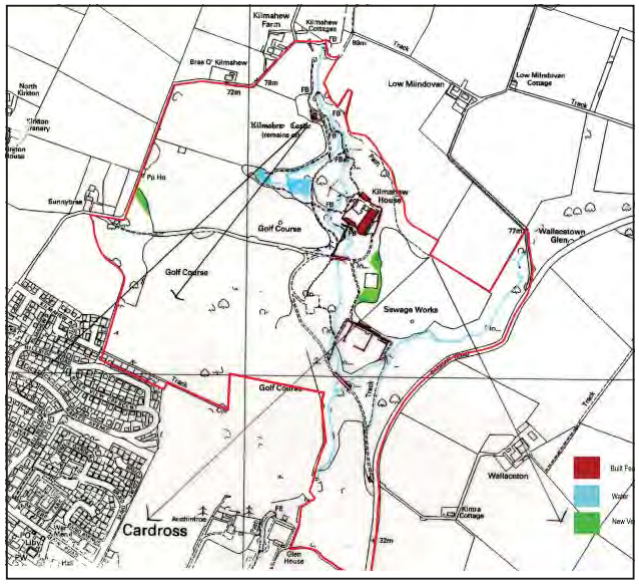
3.4.4 Despite the loss of ornamental vegetation, Kilmahew glen maintains an air of mysticism, romance and Picturesque character that has continued to attract visitors over the centuries.

3.4.5 Historical Interest
Built Features: In its day, Kilmahew House was considered one of the finest of its kind. The estate displayed many of the typical characteristics of a medium-sized Victorian property. Some of the 19th century estate buildings have either been demolished or are now severely dilapidated, however many are still salvageable. The structure of the 19th century network of paths and features is still intact, although suffering from neglect and lack of maintenance and management.

3.4.6 Kilmahew Castle's significance is partly recognised by its status as a Scheduled Ancient Monument and its Category B listing as an historic building. The archaeological assessment revealed that the building has undergone several major transformations or development




Historic Overlay Plan based on GKC Site Plan, 1961




Overlay Plan based on current edition ordnance map

Aerial Photograph: Current

phases during the 16th century, the mid-late 18th century and the late 18th-early century. Of greatest interest is an abandoned attempt to transform it into a gothic mansion in the mid-late 18th century, which given its Scottish context is particularly unusual. The immediate surroundings have considerable archaeological potential. For further detail, see appendix 12.2.
The suggestion of significant settlement in the East Park by the Roy map is difficult to assess without more intrusive archaeological investigation.

3.4.7 Vegetation: At their zenith, in the late 19th century and early 20th century, the gardens were much admired. There are remnants of 19th century planting, used to embellish the woodland that pre-existed on the site. There are a few veteran trees on the site. Rhododendron ponticum was planted to achieve particular effects, in particular from the terrace across the lake.

3.4.8 Views: The 19th century mansion house formed the original focal point of views from the designed landscape. Now the house is no more, the seminary buildings still maintain this function in part ie. as a focal point, but the impact of the upper storeys and views to it are largely obscured by overgrown vegetation.

3.4.9 With the introduction of the seminary buildings, views from the mansion and west terrace looking west to the 19th century pleasure grounds and lake were retained. Although other views at ground level looking east to East Park and south over the terraces were obstructed by new buildings, the dramatic panoramic view from the upper storeys of the mansion was preserved The main block continues to enjoy views towards East Park.

3.4.10 Today, largely due to a lack of maintenance, few of the designed views have survived. There are parkland views from the main block and the west and south approach drives and there are still filtered panoramic views of the Clyde estuary from the environs of Kilmahew Castle and the north boundary of East Park.

3.4.11 Scientific Interest
The fact that the grounds have been neglected and left alone suggests that the forna and flora may be ecologically diverse and rich. When last surveyed in 1998, the Scottish Wildlife Trust identified evidence suggesting bat activity, barn owls and pied flycatchers, which are a nationally rare species, protected by law.

The woodland in Wallacetown Glen is registered as a Site of Importance for Nature Conservation which is a designation of national status.

3.4.12 Social Interest
The site of the Castle represents the ancestral seat of the Napier clan, the Lairds of Kilmahew for over five centuries.

3.4.13 The social history of site is a microcosm for what happened in this area. In the 19th century, the old “feudal” order that had existed for centuries were replaced by an influx of successful and wealthy merchants from Glasgow, looking for healthier “villa” lifestyle by the coast. By the 20th century, the large mansion house and extensive grounds were expensive to maintain and following WWII a new use had to be found.

3.4.14 The connection of JW Burns with Cunard shipping and plant collecting is of interest.

3.4.15 It is interesting to see note that although committed Modernists, the GKC architects appreciated and respected the 19th century landscape and sought to preserve its characteristic features where feasible.

3.4.16 SIGNIFICANCE
The seminary buildings are A-listed and therefore of national significance. The forecourt and courtyard to the seminary buildings were very much designed as a set piece, and thus are of equal significance to the seminary buildings themselves. This arrangement also included 19th century remnants of the formal gardens such as the terraces, the base course work of the 19th century mansion house foundations, the balustrade foundations and the steps.

3.4.17 Kilmahew Castle is of national significance by virtue of its ancient monument status and B listing category. South Lodge and gate piers are also Category B listed.

3.4.18 In the wider landscape, very few alterations were made to the late 19th century designed landscape as part of the creation of the seminary. Exceptions are the south approach drive (adopted as the principal approach), the stables and the curling pond. Indeed discussions undertaken as part of the preparation of this report have revealed that the surviving gardens were much admired by the architects. The estate was simply adopted as the seminary grounds.

3.4.19 Thus all that comprises or contributes to the late 19th century designed landscape comprises the setting of the seminary and as part of the listing, all that is deemed to comprise the setting holds the same status as the seminary.

3.4.20 The designed historic landscape that influenced the impressions and views enjoyed both on approaching the seminary, and from the seminary complex itself could be deemed to hold a slightly greater significance than other less visible areas.

## 3.5 ARCHAEOLOGY

3.5.1 A separately commissioned Archaeological Assessment is included in Appendix 12.2 and should be consulted for a detailed appreciation of the archaeological significance of the site. It is clear from this report that the most sensitive areas of the site relate to the environs of the Kilmahew Castle and the area known as the Triangle of Mildovan including the walled garden. In the latter case uncertain evidence of 18th or 19th century settlement together with possibility of pre-historic remains would need to be confirmed by fieldwork investigations.
It is recommended that such survey investigation is executed in accordance with the best practice protocols well in advance of any development proposals.

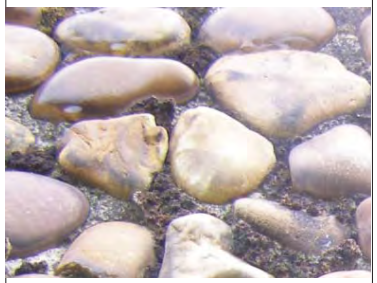
# Section 4

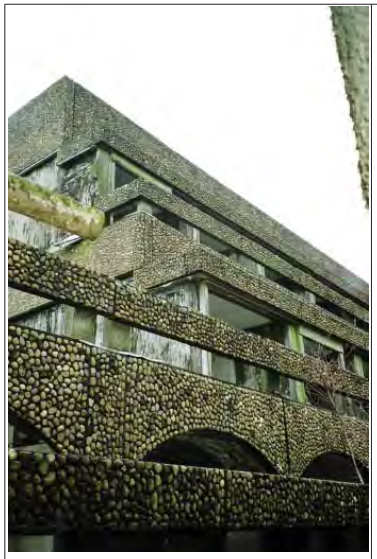
## Condition of Buildings & Landscape Related to Significance and Analysis of Conservation Issues

*The following section looks at each building within the St Peters Seminary complex and its immediate landscape setting, identifying and describing each building component and material, scheduling its method of construction and current condition visible from site visits made in January 2007. Each item has then been judged on the following two criteria.*
*1. Relative urgency related to the severity of consequences of damage if left unchecked. High/Medium/Low*
*2. Relative significance of the element in question and assigned a priority, (P1-High Priority, P2-Medium Priority, P3 Low Priority).*
*Further analysis is provided on the conservation issues relating to these components which should be considered before undertaking any work.*

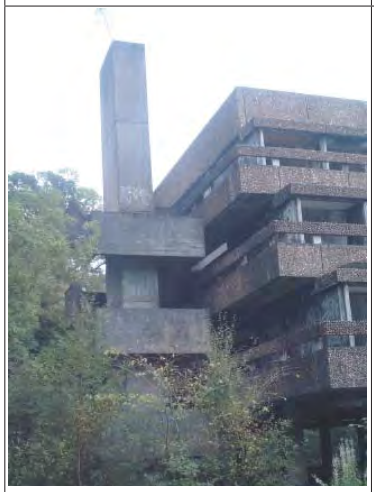
| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Roof | 3 layers of asbestos based roofing felt laid on insulation on timber sarking on 125x50mm timber roof joists. | Access to the top level roof was not possible for reasons of safety, but from visual inspection the roofing felt appears to be preventing some but not all water ingress where applied. All three rooflights are missing. It should be assumed that the felt has come to the end of its design life.<br>Urgency: High | P1 | The roofing material, timber joists, and sarking substrate are purely functional and do not constitute sensitive fabric in conservation terms. It is important however that all new permanent roofing is kept below parapet height and that original dimensions are generally matched. | Any new roof covering material should be chosen to meet the required design life. Built- up roofing felt, single ply membrane, asphalt are all acceptable alternatives to the original asbestos based felt. When re-roofing, improve drainage falls provided that the outcome does not affect the roof line and profile. All maintenance fall arrest equipment should be installed out of sight. Any new plant room or equipment including aerials and satellite dishes at roof level should be located well back from roof edges, out of view.<br>Decision regarding possible installation of solar energy collectors/pv' cells should be taken in conjunction with design and detailing of new roof covering |
|  <br>  | External Galleries | Lightweight asbestos promenade paving tiles on asphalt on screed to falls on 15mm of insulation on 75mm precast units. | Covered in debris, sludge and water ponding in large areas, so difficult to assess its condition but one should assume that the waterproofing would need to be replaced and the substrate inspected.<br>Urgency: High | P1 | Surface, roofing material purely functional. (Use of modular paving material signifies gallery is accessible, not simply a roof.) | The balconies reached from the individual cells should be retained open and accessible, maintaining the ziggurat form.<br>New lightweight paving tiles, and roof covering can be chosen to offer required design life and most suitable covering type to achieve the best flashing details. Care should be taken when detailing increased roof build up depth due to increased insulation thickness so as not to raise above upstand levels or height of cladding panels. Flashing material and detailing should be fully integrated with renewal of stubs columns and gallery guardings. |
|  | Rooflight above main staircase | 3 rectangular glazed rooflights above the main staircase constructed in panelled pine clad externally in copper. | Missing<br>Urgency: High | P1 | The form, design, detail and location are of importance as they provide a shaft of top light to the main circulation staircase. | The rooflight provides an important function in bringing daylight in above the main vertical circulation route and should be re-instated to match original size and profile.<br><br>Suitable alternative glass type, frame material, profile material could be considered to offer longer design life and better thermal performance to meet current Building Regulations. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Insitu Frame/ Primary Structure | 5 storey structure comprising of in situ reinforced concrete columns, walls, beams, slabs and retaining walls. | The in situ reinforced concrete elements are generally in a structurally robust condition with signs of localized durability issues which have led to localized areas of spalled, delaminated, missing, cracked and honeycombed concrete, exposed reinforcement and defective shutter ferrule plugs. The areas of deterioration are related to the ongoing corrosion of embedded steel reinforcement close to the surface of the concrete elements. If remedial work is not undertaken to the concrete the problems will continue and will begin to have implications on the structural integrity of the structure. Urgency: Medium | P1 | The use of insitu concrete has significance both architecturally and structurally. The placing of columns was carefully considered within the ground floor plan, to help define space whilst supporting the structure above. | Modification to the in situ frame including over painting should be prevented.<br>Ensure that all boardmarking and shuttering patterns are retained, and replicated where repairs have been carried out. All repairs should be squared off in outline leaving a light but not unsightly manifestation. |
| | | | | | | |
|  <br>  | Pre-Cast exposed aggregate parapet handrail panels to galleries | Pre cast concrete slender handrail panels are bolted to pre cast concrete posts. | The bolted connections between handrail posts have severely corroded in places. Where the corrosion has reached an advanced state local collapse of the handrail could happen. Also the facing panels have moved out of alignment as a result of corroding shims which have expanded between the panels and the posts. This damage is progressive and requires intervention now. Urgency: High | P1 | These parapet panels form a significant part of the overall elevational composition, and should be regarded as an important conservation item. But whilst the panels are of high architectural significance, their fixings are not so, and these could be replaced with secure, state of the art alternatives. | The pre-cast cladding handrail panels should be retained unless the condition is so deteriorated that replacement is required, in which case, all new sections should closely match the original in all respects.<br>Method of securely re-fixing of parapet handrail panels should be improved by ensuring all metal fixings/plates/bolts are either stainless steel, or galvanized mild steel, and are of sufficient strength and detail to withstand current design loads. Careful consideration would be required if the height of the handrail needs to be increased when reinstated to comply with current legislation. |
| | | | | | | |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|   | Pre-cast post supports to handrail panels. | The concrete posts are slender, heavily reinforced, inverted 'T' shaped elements with uncoated smooth faced finish to all surfaces. The lower horizontal member of the post sits on top of the cladding panels and straddles the vertical joint between lower panels. Each leg of the T is bolted to the top of the cladding panels. A preformed zinc flashing tray is located within the joints between the post and cladding panels. | Extensive spalling/cracked concrete and corroding reinforcement to the concrete pockets is occurring around the bottom leg fixings of the post. Spalling and corroding reinforcement is evident to all posts. Severe corrosion is occurring to the bolt fixings in the bottom leg of the posts . Certain posts are leaning or lifting due to corroded shims between the posts and cladding. Urgency: High | P1 | These posts support the pre cast handrail panels and form a significant part of the overall elevational composition, and whilst significant are less so, than the pre cast handrail elements as these smooth faced pre-cast concrete posts could be readily replicated and in doing so provide a beneficial opportunity to improve the detail to safeguard the long term future of the original pre-cast elements. The fixings themselves are not significant and could be replaced with secure, state of the art alternatives. | The condition of the posts and fixings have deteriorated significantly due to uneven workmanship, the use of ungalvanized metal fixings and lack of cover on the reinforcement. These posts can be renewed offering an opportunity to improve details and fixings. Method of securely re-fixing the supporting concrete posts could be improved by ensuring all new metal fixings are either stainless steel, or galvanized mild steel, and are of sufficient strength and detail to withstand current design loads. Base detail to be re-considered to improve weathering at the junction of balcony and post. The material used to renew the posts could be either pre-cast re-inforced concrete or galvanized mild steel provided that the overall profile, colour, and size matches the original post. |
|   | Pre-cast exposed aggregate concrete cladding panels with vaulted profile. | Light brown in colour, external large soft rounded exposed pebble aggregate. The slabs are 4" thick and span 8ft bays in the form of an arch, gallery or handrail unit. | The exposed aggregate panels appear to be in sound condition with little evidence of defects or past repairs. The large aggregates cast into the external faces of the panels appear to be firmly embedded in mortar, with no significant bowing or distortion noted. The galvanized brackets appear to be intact. However all bolt fixing to the cladding panels are severely corroded. The bolts will continue to rust and will eventually fail causing the pre-cast units to fall off the substrate resulting in a severe heath and safety risk and material loss. Urgency: High | P1 | The choice of aggregate is of key significance to the character of the building and was selected to 'harmonise with the stone of the existing house." The finish is also suitably vigorous in what is a rugged setting. The pre cast work is similar to the pre cast panels used at the Roehampton Estate. It is reported that the architects asked that the shuttering be similar to the exposed concrete work at the Roehampton 11-storey maisonettes. But whilst the panels are of high architectural significance, their fixings are not so, and could be replaced with secure, state of the art alternatives. | The pre-cast cladding panels should be retained unless the condition is so deteriorated that re-placement is required, in which case all new sections should closely match the original in all respects. Any new fixings should be inserted without any visible manifestation to the exterior of the pre cast panels. All new fixings to be stainless steel or galvanized mild steel. All repair work required to the pre cast concrete panels should match the original, pattern, aggregate type, colour and texture. If panels need to be removed, care should be taken to ensure that the vaulted plastered ceiling behind is not damaged. The insertion of sacrificial anodes or corrosion inhibitors should be kept to the non visible rear face of all pre cast panels. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Pre-cast exposed aggregate concrete cladding panels to the roof edges of the study rooms | | The exposed aggregate panels appear to be in sound condition with little evidence of defects or past repairs.<br>Urgency: Medium | P1 | As above | The pre-cast cladding panels should be retained unless the condition is so deteriorated that re-placement is required, in which case all new sections should closely match the original in all respects.<br><br>Any new fixing should be inserted without any visible manifestation to the exterior of the pre cast panels. All new fixings to be stainless steel or galvanized mild steel. All repair work required to the pre cast concrete panels should match the original. Care will be needed when replacing waterproofing to the roofs of the study rooms, not to affect the visible profile. |
|  | Pre-cast exposed aggregate concrete cladding panel to the South gable of the main block above sanctuary roof. | Light brown in colour, external large soft rounded exposed pebble aggregate. The slabs are located above and below rendered blockwork to the south end of the main block | These panels have been installed with galvanized steel lugs and mild steel bolts. The mild steel bolts have severely corroded and will fail eventually resulting in the panels falling from the structure.<br>Urgency: High | P1 | As above | The pre-cast cladding panels should be retained unless the condition is so deteriorated that re-placement is required, in which case all new sections should closely match the original in all respects.<br>Any new fixings should be inserted without any visible manifestation to the exterior of the pre cast panels. All new fixings to be stainless steel or galvanized mild steel. All repair work required to the pre cast concrete panels should match the original, pattern, aggregate type, colour and texture. If panels need to be removed, care should be taken to ensure that the vaulted plastered ceiling behind is not damaged. The insertion of sacrificial anodes or corrosion inhibitors should be kept to the non visible rear face of all pre cast panels. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Upper Floors | 22mm dressed end grain white pine boards on suspended timber joists spanning between timber runners bolted to in-situ concrete beams<br>The vaulted ceilings are as described below with services located within the floor void. | All floors (where surviving) are covered in debris and potentially hazardous and dangerous so it is difficult to inspect their condition. Much of the flooring is no longer in place, exposing the metal vault formers. The upper floors are dangerous and access should be prevented except where secured and defined as a maintenance access route.<br>Urgency: Medium provided unauthorized access is prevented. | P1 | The type of timber flooring provides the warmth of colour to the upper floor spaces, and is an important part of the architectural vocabulary. | Timber flooring should be reinstated to the upper floor spaces, but additional floor coverings such as carpet, sheet materials or alternative timbers, such as a hardwood could be accommodated if colour, texture and details are carefully considered. The addition of thermal insulation to the external envelope could be integrated within the floor void above the vaults. New services may need to be fed beneath the floor and above the ceiling vaults. |
|  | Non structural ceiling vaults | Ceiling construction is vaulted between the primary cross walls with the vaults being constructed with Hy-Rib metal formers coated with cement plaster. | 75% of vaults remain mostly intact. They all show signs of water ingress, possibly from the moist environment and water ingress from above but also through the structure. The HyRib pre-formed steel curved lath is corroding which can be seen from above and will eventually fail and the vaults will fall, resulting in significant health and safety issues.<br>Urgency: High | P1 | Form, scale and colour are all of significance.<br>Size is a constant reminder of the visual dimensions of the single cell rooms above.<br>The method of construction is also of historical architectural interest due to the use of the patent Hy-Rib technology. | All original barrel vaults should be retained where still viable and repaired/restored, all missing vaults to be re-instated.<br>Reinstatement of missing barrel vaults can adopt new modern method of construction provided that the end result matches original profile and detail.<br>Service voids will need to be carefully threaded below the upper floors and above the ceiling vaults and care will need to be taken to avoid damaging original vaults to be restored. |
|  | Entrance stair up from cloister level | In situ curved concrete staircase with tubular steel rod handrails surrounded originally with a perimeter timber glazed entrance screen. | Steps still in situ and appear to be largely sound with local areas of spalling evident and local patches of mechanical damage due to vandalism. Metal handrail is rusting and is damaged and bent in places.<br>Urgency: Medium | P2 | The controlled entry to the upper level main hall is an important feature and method of direct access up into the principal spaces. The loss of the screen removes the significance of the entry configuration, as the visitor was effectively directed to cross beneath the building towards the angled steps, leading the visitor up to the administrative reception point in Kilmahew House. | The extent of the enclosure to the staircase can accommodate change in areas and detail provided that it does not interfere with the circulation flow under the building and around the cloister. The design of any new screen should adopt a style sympathetic to the original character. Upgrading to new fire regulation compliance should be assimilated within the original design intent. |

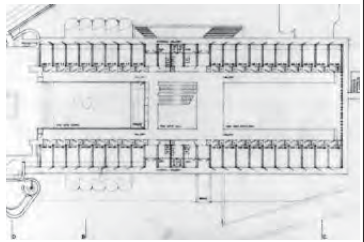
| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|   | Central staircase and handrail | Main stair comprised of a concrete spine with timber treads and timber handrail supported off mild steel supports.<br>Bespoke cubic light fittings were fixed to projecting concrete arms either side of each landing. | The treads are missing but the concrete spine is largely intact. Remnants of the handrail are visible in parts, but have been severely vandalized. A few treads survive.<br>Urgency: Medium provided unauthorized access is prevented. | P1 | The internal staircase in the main hall is located between the two principal spaces offering efficient circulation but more importantly a social meeting place within the main block. Timber was used for the treads and handrails to contrast with the concrete surfaces and provided warmth, colour to the touchable surfaces. The design of the handrail is of particular interest as the string runner above the stair becomes the handrail further up the staircase. Light switches were incorporated into the handrail. The rod and plate internal fixings of the handrail are of interest as a pragmatic solution, but could be readily replaced as necessary to suit more stringent compliance requirements. | The central staircase provides the central vertical circulation to the upper levels and its location and arrangement should be retained.<br>The fixing details of re-newed balustrade may need to be improved to accommodate updated legislation and current Building Regulations. This should be incorporated within the original design intent.<br>Any fire enclosure should be resisted to the central staircase and alternative means of escape identified to remove the pressure for change on what is a key element in the spatial organization of the main block. |
|  | External Fire Escape Stair | Insitu board marked reinforced concrete external fire escape stair serving ground to third floor levels cantilevered from central boiler house chimney. | Local areas of spalling concrete and corroding reinforcement are evident. The metal grid bridges between the stair landings and the main building are in place, but show signs of corrosion and therefore connections should be checked.<br>Urgency: Medium | P1 | The escape stair cantilevers from the chimney and is deliberately structurally separate from the main block and is reached over metal grid bridges. The verticality of this staircase offers a closing volumetric counterpoint to the horizontality of the main ziggurat block and should be retained, This element also loosely resembles that at Le Corbusier's Millowners' Association Building | The staircase should be retained as an alternative fire escape from all levels.<br>All repairs should adopt the shutter board marking of the surrounding concrete surface.<br>Careful consideration should be given if corrosion inhibitors/sacrificial anodes are to be inserted, so as to limit the visual impact of new repairs work in contrast to aged concrete surfaces. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
| | Pre cast concrete Floor and Terrace Slabs | Pre cast concrete floor slabs spanning between insitu concrete beams | Where visible the slabs appear to be relatively structurally sound, with local areas of craking evident. Cracking in floor finishes may reflect cracking in substrate however it may be that the stress is confined to the finish only due to it being subjected to an external environment. Urgency: Medium | P3 | Functional in material and design only. However any replacement should be carried out to match original dimensional fit | Repairs to adopt current methods of repair and material specification. |
|  | Floor finish | Patent screed of a dark grey colour laid in large panels | The condition is difficult to assess due to the amount of debris on the floor, Urgency: Medium | P2 | This choice of the patent screed material, scale and size of panels is of definite architectural interest. The choice of material was neither precious, nor expensive and provided a robust hard wearing surface. Its joints could be carefully designed to fit within the plan form of the principle spaces. The acoustic properties of the floor finish were a factor deliberately intended according to Andy MacMillan. | New flooring could be laid to match the original if required, ensuring all flush threshold details retained similar relationship to one another and all skirting details were carefully detailed. It is important to retain the uniformity of floor surface throughout the ground floor and the scale and layout of the floor panel sizes in any new flooring. |
|  | Entrance bridge and spout | Concrete entrance bridge spanning across a shallow pool fed from a natural spring. The bridge edge is shaped in profile | Bridge is covered in moss, grass and debris and is therefore difficult to assess its condition however it appears to be sound. Small area of damage to the spout. Chain still intact. There is significant surface water running from the upper level above the retaining wall which should be attended to immediately and diverted to avoid damage to the foundations and structure of the building. Urgency: Medium | P1 | The moat defines the boundary of approach. The bridge is symbolic in how the students are invited to 'retreat' over the threshold away from everyday life into the religious world. The spout and chain are used as an architectural device for transferring the spring water into the pool and is a clear reference to other modern buildings of the time. | Entrance bridge, chain and moat are all of high importance and should be retained unaltered. Handrail to either side of the bridge may be required depending on future building use. The insertion of a handrail will need to be very carefully considered and be as light and transparent as possible to avoid visual intrusion to the original design intent. (eg. Clamped glass to inside of concrete kerbs) |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | External timber screen windows | Redwood full height timber external screen with randomly spaced mullions to the west, east and north side of the main block and either side of the side chapels. | These screen are largely missing, only small pieces of timber remnants are visible in areas. Urgency: Medium | P1 | The random spacing between the mullions offers a significant counterpoint to the regular rhythm of the barrels and was a significant reference to the 'ondulatoires' used by Le Corbusier at La Tourette. | The visible width of all new mullions and transoms should be kept as close to the original size when incorporating double glazing. Solar control glass should be as clear a possible avoiding use of tinting. The material used for the glazed frames, could be polyester powder coated aluminum or steel if low maintenance is a priority. All original colours and mullion transom patterns should be restored to match original fenestration patterns. Consideration should be given to eliminate cold bridging at reveals. |
|  | External timber screens to student rooms | Full room width painted green (although historical references describe the original colour as being dark brown) redwood timber screen window with single outward opening door to access external gallery. Concealed lighting was incorporated above window. | All glass is missing. 90% of all timber window framing and doors are missing. Remnants of the perimeter framing is still in place in parts, particularly where the wc, bathrooms are located on each upper floor. Urgency: Medium | P1 | The timber detail, paint colour, section sizes and mullion, transoms locations are all important. The timber type is paint covered and therefore can be revised to suit if required. | The visible width of all new mullions and transoms should be kept close to the original size when incorporating double glazing. Solar control glass should be as clear a possible avoiding use of tinting. The material used for the glazed frames, could be polyester powder coated aluminum or steel if low maintenance is a priority. All original colours and mullion transom patterns should be restored as original. Consideration should be given to eliminate cold bridging at reveals. |
|  | Soffit cradle head detail above external timber screening and below the barrel vaults | Clear finished slatted t&g pine profiled curved cradle fixed to underside of first floor soffits and above the timber window mullions | 50% of this profile soffit cradle detail is still in situ, but the timber has suffered weather damage and vandalism. Urgency: Medium | P2 | Particular detail located below the barrel vault and above the external window screens. This provided a profiled and horizontal element below the arched form to support the head of the window screens and the cill of the arched clerestory window to each barrel vault. Concealed uplighting appears to have been fixed within the cradles. | The cradle detail provides an important device to conceal services and possibly lighting and provides a horizontal head to fix the perimeter external glazed screens. Adaptation of the installation details may be necessary to avoid cold bridging. Where original sections are being re-used these should be contained in distinct and whole section pieces to avoid any problems with matching new timber next to aged timber. New lighting to current standards may be incorporated without difficulty where light source is concealed. |

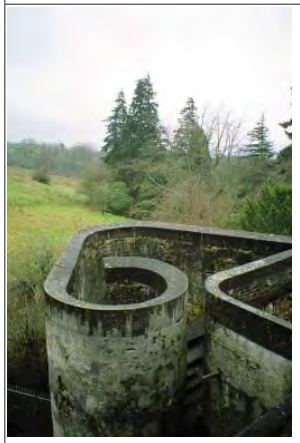
| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|   | Side Chapels | 10 silo shaped chapels; constructed of 19mm thick harled roughcast on 305mm cavity load bearing brick structures supporting insitu concrete semi domed roof tops invisibly lit from semi circular windows at a splayed angle to the west and east side of main chapel | Sections of harling have fallen off and areas are blown and delaminating away from the brick surface. The exposed brickwork is showing signs of deterioration with the exfoliation of the brick face and deterioration of the mortar jointing is evident.<br>Staining to tops of the silos has occurred.<br>All glass and most of the timber high level window framing is missing or damaged. Internal plaster finish is damaged in places mostly due to water ingress. Urgency: Medium | P1 | The form, harling surface finish, location, concealed slanted high level windows are all important key elements of the overall composition. These silos evoke the work of Le Corbusier by suggesting an image of clasping fingers pioneered by Corbusier at the Ronchamp Chapel. The material used in construction other than the texture and colour of the harling to the external face of the silos are merely appropriate to their form and functional in detail. | The chapels and their relationship with the main chapel space should be maintained.<br>All surfaces and structures should be repaired.<br>The visible width of all new mullions and transoms should be kept as close to the original size when incorporating double glazing. Solar control glass should be as clear a possible avoiding use of tinting. The material used for the glazed frames, could be polyester powder coated aluminum or steel if low maintenance is a priority. All original colours and mullion transom patterns should be restored to match original. Consideration should be given to eliminate cold bridging at reveals. |
|  | Internal timber screens and doors | Partitions dividing the hall and upper internal galleries from the chapel were made of pine and translucent glass. The double doors to the chapel and refectory were all of gridded timber detail | All missing<br>Urgency: Low | P3 | These internal screens defined the space and controlled the connection between principal spaces. The loss of these destroys the legibility of the plan and definition of use.<br>The warmth of the timber and the detailing were all important in providing the intended contrast with the concrete surfaces. The internal doors were grid-like in detail and references have been made to CR Mackintosh. | Timber species to closely match original wherever possible. Location of doors may be re-considered provided that this does not compromise the significant aspects of the internal layout.<br>Contemporary timber coatings can be used to enhance durability.<br>Upgrading to new fire regulation compliance should be assimilated within original design intent. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Internal timber partitions dividing upper galleries and void over chapel | Partitions constructed in 16mm red pine tongued and square channeled vertical boarding on 75x50mm timber framing. | All appear to be missing.<br>Urgency: Low | P2 | These internal screens defined the space and controlled the connection between principal spaces and the priests cells on the upper levels. The loss of these destroys the legibility of the plan and definition of use.<br>The warmth of the timber and the detailing were all important in providing the intended contrast with the concrete surfaces. | Alteration in the location of the screens may be considered provided that this does not compromise the significant aspects of the internal layout. Timber species to closely match original wherever possible. Contemporary timber coatings can be used to enhance durability. Upgrade to the construction of the partitions may be required to comply with current Fire and Building Regulations. |
|  | Timber handrail and guardings to internal upper floor galleries | Pine timber solid handrails spaced slightly above the cantilevered galleries floors. Baluster members are secured by mild steel tie rods with square flanged plates. | 20% remain insitu but are largely in very poor condition from vandalism, fire and water ingress.<br>Urgency: Medium | P1 | These provide an obvious warmth of material to the upper levels of the section. They register as longitudinal timber bands which alternate with the projecting concrete vaults up the triple height space.<br>The rod and plate internal fixings of the handrail are of interest as a pragmatic solution, but could be readily replaced as necessary to suit more stringent compliance requirements. | The detail and location of the guarding should be maintained.<br>Upgrade of fixings may be required to meet current Structural Loadings and Building Regulations. Timber species to closely match original wherever possible. Contemporary timber coatings can be used to enhance durability. |
|  | Student room interior | 8ft wide single vaulted room with built in wardrobes, wash hand basin<br>Plastered vaulted ceiling painted white. Concealed lighting within the joinery details. Evidence of low level heating. | Many cells have no floor covering exposing the Hy-rib metal formers of the vaults below. Most have large areas of plaster intact.<br>Several have the entrance partition still in place but in most cases have been damaged and most have the fittings removed.<br>The vaulted ceilings of the higher levels are more in tact that the lower vaults.<br>Urgency: Medium | P2 | These cells are structurally, and architecturally, important. The 8ft width cell provides the initial conceptual basis for the main ziggurat structural concept and this dimension filters through the plan of the building.<br>Little of the interior fittings have survived but would have been significant in demonstrating the degree of architectural thought which was undertaken to tailor the interiors to the needs of the students. | Original 8' wide cells to be retained. Wash hand basin, wardrobe, paneling, desk and shelving details could be re-instated, adapted, or omitted depending on, and, if necessary to allow for future re-use.<br>The individual rooms should not be knocked through but a discrete interconnecting door might be considered to offer more flexibility of use.<br>One original student cell could be selected as a representative 'heritage room/s' and reinstated to original design and detail with salvaged and/or replacement fabric. |

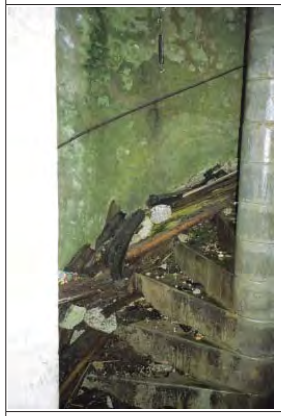
| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Cloister and under-building beneath the main block | External undercroft cloister with white coated barrel vaults running along the length of the block creates a covered, exposed perimeter walkway below the main block. Two rows along the blocks length of large rectangular columns set back from the edge of the cantilever The under building areas below the main chapel and refectory are enclosed and not accessible, except by controlled entry. | For condition of columns refer to S Eng report. Structure appears to be generally intact but wet and covered in graffiti. Floor of the cloister is covered in wet fallen debris. Vaulted ceilings are damaged by water ingress and vandalism.<br>Urgency: Medium | P1 | Sunken undercroft cloister lightens the mass of the building and gives glimpses of the courtyard beyond and provides an open cloister walk.<br>The vaults run the length of the main block from the entrance to the sacristy: expressing the length of the chapel above and defines a covered route around the courtyard. | Floor surfaces could be replaced if necessary with material and detail, sympathetic to the original design intent. |
| | | | | | | |
|  | Internal plan layout | Refer to plans | The students rooms remain intact as the walls of these rooms are structural, however the non structural more decorative timber screens, and partitions have been destroyed and therefore the legibility of the main raised ground level containing the chapel, hall and refectory has been lost. The differing treatment of how the main spaces are isolated or not from the upper levels has also been lost as the timber guardings and partitions have also been destroyed.<br>Urgency: Medium | P2 | The organization of the 8 feet wide cellular rooms above the large main spaces of the chapel and refectory is of high architectural significance. This is essential to the underlying concept of the ziggurat form interconnecting the secular with the spiritual within one single megastructure identified as a key theme in GKC's work. | The large ground floor refectory could withstand, for example, the insertion of a lift core provided it could be read as a distinct 'sculptural form', i.e an object within the space rather than a subdivision of the space.<br>The cells should not be knocked through but a discreet interconnecting door could be introduced provided that it were structurally viable. The internal details, fixtures and fittings could be adapted to accommodate new use. |
| | | | | | | |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|   | Roof Covering | 3 layers of asbestos based built up roofing felt on 25mm of insulation on 22mm timber sarking on 100x25mm joists | Roof has been almost entirely destroyed by fire and vandalism. Areas of felt, sarking and roof timbers are still in place. Evidence of the location and size of the large roof light still visible. Urgency: High | P1 | Roof covering material is purely functional and out of sight. No rainwater goods are visible. | Any new roof covering material should be chosen to meet the required design life. Built- up roofing felt, single ply membrane, asphalt are all acceptable alternatives to the original asbestos based felt. When re-roofing, improve drainage falls and insulation thickness provided that the outcome does not affect the roof line and profile. All maintenance fall arrest equipment should be installed out of sight. Any new plant room or equipment at roof level should be located well back from roof edges, out of view. |
|  | Roof light | Wedge shaped stepped rooflight. Originally constructed in timber frame covered with 24g copper on 22mm t & g sarking and 25mm insulation | Missing Urgency: High | P1 | Shafts of sunlight and shadows filter through the glulam beams providing natural daylight illuminating the altar sanctuary below. The timber added a rich hue to the light which filtered through the beams and this light also reflected off the white apse. This feature was highly significant to the original reading of the sanctuary. | The size, location and profile of the roof light should match original. Modifications may be required to improve thermal, solar and weathertightness. |
|  | Roof Beams | Oregan pine laminated timber roof beams, with a serrated bottom tapered edge and tie rods slung below metal spacers, the composite member being supported on an in situ concrete ring beam. | Approximately 6 of the original beams remain in place but are in danger of collapse. Parts of other beams lie on the floor below in very poor condition. Urgency: High | P1 | The material, profile, layout and design of the glulam beams are all of high architectural significance. These are now the only unique timber components remaining in the building. The beams added a richness and colour to the daylight which filtered through the grid like structure into the sanctuary. | It may not be possible to structurally prove and restore the remaining original beams and therefore they may need to be re-newed. They should match original in all aspects, colour, timber, detail, profile, size and layout. The connection details could however be discreetly updated to meet current codes of practice and standards as required. |

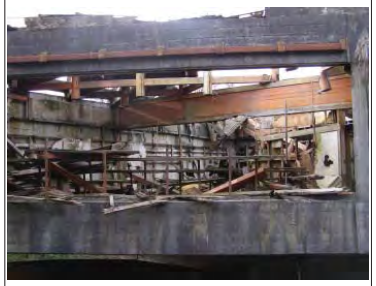
| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Curved external load bearing wall | White wet dashed harled external masonry curved wall with deep recesses in the outer wall and a insitu concrete flush coping. The internal face of the load bearing wall is plastered and painted white. | The harling has fallen off in large sections and is blown and delaminating in large sections and dangerously still loosely attached to the substrate. Water is now penetrating both sides of the wall. The condition of the brickwork is suspect. SE to confirm.<br>Urgency: High | P1 | The form of the sanctuary external wall is significant as it is a break from the controlled regularity of the main block and forms the backdrop to the processional movement from the lower church to the sanctuary.<br>The shape is reminiscent of the curved shape of the crypt of La Tourette.<br>Harling on load bearing masonry is one of the principal materials in the GKC's palette of materials used at St Peter's wherever non-orthogonal plan geometry occurs. | All materials should be retained, restored or replaced to match original.<br>Care must be taken to reinstate reveal details to small windows and to reinstate parapet condition.<br>When repairing in situ concrete coping, ensure the top side is benched inwards to shed rainwater away from the external wall face, to avoid unnecessary staining to the external harling render coat. |
|  | Entrance to sanctuary | Angled stepped entrance approach to cloister level. The entrance is narrow at the low entry point and splays out towards as you ascend up to the cloister level. | Steps appear to be in sound condition but covered in debris, with the exception of the first two steps at the beginning of the flight where the concrete is broken away. The walls are sound but have suffered from damp and water penetration. Manhole covers have been removed to cloister level.<br>Urgency: Medium | P1 | This entry is monastic and medieval in feel creating a unique space in the complex. This was a 'secret' connection to the gardens, but is now incorrectly used as an access to the building. | All materials should be retained, restored or replaced to match original. |
|  | Circular pre cast concrete staircase | Pre-cast circular staircase leading up to and across to the classroom block | Staircase covered in fallen debris, but appears to be generally sound and passable. Concrete is wet and green and has suffered from water ingress from above. Urgency: Medium | P2 | Key element in the organization of the building providing a traditional Scottish baronial reference in the modern idiom. | All materials should be retained, restored or replaced to match original. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Small punched windows in curved wall | Small timber windows with splayed reveals. and beton glass | Glass appears to be intact, frames appear to be sound. Reveals will need to be reformed when re harled. Harling is smooth in contrast to main wall surfaces. Urgency: Medium | P1 | These pierced tiny windows with splayed reveals filled with beton glass produce jewel like specks of light to the interior and deep shadows on the facades. These are clearly referenced from the chapel at La Tourette, and convey a sense of mass of the walls. | These windows should be retained and should be restored in-situ to avoid damage to the original Beton glass. |
|  | Internal Ramp | Insitu concrete curved ramp which leads up from the crypt and sacristy at lower level to the altar. Tubular metal handrail sits on top to upstand edge of ramp. | Insitu concrete ramp is covered in fallen debris and very wet due to the loss of roof covering, so difficult to inspect its condition. Handrail is bent and rusting and sections are missing. Urgency: Medium | P1 | Movement within the sanctuary is generally highly formalized and ritual was signified in the grand processional movement from the lower church to the sanctuary, via the sinuous curved ramp. | Additional balustrade protection may be required to meet current Building Regulations. Care should be taken to limit the visual impact of additional balustrade protection. |
|  | Outside Chapel | Curved load bearing cavity brick wall forming walled enclosure to outdoor chapel. No roof | Harling has fallen off in places and is blown and delaminating in areas. The coping is wet and discoloured. Pointing to brickwork is loose in exposed areas. Urgency: High | P1 | A reflective semi- enclosed chapel where solitary prayer could be undertaken. No views out of the space were available other than upwards towards the heavens. This was an important sacred space within the seminary. | This space is currently external and could be enclosed if required provided that any roof construction is kept below parapet level. Drainage of any new roof would need to ensure that no rainwater pipes were visible. A use that enabled it to remain unroofed would of course be preferable. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Parapet | Cavity brickwork load bearing masonry wall with in situ concrete, inward sloping coping. Harled on both sides | Harling has fallen off in places and is blown and delaminating in areas. The coping is saturated and discoloured. Pointing to brickwork is loose in exposed areas.<br>Urgency: High | P2 | Discussed elsewhere | Where viable all materials should be retained, restored or replaced to match original. |
|  | Stepped cantilevered back platform of sanctuary | Board marked in situ reinforced concrete stepped profiled balcony overlooking the sanctuary ramp. Concealed fluorescent lights fitted to back edge of projecting balcony to illuminate the rear curved white wall of the sanctuary. | Covered in graffiti. The corners and edges of the balcony edge have been vandalized, resulting in broken corners visible reinforcement in places. Concrete is wet and green with algae growth due to the missing roof covering.<br>Urgency: High | P1 | The stepped profile of the balcony is of architectural interest as is the board marking. The structural system of the principal building has been turned through 90 degrees to terminate the main floor. | All materials should be retained, restored or replaced to match original. Additional balustrade protection may be required to meet current Building Regulations. Care should be taken to limit the visual impact of additional balustrade protection. |
|  | Sacristy | Intermediate level below altar. Exposed board marked reinforced instu concrete soffit and columns. | Floor is covered in fallen debris. Some sections of the timber fitments/wardrobes remain but are badly damaged.<br>Urgency: Medium | P2 | This space provided storage for robes and for the priests to prepare for the ceremonies held in the chapel. | The sacristy space could be adapted/ altered in layout to accommodate new use if required. Any new enclosure should be kept within the confines of the structural columns and should not interfere with the processional ramp. |

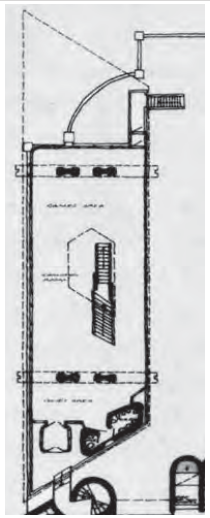
| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Altar | Large rectangular section of granite stone resting on a smaller granite base. The altar stone cantilevers from central support. | Altar has been graffitied and damaged, chipped and is significantly cracked.<br>Urgency: Medium | P2 | The altar is the focal element within the space and has considerable significance to the religious function of the chapel. | This element could be relocated if necessary out of the chapel space, to alternative safe store or the altar stone could be retained as an emblem of the building's history (graffiti et al). |
|  | Public access Staircase to Chapel | Pre-cast circular staircase leading from outside up to the external chapel and organ loft. | Staircase covered in fallen debris, but appears to be generally sound and passable. Concrete is wet and green and has suffered from water ingress from above.<br>Urgency: Medium | P2 | The entrance is deliberately discreet. The circle forms the tight spring point for the sweeping curve of the sanctuary wall. | All materials should be retained, restored or replaced to match original. |
|  | Crypt | Steps down the natural fall of the site. The serial altars are placed in deep recesses in the outer wall | Full of debris, access was difficult.<br>Urgency: Medium | P2 | The depth of the wall is used to full effect i.e the 'inhabited' wall common in GKC work. The crypt is also a key part of the sacred spaces, training and functions of the seminary. | The crypt space could be adapted/ altered in layout to accommodate new uses, provided that the recessed niche windows in the external curved walls are retained and not obscured. White wall finishes should also be retained wherever possible. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
| | Internal plan layout | Refer to plans | All spaces are still legible and remain intact albeit in poor condition. Doors, fittings, fixtures etc are all either missing or damaged.<br>Urgency: Low | P1 | The internal layout of the sanctuary is highly symbolic and provides the theatrical centre and backdrop to the original seminary, in its use of form, daylight, circulation and detail. | The processional ramp and altar space, original, textures, surfaces and details should be retained. The use of the sacristy and crypt could accommodate alteration of the original layout to accommodate new uses if required as these provided the supportive uses to the main altar and chapel space. |
| | | | | | | |
| | Services | See Services Chapter | See Services Chapter<br>Urgency: Low except effective interim stormwater drainage | P2 | See Services Chapter | New lighting should adopt the original design principals of being concealed unless introduced for particular affect. New light fittings could be renewed to match the original or fittings could be introduced that closely resemble the original design intent. All light fittings should attempt to accommodate low energy lamps if possible. (i.e fluorescent where concealed from view).<br>All new services, pipework, wastes, electrical wiring, vents, flues, should be concealed. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|   | Roof | The roof of the lecture room is of heavy laminated Oregon pine and comprises a double grid of structural and tie trusses, braced by short stalactite posts. There were triangular pyramidal roof lights providing top light. The roof covering was copper laid on sarking.<br>Natural vents to be checked? | Partially collapsed. A good deal of the original roof material still exists with the exception of copper which has all been removed. The location, size and shape of traingular roof lights can be clearly seen.<br>The main deep glulam or laminated main timber beams appear to remain, these act as bracing to the concrete beam walls. The bracing framed beams are in varying states, their condition being difficult to assess due to the roof debris above them.<br>Urgency: High | P1 | The roof was a lattice construction of Oregon timber of considerable structural interest providing an intricacy of detail and warmth in contrast to the massiveness of the insitu concrete structure. The material evidence is of importance and should be retained or collected and stored wherever possible for reference.<br>The top coverings in copper were elaborately worked in patterns reflecting the geometry of the roof and were an integral part of the architectural expression. | The roof covering should match original in detail, layout and copper material. Re-roofing will offer the opportunity to improve roof drainage details if necessary.<br>Insulation values should be improved to comply with Building Regulations which may increase the overall depth of the roof structure. Ensure that any increase does not affect the original roof line and level and any increase is accommodated internally.<br>Light fittings could be replaced with new contemporary fittings that closely resemble originals but not necessarily purpose made.<br>Rooflights should be reintroduced. |
| | | | | | | |
|  | Structure: Insitu reinforced concrete. | The classroom level is supported on 4 columns. These supports two 4ft deep beams which in turn support two longitudinal beam walls spanning 58ft and cantilevering 40ft at each end of block | Refer to S.Eng<br>Urgency: Medium | P1 | The scale, massiveness and hand-crafted qualities of the in situ concrete structure are structurally and architecturally significant. | The structure is expressed within the common room space and every effort should be taken to maintain the clarity of the visible structure. Work may be required to reduce the effect of cold bridging and this should be accommodated and concealed within the floor and ceiling voids if possible. |
| | | | | | | |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|   | Herringbone board marked in situ concrete beam walls | Beam walls are tapered inwards at the top and base of the wall The wall is constructed from insitu reinforced concrete board marked with a diagonal herring-bone pattern. There are 7 bays to the north and south elevation of the classroom, 5 bays are rectangular and are divided into 8 panels. The joints are recessed. The bays are then divided by triangular concrete vertical struts. The end bays are splayed and comprise of 6 panels. | No visible spalling. Staining due to weathering has occurred mimicking the herringbone pattern. Water is penetrating down from the unprotected top edge of the wall due to the lack of roof membrane and gutter lining. Urgency: Medium | P1 | The boardmarked herringbone pattern to the insitu concrete provides an intricate hand worked level of detail and texture to the surface of the concrete, and is a significant aspect of the architectural expression of the complex. | No alteration to the surface, texture, detail of the concrete should be undertaken unless it can be demonstrated the intervention will improve the long term durability and performance of the concrete structure i.e introduction of drip grooves to prevent water staining to overhangs, parapets etc. External walls should be insulated internally with for example; foil backed insulated plasterboard or be inserted within cavities behind new internal wall finishes. |
|  | External glazed screen to common room | The perimeter of the common room was enclosed with a full height glazed screen comprising a large lower glazed panel, and a random timber-mullioned recessed glazed panel above a horizontal trough shaped profile located beneath the two beams which in turn becomes the roof below the main westward cantilever. | Small sections of timber framing are precariously still attached to the soffit of the upper classroom level, indicating the rhythm of the mullions. Urgency: Medium | P1 | The transparency of the glazed screen allows the solid mass of the classroom to read strongly whilst providing a generous and open connection with the outside. | The visible width of all new mullions and transoms should be kept to the original size when incorporating double glazing. Solar control glass should be as clear a possible avoiding the use of tinting. The material used for the glazed frames, could be polyester powder coated aluminum or steel if low maintenance is priority. All original colours, mullions and transom patterns should be restored as original. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Concrete Mullions | Randomly spaced pre cast concrete mullions to the library level, originally infilled with full height timber glazed panels. | All mullions appear to be present and intact. The timber glazed infill screens are all missing. For condition of concrete refer to S.Eng.<br>Urgency: Medium | P1 | The library level is partially sunken. The randomness of the mullions is a clear reference to La Tourette's 'undulating windows' and is a significant element forming the elevational composition of the classroom block. The mullions are set back from the original retaining wall of the old house. | The visible dimension of the mullions and transoms should be kept close to the original size when incorporating double glazing. The material used for the glazed frames, could be polyester powder coated aluminum or steel if low maintenance is a priority. All original colours, mullion and transom patterns should be restored as original. |
|  | Floors | The floors of the classroom are constructed from beam and block construction | The beam and block floors appear to be in sound condition probably as they have until recently been covered by finishes.<br>Urgency: Medium | P1 | Terracotta pot and beam was used extensively to reduce the dead weight of the floor structure. The design and materials are typical of the period. | The floors may require upgrading to meet Building Regulations: Fire and/ or acoustic separation. This should be considered carefully so as to maintain flush threshold details and ceiling, glazed screen relationships.<br>Any additional insulation required to meet current Building regulation should not alter the profile of the cantilevered soffits. |
|  | Timber external soffits | The classroom top level cantilevers 40ft tapering upwards at each end forming an external covered area with varnished timber soffits. | The timber soffit to the west end has become detached as a whole from the substrate. A large amount of the original timber is still in reasonable condition albeit in a precarious state of collapse.<br>Urgency: High | P1 | The timber cladding to the soffit of the lecture rooms adds warmth and colour to the cantilevers and the canopy soffit above the west facing terrace. | Timber profile, size and pattern should be restored to match original, however the timber type, method of fixing and clear coating can be updated to improve long term performance of soffit.<br>Any additional insulation required to meet current Building Regulations should not alter the profile of the cantilevered soffits. |

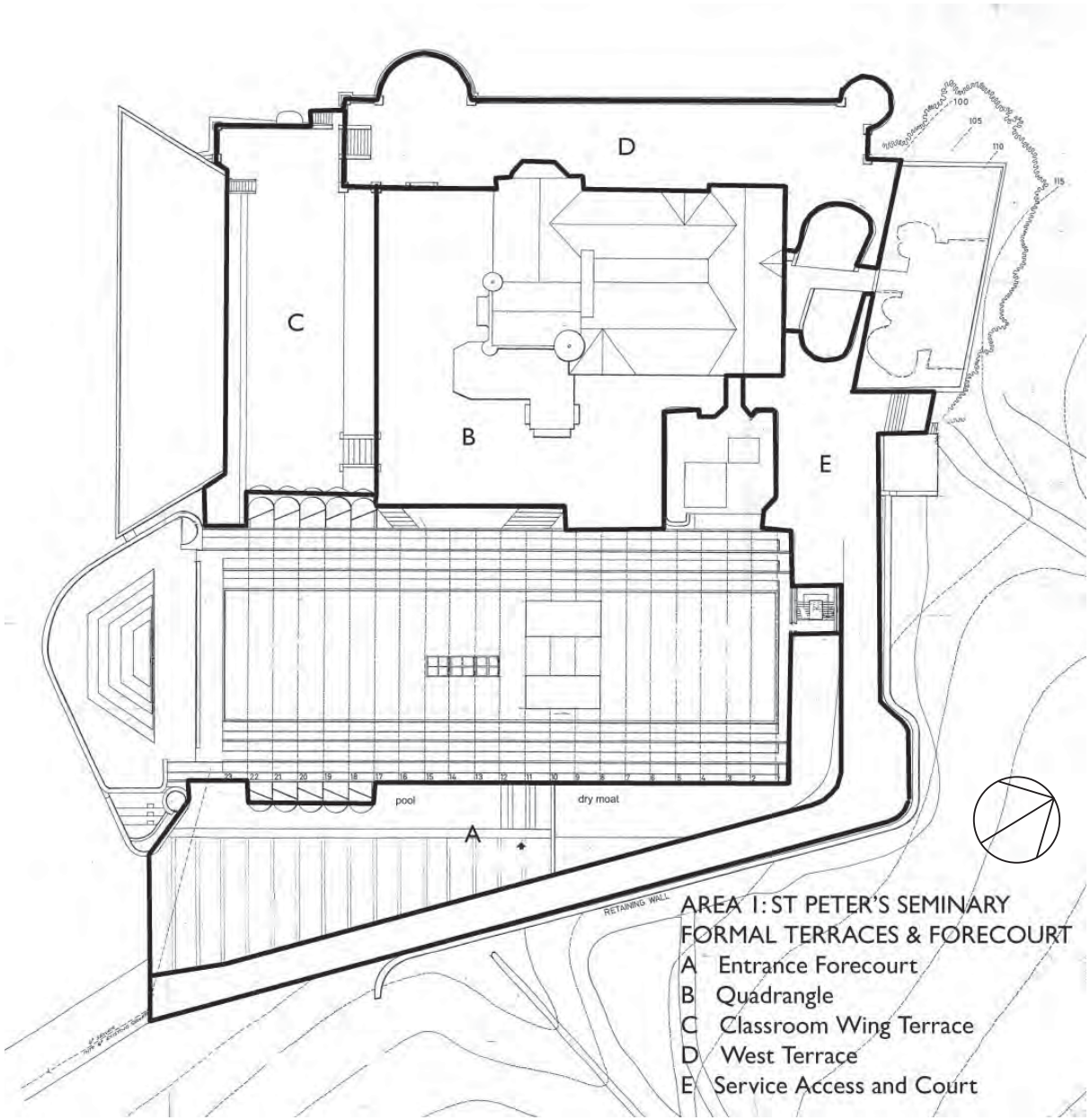
| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Internal staircase | Solid in stiu reinforced concrete two levelled staircase, with teak treads, risers and handrails. | Access was not possible. From a visual inspection the insitu concrete seems to be structurally sound. Sections of the original teak treads and risers appear to be in place. No handrail was visible.<br>Urgency: Medium | P1 | The staircase occupies the central space within the plan, open to the common room. It is an important element in the space and rises up through a wedge shaped void/opening in the upper floor. The stair would also have been visible from the external courtyard. | Timber type, detail, profile and design should be restored to original detail. Any upgrade necessary to comply with Building Regulations should attempt to maintain the open nature of the stair within the space. |
|  | Toilet pod | Harled curved brickwork single storey structure, with insitu concrete coping. located beneath the underside of the main insitu concrete classroom structure. Natural light is provided by way of a full height thin slot with splayed reveals. | External walls and harling remain largely intact probably because of its sheltered location. although its surface has been grafittied.<br>Urgency: Medium | P2 | The toilet pod is a self contained and enclosed form in an otherwise open and glazed enclosed space. It deliberately sits beneath but does not touch the main structural soffit of the upper classroom. | The toilet pod space could be adapted for new uses, provided that the external envelope, window fenestration, curved reveals and external curved walls are retained. |
|  | Internal plan layout | Refer to plans | The external envelope of the library and common room are missing. Access to the upper classroom level was not possible as the roof has fallen in on the internal spaces.<br>Urgency: Medium | P2 | The single open plan glazed common room space sits below and emphasizes the solid massive classroom volumes above. Views are available through this space from the external courtyard out towards the trees and landscape beyond on the south side of the teaching block. The clever use of adaptable partitions was adopted in the upper level to provide flexibility of classroom numbers. The lecture rooms at either end are expressed externally by the upward canted cantilevers to the east and west ends of the block. | The single open plan space of the common room should be retained. The subdivision and use of the upper classroom space could be adapted for new uses, provided the south and eastern glazed screens are retained. The layout and use of the library space could also withstand adaptation for new uses. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Kitchen Block | Single storey load bearing harled semi curved rectangular block with a narrow timber glazed linking corridor to the existing house. The space was lit by small irregularly placed windows with splayed external reveals. There were two rectangular copper clad rooflights with a swept curved section. The disposition of the windows was determined by the arrangement of the kitchen. Internally, timber ceilings were employed and the walls were covered in glazed white tiling. Quarry tile to floors. | The building is in derelict condition with just the shell remaining. Remnants of the high level windows are left in places. Sections of internal brick partitions are still intact and have original white tile finishes still adhered to them. Flooring is covered in debris but the original quarry tile floor is still evident in places.<br>Urgency: Medium | P2 | The position of this kitchen building is significant to the original buildings use as it acts as a social valve dividing the convent from the college buildings and students' accommodation. The only direct contact between the students and the sisters being through the servery at meal times. Its position also allowed the reuse of the existing service access route to the original Kilmahew House and the building helped screen deliveries from the courtyard. | The building should ideally be retained in any proposal for new use as its location it critical to the understanding of the original design and composition of the complex. Its use however and internal layout can accommodate alteration to suit a new use. It might also be removed if this was essential to the fulfillment of a new use for the main building. |
|  <br>  | Sisters' refectory and common room | Two single storey load bearing harled curved forms, with roofs in section that sweep up dramatically towards each other. These forms were bisected by a corridor which linked the main convent block.<br>The internal walls were painted white and the curved ceilings were clad with varnished curved timber. Small differing sized windows were arranged randomly in the external wall and have splayed external reveals. | Both structures are in poor condition. The roofs of both are in a state of collapse, although it is still possible to see the timber clad swept form of the common room roof.<br>A good deal of the white painted timber window frames are in place, some opening lights exist but all glass appears to be missing. The interior plaster is still intact on those walls that are still in place.<br>All material has suffered due from water ingress due to damage to roofs.<br>Urgency: High | P1 | These structures are free form enclosing the social spaces of the convent linking the convent block to the original house providing intermediate spaces for social activity before entering the convent block itself. The formal inter-dependency between the small units and large volumes reflects the concept of the 'ideal religious community in that every part speaks to every other part.'<br>The dramatic swept sections and the warm timber curved cladding to the ceiling are all of architectural significance.<br>The ceiling still in situ provides important documentary material evidence of the detail, material and colour of the timber used internally within the buildings. | Both structures should ideally be retained, including the roof, form and external envelope.<br>The internal spaces should be retained whole and not sub divided.<br>The missing links to the convent block and the now demolished house can be altered to suit new proposals and use provided the new design retains the overall design intent. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Roof | 3 layer asbestos based roofing felt, assumed to be of similar construction to main block. | Roof covering appears to be intact, but the surface has silted up and algae, moss etc have established resulting in a green cover to the felted surface. Rainwater outlets were not visible and are possibly obstructed.<br>Urgency: Medium | P2 | Roof material and detail are of purely functional importance as not visible, except from upper levels of the seminary. | Any new roof covering material should be chosen to meet the required design life. Built- up roofing felt, single ply membrane, asphalt are all acceptable alternatives to the original asbestos based felt.<br>When re-roofing, improve drainage falls provided that the outcome does not affect the roof line and profile. All maintenance fall arrest equipment should be installed out of sight from ground level. Any new plant room or equipment at roof level should be located well back from roof edges, out of view.<br>Decision regarding possible installation of solar energy collectors/pv' cells should be taken in conjunction with design and detailing of new roof covering. |
| | | | | | | |
|  | Insitu Frame/ Primary Structure | 2 storey structure comprising of in situ reinforced concrete columns, walls, beams and slabs | Access was not gained, assumed to be same as the main block.<br>The in situ reinforced concrete elements are generally in a structurally robust condition with signs of localized durability issues which have led to localized areas of spalled, delaminated, missing, cracked and honeycombed concrete, exposed reinforcement and defective shutter ferrule plugs. The areas of deterioration are related to the ongoing corrosion of embedded steel reinforcement close to the surface of the concrete elements. If remedial work is not undertaken to the concrete the problems will continue and will begin to have implications on the structural integrity of the structure.<br>Urgency: Medium | P1 | The use of insitu concrete has significance both architecturally and structurally. | Ensure that all boardmarking and shuttering patterns are retained, and replicated where repairs have been carried out. All repairs should be squared off in outline leaving a light but not unsightly manifestation. |
| | | | | | | |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Pre cast cladding | Light brown in colour, external large soft rounded exposed pebble aggregate. The slabs span 8ft bays in the form of an arch, gallery or handrail unit in 4inch thick. | As main block<br>Urgency: Medium | P1 | The choice of aggregate was selected to 'harmonise with the stone of the existing house."<br>The finish is also suitably vigorous in what is a rugged setting.<br>The pre cast work is reported to be similar to the pre cast panels used at the Roehampton estate. | Any new fixings should be inserted without any visible manifestation to the exterior of the pre cast panels. All repair work required to the pre cast concrete panels should match the original, pattern, aggregate type, colour and texture.<br>If panels need to be removed, care should be taken to ensure that the vaulted plastered ceiling behind is not damaged. The insertion of sacrificial anodes or corrosion inhibitors should be kept to then non visible rear face of all pre cast panels. |
|  | Rendered blockwork walls | Rendered non load bearing blockwork walls to the east and west end external first floor walls of convent block | Render appears to have remained insitu but is suffering from water damage at the junction with the cladding panels above and discoloration from algae.<br>Urgency: Medium | P1 | Render surface should be retained as significant | Any new render work required to match original texture, detail and colour. |
|  | Convent bedroom windows | Painted timber glazed windows, one opening side hung casement, one fixed pane. Above the horizontal pre-cast dividing panel, within the vault was a curved glazed fixed slender framed panel.<br>Beneath the cill level externally there is a horizontal pre cast panel above a painted timber panel divided it from a curved pre cast panel below. | All timber components are missing.<br>Urgency: Low | P1 | The timber detail, paint colour, section sizes and mullion, transoms locations were all of architectural importance and formed part of the building language adopted. | The visible width of all new mullions and transoms should be kept close to the original size when incorporating double glazing. Solar control glass should be as clear a possible avoiding use of tinting. The material used for the glazed frames, could be polyester powder coated aluminum or steel if low maintenance is a priority.<br>All original colours and mullion transom patterns should be restored as original.<br>Consideration should be given to eliminate cold bridging at reveals. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
| | Ceiling vaults | White painted plastered barrel vaulted ceilings to each convent room | All appear to be intact though with evidence of water ingress in areas. Urgency: High if original fabric is to be retained. | P1 | The scale, span and size of the vaults relate to the width of each convent bedroom and forms the dimensional basis of the structure. | Reinstatement of missing barrel vaults can adopt new modern method of construction provided that the end result matches original profile and detail.<br>Service voids will need to be carefully threaded below the upper floors and above the ceiling vaults and care will need to be taken to avoid damaging original vaults to be restored.<br>All original vaults to be retained where possible. |


D
C
B
E
A
pool
dry moat
RETAINING WALL
AREA 1: ST PETER'S SEMINARY
FORMAL TERRACES & FORECOURT
A Entrance Forecourt
B Quadrangle
C Classroom Wing Terrace
D West Terrace
E Service Access and Court

| Photograph | Item | Historical Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
| **Entrance Forecourt** | | | | | | |
|  | Paving | Bands of macadam subdivided by lines of granite setts running parallel to the service road. | Macadam and setts still exist but overgrown with rank grass and scrub vegetation.<br>Urgency: Medium | P1 | Part of GKC (Gillespie Kidd and Coia) landscape scheme | Bands of macadam and setts express the geometry of the the entrance sequence and should be retained. |
|  | Pool | Sunken pool c. 500mm deep. Sloped edge, laid to setts. Base of pool surface unknown. Two trip rails, 300mm high approx. – east one made from tubular steel sections, west one from steel flats – both painted black-Latter probably original | Pool full of debris and scrub vegetation. Safety rails showing signs of corrosion.<br>Urgency: High | P1 | Integral element in GKC scheme. Water symbolises the seminary's separation from the outside world. | Pool is of high significance to the entry sequence and symbolic of the notion of retreat. |
|  | Entrance Bridge | Sett paving, lying parallel to sett bands in forecourt. Couple of cast metal setts substituted near end of bridge, with raised bumps similar to impaired visibility paving. Setts possibly shallow depth to traditional setts as one was chipped in uncharacteristic way. | Urgency: Medium | P1 | The bridge is symbolic in how the students 'retreat' over the threshold away from everyday life into the religious world. | The bridge is an key element of the expression of retreat and separation. |
|  | Dry Moat | Described as a dry moat in GKC drawings. The moat mirrors the pool layout, however elevated at height of retaining wall which houses water spout and chain. Could be part of device of connecting water source to pool. | Moat full of debris, rank grass and scrub vegetation. In addition invasion by saplings, suggesting deeper soil conditions.<br>Urgency: Medium | P2 | Part of GKC landscape scheme. Demonstrates hierarchical design intent, as visitor would not appreciate water from bridge at this higher level. Moat, in conjunction with pool symbolises segregation from outside world and more practically the service area. | Important in negotiating the level change from the higher ground and retaining walls and entry level. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Main Block Steps | Battered concrete berm, with two flights of steps at 45 degree angles, leading to paths that connect cloister to mansion house and 19th century steps to lower terrace and classroom block. Steps to mansion house broader than steps to path, signifying main entrance. | Appear sound, but covered in debris and some vegetation.<br>Urgency: Medium | P1 | Integral element of GKC scheme. Demonstrates functional and hierarchical design approach. This solution much emulated in contemporary landscape schemes. | Steps should be restored to match original. |
| **Quadrangle** | | | | | | |
|  | Paving | Two areas of coursed setts connecting the Main block steps to the mansion house and 19th century steps to the lower terrace and classroom block both relating to desire lines | Setts still exist but overgrown with scrub vegetation<br>Urgency: Medium | P2 | Part of GKC landscape scheme. Demonstrates functional, economical but durable design intent. | Paving should be restored to orignal layout |
|  | Grass Lawn | Grass lawn in areas where access is recreational. | Overgrown with rank grass and scrub vegetation. In addition invasion by saplings.<br>Urgency: Medium | P2 | Part of GKC landscape scheme. An inner sanctuary of soft landscape is in keeping with monastic tradition and also softens the built form. | Grass should be reformed and kept trim. |
|  | Mansion House Walls and Steps | Mansion house demolished. All that remains is the masonry base course, approximately 1m high. Inside the void has been filled with gravel and crushed stone laid level to original internal ground level. | Walls to east and south and main steps still extant and in relatively sound condition. Only remnants survive of the west and north walls.<br>Urgency: Medium | P2 | Footings indicate location of 19th century mansion house which was integral to GKC scheme and influenced the layout. It is vital to understanding this. Important to maintain height of internal ground level in order appreciate views and relationship with other buildings. | Outline base of original should be retained and ideally restored where missing. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
| **Classroom Wing Terrace** | | | | | | |
|  | Paving | Random coursed setts, running parallel to building facades and connecting 19th century terrace steps with steps to west of Classroom Wing. | Setts still exist but overgrown with rank grass and scrub vegetation<br>Urgency: Medium | P2 | Part of GKC landscape scheme. Demonstrates functional, economical but durable design intent. | Should be restored and maintained. |
|  | Edging to Classroom Wing | Contemporary photographs suggest 1m wide (approx.) gravel/cobble strip with sett edge. | Overgrown with debris, rank grass and scrub vegetation. Sett edging visible but former gravel/cobble strip looks like it sloped down to the building – therefore unlikely material unless the gravel was set and exposed in concrete.<br>Urgency: Medium | P2 | Sett edge is part of GKC landscape scheme. Gravel strip status unknown. Further inspection required. | Should be restored and maintained. |
|  | Terrace Steps | Original steps to 19th century formal terraced garden. Dressed stone steps with raised retaining wall and coping | Overgrown with moss and rank grass but appear relatively sound.<br>Urgency: Medium | P2 | The steps are remnants of 19th century landscape that were consciously retained as part of GKC scheme. Reveals that GKC incorporated 19th century elements where possible, presumably for economical reasons and also because they valued them. | Should be restored and maintained. |
|  | Masonry Retaining Walls | Southwest and northwest sections of 19th and early 20th century retaining wall supporting formal garden terrace. Now appears to support Classroom wing at terrace level. Southern section as high as 5m approx. Curved profile beneath elevated building section. Part dressed stone, part rubble wall. | Southwest section covered in debris, scrub vegetation and ivy but appears sound. Rubble sections and around curved buttress to northwest sections appear to be crumbling. Structural Engineer to inspect and assess.<br>Urgency: Medium | P2 | Retaining walls are remnants of 19th century landscape. Incorporated by GKC as integral element, which influenced the seminary layout. Appears to support Classroom Wing and vital to the understanding of the GKC layout. | Should be restored and maintained. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Grass Lawn and Bank | Grass lawn and grass bank with three relatively mature cypress trees visible in contemporary photographs. | Overgrown with rank grass, scrub vegetation. Also invasion of self-regenerating saplings. Bank profile still visible and cypresses mature and over dominant.<br>Urgency: Medium | P2 | Remnants of 19th century landscape that were consciously retained and incorporated in GKC scheme, including the cypress trees. Evidence of how GKC incorporated 19th century elements where possible, presumably for economical reasons and also because they valued them. | Should be restored and maintained. |
| **West Terrace** | | | | | | |
|  | Terrace | West terrace for 19th century mansion house, with two curved 'belvederes' at both ends, and views over the pleasure grounds, in particular to the lake. Southern buttress larger than the north. Overlaid with macadam and sett path to Convent block when incorporated into GKC scheme. Contemporary GKC photographs show two low-clipped yew and rhododendrons either side of southern steps retained in GKC scheme. | Macadam still exists but overgrown with rank grass and scrub vegetation. Security fencing subdivides terrace, obstructs views of 19th century pleasure grounds (lake obscured by vegetation) to west and also access to the gardens. Sett path still relatively sound. Ornamental vegetation is overgrown and obstructs view of steps.<br>Urgency: Medium | P1 | The terrace is a remnant of the 19th century landscape. Incorporated by GKC as integral element, which influenced the seminary layout. Vital to understanding GKC layout and for enjoying views of the pleasure grounds and lake. Ornamental vegetation is remnant of 19th century planting scheme. | Should be restored and maintained. |
|  | Masonry Retaining Wall and Balustrade | Retaining wall erected to support west terrace to 19th century mansion house, with two curved curved buttresses at both ends supporting 'belevederes'. Rubble wall with dressed stone balustrade, up to 5m high approx. Balustrade retained and visible in contemporary photographs of GKC scheme. | The balustrade has been removed. Straight sections covered in ivy and difficult to assess. Rubble sections and around curved buttress to south appears to be crumbling. Structural Engineer to inspect and assess.<br>Urgency: Medium | P1 | Retaining walls and balustrade are remnants of 19th century landscape. Integral element of GKC scheme, which influenced the seminary layout. Vital to understanding GKC layout. | Should be restored and maintained. Any requirement for raised guarding should be resisted if possible, or designed with minimum visual impact. |
|  | Terrace Steps and Low Walls | Three sets of original steps. Two flights of steps led to 19th century pleasure grounds: a flight at the southern end of the terrace consisting of dressed stone inset between retaining walls; and a narrow flight of steps further south, parallel to west retaining wall. In addition three steps along the east boundary of west terrace were also recessed. Low walls between steps defined extent of west terrace. | The retaining walls of the southern flight exist, but treads are missing. The narrow steps still visible but crumbling. The steps along east boundary of west terrace are overgrown with moss and rank grass but appear sound.<br>Urgency: Medium | P2 | The steps are remnants of 19th century landscape, consciously retained as part of GKC scheme and continued to provide main link to 19th century pleasure grounds. | Should be restored and maintained. |

| Photograph | Item | Description | Condition | Priority | Significance | Analysis of Conservation Issues |
|---|---|---|---|---|---|---|
|  | Undercroft to Convent Block | | Security fence beneath block at top of steps. Access not possible .<br>Urgency: Medium | P2 | | Generally restore to original character |
| **Service Access and Court** | | | | | | |
|  | Paving | Access road laid to macadam and edged with setts. Service court laid to bands of macadam subdivided by lines of granite setts at right angles to buildings. | Macadam and setts still exist but overgrown with rank grass and scrub vegetation.<br>Urgency: Medium | P2 | Part of GKC landscape scheme | Generally restore to original character |
|  | Retaining Wall | Concrete retaining wall | Appears sound, but some vegetation, including saplings growing in walls. Security fence erected above it. Also burn seeping through central section of western wall.<br>Urgency: Medium | P2 | Boundary of GKC landscape scheme, which redefined relationship with 19th century pleasure grounds to north. Necessary in order to construct seminary buildings. | Consider ways of minimising impact of security fence |
|  | Steps to Gardens | Two flights of steps and a landing between Convent Block and bunker? South of access road retaining wall. Southern flight spans the whole area, northern ones much narrower and built against bunker, providing a connection with the 19th century path to north woodland pleasure grounds, albeit to the west of it. | Appear sound, but covered in debris, rank grass and scrub vegetation.<br>Urgency: Medium | P2 | Part of GKC landscape scheme. Demonstrates functional and hierarchical design intent. | Generally restore to original character |

Inadequate cover to expressed day joints

Exposed corroded reinfocement

Inadequate cover to expressed day joints

Exposed corroded reinfocement

Delamination of concrete surface

**4.6** **4.6 STRUCTURE**

4.6.1 **In Situ Reinforced Concrete**
The in situ reinforced concrete elements are generally in a structurally robust condition albeit there are clear signs of localised durability issues on a number of members notably the external staircase located at the north end of the Main Block.

4.6.2 These localised defects include spalled, delaminated, missing, cracked and honeycombed concrete, exposed corroding reinforcement, defective shutter ferrule plugs and the like.

4.6.3 At this juncture it is pertinent to consider the how reinforced concrete ages. When concrete is made it is highly alkaline and thus embedded steel reinforcement is in a passive environment and generally will not corrode. However over time atmospheric weathering, notably carbon dioxide diffusion, reduces the alkalinity of the outer layers of concrete members. This is a natural process known as carbonation and ultimately when the carbonation front reaches or nears embedded steel reinforcement, passive protection is lost and in the presence of moisture and oxygen, corrosion of steel will generally occur. Typically, but not always, this will result in expansion of the reinforcement caused by the corrosion products which in turn leads to cracking and delamination of the outer layers of concrete. The presence of significant quantities of free chlorides will accelerate the corrosion process and in certain circumstances may lead to the onset of corrosion of steel in uncarbonated concrete.

4.6.4 It is apparent that this process is now at a relatively advanced stage in isolated locations and the cause of the most recent deterioration is related to ongoing corrosion of embedded steel reinforcement close to the surface of the concrete elements. It is also clear that if effective remedial repairs are not executed further corrosion and spalling will occur in the future possibly exacerbated by frost action in cold weather.

4.6.5 Thus it can be seen the relationship between the depth of cover (the outer layer of concrete protecting the embedded steel reinforcement), the depth of carbonation and exposure conditions are critical in terms of durability.

4.6.6 The specified cover depths would have taken account of the location and hence exposure of particular elements. Consequently exposed external concrete surfaces would have been constructed with greater cover, typically 40mm, than internal surfaces say 20 – 25mm. However for some years most concrete surfaces have effectively been in an external environment and exposed to weathering, notably rain and snow.

4.6.7 Fabric testing undertaken by CRLS has identified a number of locations where cover/carbonation depths are critical (see Table in 4.2.1) and correlates with visual evidence of durability issues namely spalling concrete and corroding reinforcement. It is pertinent to note that such defects occur on both external and “internal” surfaces.

4.6.8 Evidence of poor detailing and construction was also noted in a number of locations e.g. inadequate cover generally, inadequate cover at expressed daywork joints (grooves), honeycombed concrete, etc. These defects are prevalent on the external staircase at the north end of the Main Block

4.6.9 It must be appreciated that many concrete surfaces are covered and/or inaccessible and only very limited fabric testing was undertaken and it is therefore possible that other defects not noted above may exist. For example it was not possible to undertake a close up inspection or testing of the hollow pot and beam floor to the Classroom Block. This type of construction can suffer from latent durability defects resulting from concrete segregation around reinforcement within the beams or ribs. The honeycombed concrete provides inadequate, hit and miss, protection to the steel reinforcing bars and consequently atmospheric moisture can initiate steel corrosion with the corrosion products often dissipating into the voids in the concrete. With this type of defect the typical early tell tale visual signs of corrosion i.e. cracking/spalling concrete often due not occur until the corrosion process is at an advanced stage.

4.6.10 Evidence of water ingress and saturation was also observed in a number of locations and this will exacerbate the deterioration process on effected elements.

4.6.11 Limited sampling and laboratory testing of retrieved concrete samples is indicative of no use of chloride additives in the in situ reinforced concrete elements. See table 4.2.1 in CRLS Report)

Exposed aggregate pre cast concrete cladding

Corroding cast in metal wall ties

North elevation of main block

4.6.12 **Pre Cast Concrete Floor and Terrace Slabs**
The internal pre cast reinforced concrete floor/terrace slabs within the main block were generally covered by floor finishes, vaulted ceilings or inaccessible and consequently very limited inspection and testing was undertaken. However where visible, the slabs appeared to be in a generally sound structural condition. Cracking in the floor slab finishes may reflect cracking in the substrate (ie the top of the pre cast slab) however it is also possible that the distress in confined to the applied finishes which were designed for a benign internal environment and have subsequently been subjected to a relatively aggressive external exposure which is likely to entail cyclical wetting/ drying and frost action.

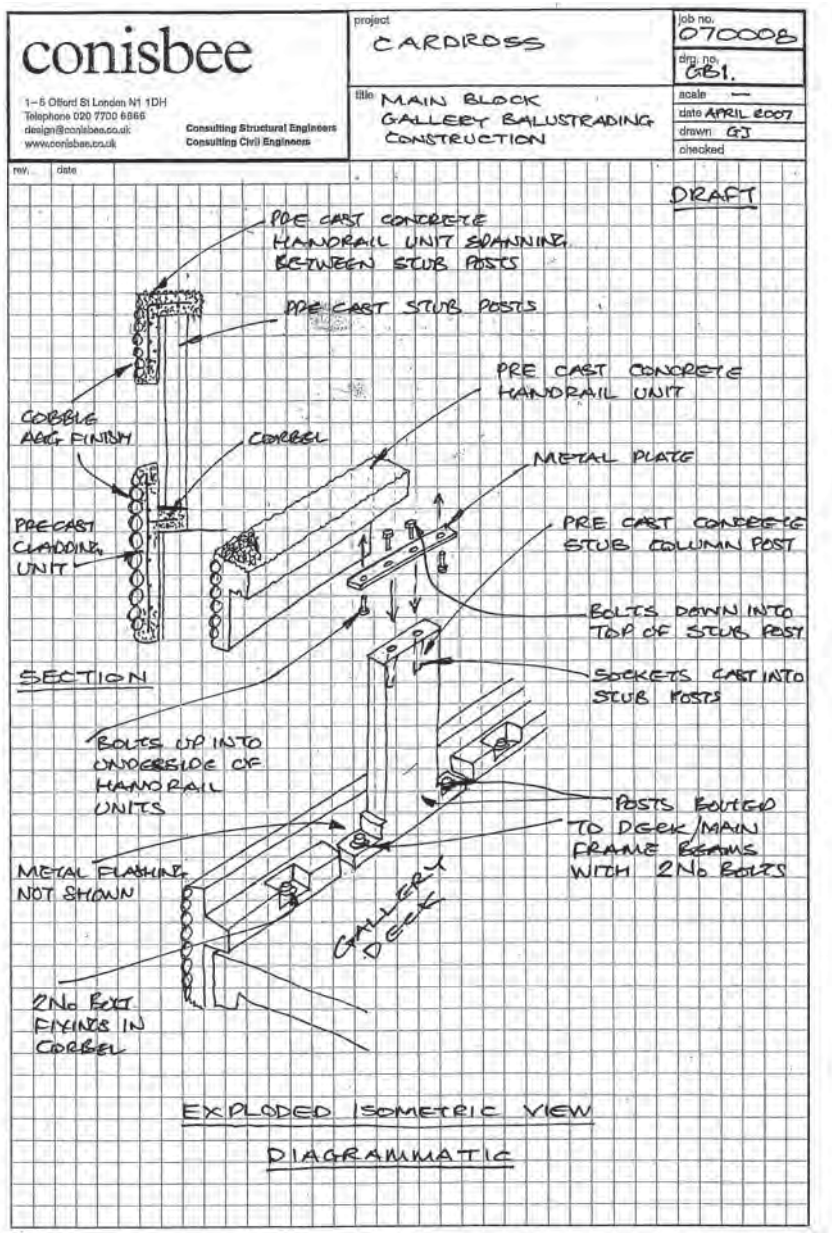
4.6.13 Chloride levels were found to range between 0.2 and 0.3% assuming a mix cement content of 14%. This is may be indicative of the controlled use of chloride additives as an accelerator in the pre casting works or the use of poorly washed marine aggregates. The effects on the durability of these components are set out in detail in CRLS Report section 5.2.3.

4.6.14 Evidence of water ingress was noted in a number of areas within the Main Block and this is likely to have resulted in localised defects in particular pre cast slabs.

4.6.15 **Pre Cast Cladding and Gallery Elements**
The pre cast concrete cladding panels to the ends of the Main Block generally appear to be in a sound condition with little evidence of defects or past repairs noted. The large aggregates cast into the external faces appear to be firmly embedded in mortar no significant bowing or distortion was noted.

4.6.16 Access limitations precluded undertaking intrusive fabric testing but it should be noted that in this form of construction critical cover/ carbonation relationships can arise on the rear faces and result in latent defects on this hidden, inaccessible surface.

4.6.17 Some of the fixings to the above panels were visible on the south end of the Main Block and were found to be sturdy bent galvanised metal brackets bolted into the end concrete wall. The panels are supported on the bottom brackets and the upper brackets interlock into the top edge of the panel to provide restraint. The bottom bracket fixings were not visible but each upper bracket is fixed with two bolts




and washers. Metal spacers were also noted between the concrete wall and back face of some brackets. All bolts, washers and shims were noted to be corroding but no corrosion was noted on any of the brackets. It would appear that the fixing components are uncoated, or have a different coating to the brackets, and the fixings have become anodic and are corroding sacrificially. The fixing sockets located within the concrete wall are likely to be made of the same material as the fixing bolts and will consequently also be susceptible to accelerated corrosion.

4.6.18 The terrace/gallery balustrading comprises three pre cast reinforced concrete components namely handrails, stub columns/posts and cladding panels. Numerous images of this construction are contained within the CRLS Report.

4.6.19 The handrails are “L” shaped with large round aggregates to the external vertical surfaces, small angular aggregates to the top and internal vertical surfaces and uncoated fair faced smooth finish to the remaining surfaces. The hand rails are supported on the top of the stub columns/posts which are located in line with the main beams/ column. The handrails are attached to the posts via metal plates which are bolted into the top of the posts and the underside of the handrails.

4.6.20 The stub columns/posts are slender, heavily reinforced, inverted “T” shaped elements with an uncoated smooth fair faced finish to all surfaces. The lower horizontal member of the post sits on the top of the cladding panels and straddles the vertical joint between the lower panels. Each leg of the horizontal member is bolted to the top of the cladding panels. A preformed Zinc flashing/tray is located within the joints between the post and cladding panels.

4.6.21 The cladding panels are slender rectangular shaped units with continuous corbels on the upper rear faces. The front faces have large round aggregate finishes and often have a semi circular bottom edge; thus the panels effectively form a stop end to the void between the vaulted ceilings and floors/terraces.
The cladding panels are hung off the edge of the floor/terrace floor via the corbel with two bolt fixings per panel.

4.6.22 Although the balustrading appears to be in a relatively sound condition when viewed from ground level close up inspection

Corroded bolt fixings at base of concrete posts

Corroded shims between handrail post and facade forcing panels out of alignment

Corroded bolt fixing to underside of handrail panels

from the terraces reveals severe and widespread defects with the construction.

4.6.23 Numerous defects were noted on all levels and elevations and it is clear that the deterioration summarised noted below represent an endemic problem with the balustrade components:-

a. Severe corrosion to bolt fixings in bottom legs of posts.

b. Extensive spalling/cracked concrete and corroding reinforcement to concrete pockets around post bottom leg fixings.

c. Severe corrosion to bolt fixings to cladding panel corbels.

d. Extensive spalling/cracked concrete and corroding reinforcement to concrete pockets around pockets in cladding corbels.

e. Severe corrosion to bolt fixings into underside of handrails.

f. Extensive spalling/cracked concrete and corroding reinforcement to vertical post members.

g. Isolated spalling/cracked concrete and corroding reinforcement to handrail surfaces.

h. Severe corrosion to metal shims between vertical joints between posts and cladding panels in isolated locations.

j. Distortion, leaning and lifting of posts and handrails as a result of g and h above.

k. Missing and loose/slack bolt fixings to all components in isolated locations.

4.6.24 As mentioned above the severity of the corrosion noted on bolt fixings may in many locations be exacerbated by anodic reaction between dissimilar metals e.g. the plates to the handrail/posts and the bolts.

4.6.25 It is also likely that the deterioration process has been further exacerbated by cyclical seasonal thermal movements and frost action on the exposed external elements.

Displacment of corner handrail post

Lost and delaminating render with consequential brick damage

4.6.26 The combined effects of the above deterioration processes has resulted in structurally significant weakening of the terrace balustrading which must be capable of safely resisting the horizontal forces which may be applied to the handrails by people using the terraces.

4.6.27 In at least one location (at the north west corner of the block) the combined effects of horizontal movement of the balustrading on two facades has resulted in significant displacement of the corner post and associated handrail units. Further outward movement will result in failure and partial collapse of these elements.

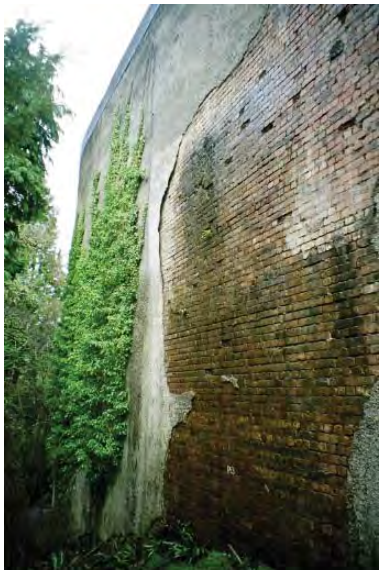
4.6.28 It must be appreciated that the defects noted above relate to durability problems mainly resulting from the design and specification of the pre cast components and fixings exacerbated in some cases by faulty manufacturing and site construction. It is also pertinent to note that the current fabric defects would exist had the Main Block remained in use since construction albeit it is possible that the detrimental influence of frost action would not have been so severe in the past twenty years. Nevertheless it would appear that the long term durability implications of using the slender pre cast panel construction and metal fixings in an exposed environment were not appreciated by the original design team and builders.

4.6.29 **Brickwork**
The end walls to the Sanctuary Block and the Side Chapels appear to be constructed in curved cavity brickwork with rough cast render to external surfaces and plaster finish to internal faces.

4.6.30 There are extensive areas of missing, cracked and delaminated render on all walls. Where bricks are exposed significant numbers of bricks have delaminated. In the limited time available it was not possible to undertake a wall tie survey although limited inspection within the cavities did reveal the presence of flat twisted metal wall ties. It is pertinent to note that where areas of rendered blockwork has fallen away from the concrete walls to the ends of the Main Block, galvanised triangular wire wall ties were found. The ties were fixed to the concrete walls and the outer parts of the ties (i.e. the section of tie originally embedded in the blockwalls) were actively corroding whereas the remaining tie (i.e. the section originally within the open cavity between the block and concrete walls) were in good condition with no rusting noted. We may therefore deduce that the

Corrosion of wall ties

Delaminating/missing render from brick silo shaped chapels



Delaminating/missing render leading to saturated brickwork

corrosion process was initiated while the block wall was in place albeit further corrosion will have occurred since the wall collapsed leaving the ties exposed to the elements. In the absence of evidence to the contrary it is reasonable to assume that the metal wall ties within cavity brick walls are also corroding.

4.6.31 Corrosion of all cavity wall ties can result in durability and structural defects in wall construction. The structural integrity of cavity walls is reliant upon both inner and outer leaves being adequately tied together allowing the wall to act as a composite structural unit to withstand applied forces such as wind loads. Spacing of ties varies depending upon a number of factors such as, cavity width, wall height and geographical location (wind speeds) but would typically be 900mm horizontally staggered and 450mm vertically to provide a diamond pattern of distribution. Cavity walls constructed with inadequate and/or ineffective ties can suffer sudden and dramatic collapse in extreme weather resulting in violent wind suction applied to external wall faces. In derelict structures such effects are often compounded as walls may be subjected to (negative) wind suction on outer faces and (positive) wind pressure on inner faces simultaneously. Wall tie corrosion can also lead to durability problems due to the expansive corrosion forces opening bed joints and jacking up/lifting entire walls.

4.6.32 The substantial curved brick wall at the south end of the Sanctuary is freestanding and was originally obtained head restraint from the Sanctuary roof construction main beams. As mentioned below the loss of most of the roof and damage to the remaining members has resulted in a reduction in the restraint of the wall and increased the risk of partial or total collapse in high winds. See also 4.6.31 above regarding wind loading on walls. However the plan geometry of the wall does provide some inherent stability and the remaining Glulam truss beams will also offer some restraint against wind loads.

**Timber**

4.6.33 A number of the large Glulam truss beams over the Sanctuary are missing and those remaining could only be inspected from low level. Significant fire damage was noted on a number of members, together with possible lack of lateral restraint and damage to bearings.
The timber floor joists within the main block were either missing or in inaccessible areas making close up inspection impossible. The visual condition of joists varied with some members in apparent sound condition and others suffering from rot and fire damage. A number

Damaged timber roof of teaching block all original copper roof covering missing

Damaged plastered vault

Floor missing vault viewed from above showing metal Hi-Rib lath support structure

of joists were noted to be supported on timber plates bolted to the sides of the main concrete beams. Bolt fixings to the bearers were generally seen to been corroding.

4.6.34 The timber roof construction over the Classroom Block is in a state of partial collapse and only remote inspection from a safe distance was undertaken. No fire damage was visible. Two large diagonal tie beams appear to be in place albeit the bearings could not be seen and therefore the effectiveness of any restraint offered by these members to the slender external wall/beams could not be assessed.

**Vaulted Ceilings**

4.6.35 The vaulted ceilings are constructed in plastered Hi – Rib metal lathing. The arch springers are located on projecting nibs on the side of the main in situ reinforced concrete beams. Many ceilings are completely missing or in a state of partial collapse and are strewn with debris. The upper surfaces of the exposed Hi – Rib are visibly corroding but it was not possible to undertake close up investigations to assess the severity of the rusting.

4.6.36 A regular, uniform longitudinal and lateral pattern of fine cracking was noted on all ceiling soffits. These cracks are thought to coincide with H i- Rib sections.

**General Note**

4.6.37 The seminary buildings were constructed over forty years ago and were in usage for only the initial twenty years. Since the late 1980s the complex has suffered from the combined effects neglect, lack of maintenance, vandalism, arson and weathering resulting in the current generally dilapidated condition.
It must be appreciated that whilst the acts of vandalism and arson in recent years would in many instances have caused dramatic and sudden damage and/or destruction of the building fabric (e.g. fire damage to the sanctuary timber roof construction) the normal fabric decay process has taken place throughout the life of the complex. Clearly the results of wanton damage will, in certain instances, have accelerated the normal rate of fabric deterioration particularly where elements designed for an internal environment have subsequently become unprotected and exposed to weathering.

However had the buildings not been damaged by vandalism and

4.6.38 arson most of the fabric deterioration on the external reinforced concrete elements (in situ and pre cast), metal fixings, wall ties and render would still have occurred., and have required effective maintenance.

4.6.39 At this point it is pertinent to note that the normal relationship between the rate of fabric deterioration and time is not linear but generally follows an exponential curve. For example external reinforced concrete elements often remain in a physically sound condition for say twenty-five/thirty years after construction until the effects of carbonation and weathering result in corrosion of steel reinforcement and subsequent cracking/spalling of concrete. Consequently the rate at which fabric decays typically increases at a progressive rate as the building ages. Dramatic fabric damage and/or change of exposure will result in a step change in the rate of deterioration.

4.6.40 The following pages provide the detailed results of the concrete condition survey carried out for this study by Concrete Repairs Limited.


CRL SURVEYS Structural and building assessment Report SUR07569 Cont'd...

**CONDITION ASSESSMENT**
OF
**ST. PETER'S SEMINARY**
**CARDROSS**
FOR
**ALAN CONISBEE AND ASSOCIATES**

St. Peter's College, Cardross 2 Cont'd...

www.concrete-repairs.co.uk email: sbladon@concrete-repairs.co.uk

## CONTRACT DETAILS

| | |
|---|---|
| **Contract No.:** | SUR07569 |
| **Site:** | St. Peter's Seminary<br>Cardross |
| **Client:** | Alan Conisbee and Associates<br>1-5 Offord Street<br>London<br>N1 1DH<br><br>**For the attention of: Mr. Gary Johns** |

## FOR CONCRETE REPAIRS LIMITED

| | | | |
|---|---|---|---|
| **Author:** | Simon Bladon BSc., MSc.<br>CRL Surveys Manager | **Signed:** |  |

## REPORT DETAILS

| | | Issue and Revision | | |
|---|---|---|---|---|
| | | **Date** | **Rev** | **Description** |
| **This Report Comprises:** | 38pages of text<br>Appendix A<br>Appendix B | 11th March 2007<br>2nd July 2007 | <br>1 | Draft<br>Final |

## COPYRIGHT AND LIABILITY



Report SUR07569 Cont'd...

# CONTENTS

## 1. INTRODUCTION

### 1.1 References

Email from Alan Conisbee and Associates dated 6th October 2006.

Email from Alan Conisbee and Associates dated 9th October 2006.

Email from Alan Conisbee and Associates dated 9th December 2006.

Email from Alan Conisbee and Associates dated 15th January 2007.

Email from Alan Conisbee and Associates dated 26th January 2007.

Concrete Repairs limited (CRL Surveys) letter of acknowledgement and acceptance of instructions, with enclosures, Ref: SUR60538/SUR07569/SB/sb dated 30th January 2007.

### 1.2 General Background

Concrete Repairs Limited (CRL Surveys) were asked by Mr. Gary Johns of Alan Conisbee and Associates to carry out a limited condition survey of the above structure.

Our Engineers attended site during week commencing 5th February 2007 and their findings are detailed as follows.



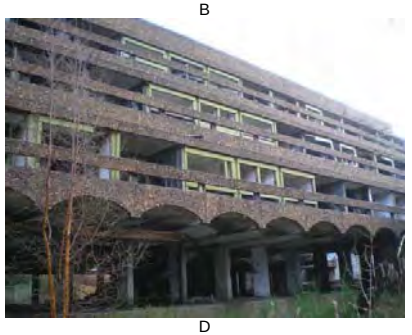


## 2. GENERAL SITE DETAILS


A


B


C


D


E


F

**Plate T1:** General views of St. Peter's Seminary, a grade A listed building designed and built between 1953 and 1966, by Gillespie Kidd & Coia; the first wholly post-war building to be listed, and recognized to be one of the most important 20th century buildings in Scotland.

## 3. CONDITION ASSESSMENT - PROCEDURES

### 3.1 VISUAL INSPECTION

The structure was, as far as practicable, subjected to a full close-quarters visual inspection.

Typical defects were be photographed, with locations recorded onto drawings, with appropriate description/s

### 3.2 DIAGNOSTIC INVESTIGATION OF CONCRETE ELEMENTS

#### 3.2.1 Hammer Testing

**Method**
Suspect general areas were identified during the visual inspection works above. The concrete surfaces, in localised 'test areas' (defined by local site conditions) were subjected to light sounding using a "lump hammer". The hammer was drawn over the concrete surfaces, or used lightly to tap the concrete, in order to identify loose, hollow, delaminated and/or spalling areas (including latent or incipient spalling).

**Loose Material**
Areas of concrete and other materials considered to be loose and at risk of falling would be noted and the appropriate authorities informed as soon as practicable.

#### 3.2.2 Depths of Cover to Reinforcement

The concrete surfaces, within the selected 'test areas', were subjected to covermeter surveying using either a Kolectric Limited, "Micro Covermeter", a Hilti Limited "Ferroscan", or other similar instrument, in accordance with the manufacturer's instructions and in general accordance with British Standard (BS) 1881: Part 204.

The instrument was re-calibrated on-site regularly and the cover readings obtained would frequently be checked using reinforcement at various depths, including bars at existing spalled locations and at probed locations.

Bar sizes and the likelihood of lapped, closely spaced or congested reinforcement, which all potentially effect the precision of the results were also assessed at spalled and probed locations.

Where the 'Ferroscan" was employed the instrument was used to carry out either detailed scanning or quick scanning, as appropriate [(footnote 1)].

Detailed scanning of the concrete surfaces was carried out on a 600mm grid. The location, orientation, depth of cover and diameter of each bar within approximately 120mm of the surfaces would be identified and logged.

Quick scanning was carried out along nominal 10m traverses where the location and depth of cover of each bar encountered would be logged.

#### 3.2.3 Sampling and Analysis

At selected locations either concrete 'lump' or drilled dust samples were prepared, as appropriate. Lump samples comprised loose / spalled concrete pieces, found in-situ and carefully prized-free, whereas drilled dust samples would be prepared using a rotary-percussive drill and large diameter (up to 25mm) masonry bit in general accordance with recommendations detailed within Building Research Establishment (BRE) Information Paper (IP) 21/86.

[1] The format of the detector / scanning head to the instrument is such that a marginal area of approximately 85mm to 100mm width adjacent to internal corners cannot be scanned. We would also point out that various factors such as bar orientation in relation to the scanning orientation, bar depths of cover in excess of 60mm and the presence of other metallic objects can cause interference detrimental to the determination of bar diameters. The surfaces to be investigated should also be reasonably smooth and free of obstructions.





In this particular case, the drilled dust material sampled, at each location, comprised either a single bulk Sample prepared over the approximate depth range of 5mm to 50mm, or the depth of the spalled surface down to the reinforcement, or several incremental depth sub-samples. The latter was prepared over the approximate depth ranges 5mm to 25mm, 25mm to 50mm and 50mm to 75mm, or as determined by site-specific conditions. Bulk samples would be prepared from locations where there was no evidence or likelihood of salt, or other contamination from an external source after setting or hardening of the concrete. Incremental samples would be prepared from locations where there was evidence or a likelihood of salt, or other contamination from an external source.

The samples would then be submitted to a UKAS accredited laboratory for preparation, as appropriate and chemical analysis for the contents of chloride ion in accordance with the procedures detailed within BS 1881: Part 124.

Chloride ion contents would be determined as % by weight of Sample and then recalculated as % by weight of cement assuming a cement content of 14% by weight.

#### 3.2.4 Depths of Carbonation

The concrete surfaces at each sampling location were subjected to depth of carbonation testing using phenolphthalein indicator solution in general accordance with recommendations detailed variously within BRE IP 6/81, BRE Digest 405 and BRE IP 11/98.

Phenolphthalein indicator was sprayed onto freshly broken and cleaned surfaces which would be, as far as possible, prepared without unnecessary damage.

In other areas, selected at random, some arrises and other locations were, however, tested in order to ascertain the relative depths of carbonation on adjacent surfaces and in particular around details, such as drips where the effective depths of cover to the reinforcement could significantly be reduced.

### 3.3 PRE-CAST PANEL FIXING DETAILS

The fixing details of selected pre-cast panels would, as far as practicable, be investigated using a combination of remote, non-destructive means and localised, careful intrusive means. For the former we would include careful 'tactile' inspections and measurements, with the 'Ferroscan' used, where appropriate, to evaluate hidden / buried details. For the latter we would include the localised removal of jointing material/s around panels, the removal of internal paneling / finishes, or drilling small diameter holes through the panels etc, into voids and the use of a borescope, remotely to inspect hidden details.

### 3.4 MAKING-GOOD

All sampling holes and areas of invasive investigations into the concrete elements were 'made-good' using proprietary concrete repair materials and practice. These repairs were, however, intended temporarily to protect exposed reinforcement and other detailing and would need to be repaired properly during any subsequent refurbishment of the structure.

We did not re-decorate or reinstate any especially finished surfaces, and weatherproofing details, if disturbed, were only reinstated as a temporary measure.

## 4. CONDITION ASSESSMENT – RESULTS

### 4.1 DEFECTS AND DILAPIDATION'S

#### 4.1.1 General

As illustrated in Plates T1 the buildings forming St. Peter's Seminary College were derelict, with widespread dilapidation, rot and collapse and evidence of obvious vandalism and fire damage.

As further illustrated below, the generally poor condition of the timbers, in many areas, the state of collapse and the probability of degraded asbestos-bearing construction materials dictated extreme caution and limited access only to those areas which were clearly 'safe'. Other areas, such as the under-floor voids and any basements were not accessed.


A


B


C


D

**Plates T2:** Unsafe, rotten and partially collapsed roofs.






A


B


C


D

**Plates T3:** Collapsed roofing materials, debris and unprotected edges.


A


B

**Plates T4:** Blocked entrances to a basement and an open access into an under-floor or basement area. These areas would need to be investigated and would probably, at least initially, be classified as confined spaces.

A

B

C

D

E

**Plates T5:** Water from stream and groundwater entered the site on the up-slope sides of the site, in some areas overtopping retaining walls. In the former cases the water had been directed into channels, but in others the ground had become waterlogged. Streams exited the site, from beneath the buildings, on the down-slope sides. This would suggest that, at least in some cases, the basement and under-floor areas could be waterlogged / flooded, increasing the risk categories of any 'confined spaces'.

### 4.1.2 In-situ Cast Structure

The in-situ cast structures forming the buildings, as illustrated below, were generally weathered and discoloured, and in a condition perhaps commensurate with their ages, exposure, use and abuse. However, in addition areas of surface spalling were noted, with associated exposures of corroded reinforcement.





**Plate T6:** General view of the main building looking down from the High Alter. The structures generally comprised two rows of 'internal' in-situ cast reinforced concrete columns, with in-situ cast reinforced concrete crossbeams supporting the floors and roof. Most of the crossbeams forming the first and second floors were truncated, internally to create an 'atrium', with the internal cantilever sections supporting peripheral 'balcony' floors and external cantilever sections supporting open walkways, with pre-cast concrete cladding panels, supported on in-situ cast 'stub' columns, forming the parapet edge protection.

In the middle of the building the crossbeams (3No. at each level) extended across the full width, to form landings connected vertically by an internal staircase. Full width crossbeams also supported the roof. These full width beams spanned a significant distance and could, perhaps, be post-tensioned, the pre-cast cladding panels on the outer elevations covering / hiding the anchorages for the tendons (CRL Surveys have knowledge of a school structure of similar age, but significantly less prestige, in Port Glasgow, on the opposite banks of the Clyde, where the floors are post-tensioned.

**Plate T7:** An upper floor around the periphery of the 'atrium'.

A

B

C

**Plates T8:** In-situ columns exhibiting surface spalling associated with corroded reinforcement.

In these, and many other cases, surface spalling generally occurred where the original depths of cover to the reinforcement were less than 25mm.





A

B

C

D

E

F

G

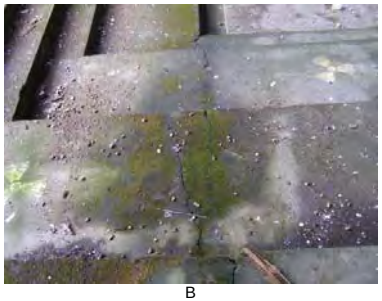
**Plates T9:** An external, in-situ cast staircase exhibited widespread surface spalling associated with corroded reinforcement.

In these, and many other cases, surface spalling generally occurred where the original depths of cover to the reinforcement were less than 25mm.

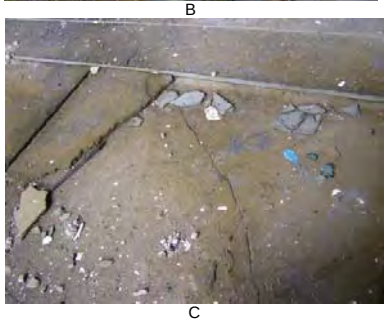
### 4.1.3 Suspended Floors

As illustrated below, the upper floors were formed from timber boarding, much of which had rotted, with the 'gound' floor formed using concrete / screeded concrete. In many locations the latter exhibited cracking, possibly reflecting hidden structural details and / or relative movement/s of the structure.

A



B



C

**Plates T10:** Cracking through the suspended floor to the main building, possibly reflecting hidden structural details and / or relative movement/s of the structure.

### 4.1.4 External Parapets

#### 4.1.4.1 Stub Columns

The stub columns were probably pre-cast and as illustrated below many exhibited cracking and spalling associated with corrosion of the encapsulated reinforcement.

A

B

**Plates T11:** Typical cracking and spalling to a stub columns.





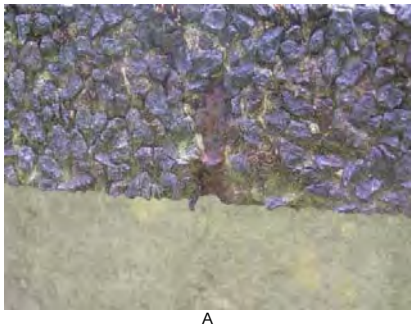
#### 4.1.4.2 Pre-cast Cladding Panels

As illustrated below, the external faces of the pre-cast panels were exposed-aggregate finished, with the rear faces smooth, 'as-cast'. The external faces appeared generally to be in good visual condition although the rear faces exhibited some surface spalling associated with corrosion of the reinforcement.

**Plate T12:** General, typical external view showing the panels in good visual condition. See also Plate T13, below.

**Plate T13:** Closer view showing the panels in good visual condition.

**Note:** Rust staining emanating from the fixings.


A


B


C


D

**Plates T14:** Exposed reinforcement and surface spalling associated with corroded reinforcement on the hidden and less obvious surfaces of the pre-cast panels.

### 4.1.5 Rendered and Dashed Brickwork

Various 'details' around the site comprised rendered and dashed brickwork. As illustrated below the render and dash were variably de-bonded and detached with some remnant portions clearly blistered and about to fall.


A


B


C

**Plates T15:** Deteriorated brickwork details, with delaminated render and dash. The brickwork surfaces beneath were showing signs of deterioration, with exfoliation of the brick surfaces and degradation of the mortar jointing. In some cases this latter deterioration could, at least partially, be the result of wildlife (birds and insects) activity.





## 4.2 DIAGNOSTIC INVESTIGATION OF CONCRETE ELEMENTS

A drawing, annotated with the locations of the 'test areas' has been included as Appendix B and a copy of the Laboratory analysis report has been included as Appendix C.

### 4.2.1 The Relative Depths of Cover to the Reinforcement, Carbonation and Chloride

The relative depths of cover to the reinforcement, carbonation and chloride penetration may be summarised as follows:

| Test Area | Element | Minimum Depths of Cover to the Reinforcement, mm Footnote 2 | Maximum Depths of Carbonation, mm Footnote 3 | Chloride Ion Contents, % by weight of cement Footnote 4 |
|---|---|---|---|---|
| 1 | In-situ wall | **15** | **15** | <0.1 |
| 2 | In-situ wall | **35** | 25 | 0.1 |
| 3 | In-situ column | **50** | 15 | 0.1 |
| 4 | In-situ wall | **41** | 10 | <0.1 |
| 5 | Slab top | 69 | 5 | **0.3** |
| 6 | Slab top | 52 | 5 | **0.2** |
| 7 | Slab top | 74 | 5 | 0.1 |
| 8 | In-situ column | **15** | **15** | 0.1 |
| 9 | In-situ slab soffit | **29** | 10 | <0.1 |
| 10 | In-situ beam | **29** | 10 | 0.1 |
| 11 | In-situ column | **45** | 15 | 0.1 |
| 12 | In-situ column | **20** | **20** | <0.1 |
| 13 | In-situ column | **10** | **10** | <0.1 |
| 14 | In-situ column | 60 | 10 | 0.1 |
| 15 | In-situ column | **35** | 5 | 0.1 |
| 16 | In-situ column | **15** | **15** | <0.1 |
| 17 | In-situ slab soffit | **20** | **15** | <0.1 |
| 18 | In-situ wall | **20** | 10 | <0.1 |
| 19 | In-situ wall | **40** | 10 | <0.1 |
| 20 | Slab top | **49** | 5 | **0.2** |
| 21 | In-situ column | 51 | 10 | 0.1 |
| 22 | In-situ column | **14** | **10** | **0.2** |
| 23 | In-situ column | **44** | 5 | **0.4** |
| 24 | Pre-cast panel | **49** | 15 | **0.2** |
| 25 | In-situ staircase | **35** | 15 | 0.1 |
| 26 | Pre-cast panel | **31** | 15 | **0.9** |
| 27 | In-situ slab soffit | **44** | 15 | **0.3** |
| 28 | In-situ wall | **25** | 15 | <0.1 |
| 29 | In-situ column | **27** | 10 | <0.1 |
| 30 | In-situ column | **20** | 10 | <0.1 |
| 31 | In-situ column | **25** | 5 | 0.1 |

[2] Values in **bold type** highlight depths of 50mm or less, with values in **bold type and underlined** highlight depths of 25mm or less.

[3] Values in **bold type** indicate where the carbonation front had encroached within 5mm of the shallowest reinforcement. Values in **bold type and underlined** indicate where the carbonation front had encroached to, or beyond the reinforcement.

[4] Re-calculated from the determined % by weight of Sample assuming a cement content of 14% by weight. Values in normal type are less than 0.2%, values in **bold type** are in the range 0.2% to 0.5%, values in **bold type and underlined** are in the range 0.5% to 1.0% and values in ***bold, italic type, and underlined*** are greater than 1.0%. As discussed in Section 4 above, BRE Digest 444: Part 2: 2000 indicates that in dry uncarbonated concrete there is a 'Negligible' risk of chloride induced corrosion where the levels are less than SAY 0.2% for ingressed chloride and less than SAY 0.4% for original mix constituents. The risk category significantly worsens with increasing chloride depending upon provenance of the chloride and where the concrete is damp and / or carbonated.

### 4.3 PRE-CAST PANEL FIXING DETAILS

The pre-cast parapet comprised three separate pre-cast units, namely the top 'handrail' units, the stub columns and the lower panels, with the latter either 'arched' (along the bottom level) or rectangular (along the upper levels and gable-ends.

As illustrated below, the stub columns and lower panel units were fixed via a series of bolted connections and bent reinforcement bar extensions, projecting out of the units and around the bolts.


A


B


C


D


E


F

**Plates T16:** In our opinion, the lower panel units were probably installed first, pre-cast with a 'foot' on the back, to sit on and bolt down to a small upstand detail along the edge of the structure. The panels were bolted down, through the foot and into the upstand, at centre and end positions, the latter via reinforcement bar extensions bent around the bolts. A profiled metal sheet had then been installed, separating panel from stub column connections, with the stub columns then 'dropped' into place and bolted down, on each side, via reinforcement bar extensions bent around the bolts. The fixings pockets had been packed with a protective packing of mortar.





As illustrated below, mortar packing, formerly protecting the fixings, and distress to the concrete elements adjacent to the fixings was widespread


A


B


C


D


E

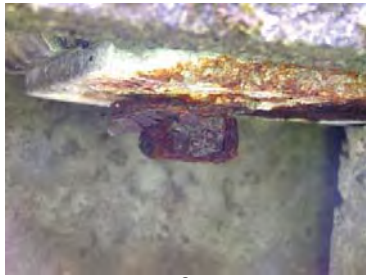

F

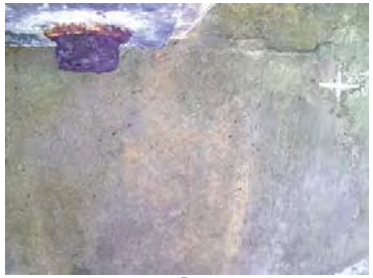
**Plates T17:** Deterioration and distress associated with the lower panel and stub column fixings.

As illustrated below, the top 'handrail units were inverted 'L' shaped in section, sitting across the tops of the stub columns.


A


B


C


D


E


F

**Plates T18:** The stub columns and pre-cast handrail units had been cast with threaded steel sockets at fixing positions. Steel plates had been bolted onto the tops of the stub columns, with further bolts though the steel plates and up into the backs of the handrail units. The steel elements had been galvanised, but in some locations the galvanising had deteriorated and corrosion was apparent.

In many locations the panels had been positioned and aligned with the aid of steel packers or shims. These elements were consistently mild-steel and had corroded, with widespread signs of disruption, as illustrated below.






A


B


C

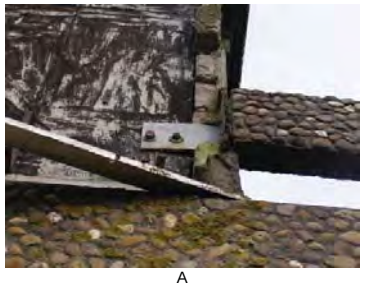

D

**Plate T19:** Corroded mild-steel packers and shims. Corrosion of these items will cause significant disruption and distress to the panels and the panel fixings.


A

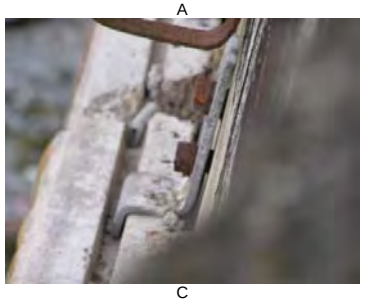

B

**Plate T20:** The panels were originally craned into position, with threaded sockets cast-in to accept lifting eyes. Once installed the pockets left following removal of the eyes were backfilled with mortar. Many of these mortar plugs were missing or disrupted, due to corrosion of the threaded socket left in place.



A

B



C

D

E

**Plate T21:** At other locations pre-cast panels had been installed and fixed via galvanised steel plates and mild-steel bolts. The mild-steel bolts were variably corroded.





## 5. DISCUSSION OF FINDINGS

### 5.1 GENERAL

The site was obviously derelict, with widespread deterioration and collapse of timber roofing and evidence of vandalism and fire. In our opinion the condition of the site, particularly whilst access, albeit uninvited, is subject to only limited restriction, represents a significant health and safety risk. Apart from the obvious risks associated with rotten and unstable timber flooring and roofing, and the probability of asbestos, there were many locations where loose concrete and render represented a series risk of falling debris. Furthermore, the condition of the parapet, at least in some places, suggests the possibility of the failure and collapse of complete cladding panels.

However, considering the age, environment of exposure, i.e. aggressive coastal marine, and the obvious neglect, the structural, 'hardware' elements appeared generally to be in reasonable condition. Most of the elements, but particularly the main columns to the main building, the parapet stub columns and the external staircase to the main building, exhibited some deterioration, cracking and spalling due to corrosion of the reinforcement, although such distress would, with the possible exception of the parapet stub columns, not be considered as unduly extensive.

As intimated above, of particular concern was the condition of the fixing details, and associated concrete, to the pre-cast parapet units. Most of the fixings exhibited some evidence of deterioration and distress, with cracking and spalling of the adjacent pre-cast concrete and additional disruption as a result of corrosion of mild-steel packers and shims. In our opinion, this could represent the largest single element of any repair / refurbishment project, and probably the most problematical, not only in terms of methodology, but also the consents that would be needed from the planning authorities.

### 5.2 CONCRETE MATERIAL CONDITION

#### 5.2.1 Depths of Cover to the Reinforcement

On the basis of the limited testing carried out, in many areas the depths of cover recorded, for the in-situ cast concrete elements, would be considered as reasonable, for concrete of its type and age. However, in many areas there was clear evidence of lower cover, i.e. less than SAY 25mm, where localised cracking and surface spalling had occurred, as a result of reinforcement corrosion.

For the pre-cast elements, the thickness of the units obviously limited the maximum cover achievable. The incidence of cracking and spalling was, however, limited, probably due to the inherent quality of pre-cast concrete, with generally only a few incidences of exposed and corroded bar ends etc., which were probably exposed 'as-cast'
.

#### 5.2.2 Depths of Carbonation

The limited depths of carbonation recorded were, in our opinion, within the expected range for average quality concrete of 50years of age. [Footnote 5]

The relative depths of cover to the reinforcement and carbonation indicated that in a fairly large proportion of the areas tested the carbonation front had encroached upon the reinforcement.

#### 5.2.3 Chloride

The chloride ion contents were found approximately to range from <0.1% to 0.3% by weight of cement for the in-situ cast elements and from 2% to 0.9% by weight of cement for the pre-cast concrete elements. [Footnote 6]

[5] Generally, for average Portland cement concrete exposed externally, carbonation depths of between 3mm and 6mm would be expected at 5years of age, increasing to between 5mm and 8mm at 10years and between 10mm and 15mm at 50years. For the same concrete exposed internally values would be expected to be significantly higher due to drier exposure conditions and potentially higher concentrations of $CO_2$ in the atmosphere. Values obtained from BRE Information Paper (IP) 6/81, "Carbonation of concrete made with dense natural aggregates", April 1981 and BRE Digest 405, "Carbonation of concrete and its effects on durability", May 1995.

[6] Values recalculated from the determined % by weight of Sample assuming a cement content of 14% by weight.

BRE Digest 444: 2000 gives guidance on the "estimated risk" of steel reinforcement corrosion associated with both 'cast-in' and 'ingressed' chloride. This guidance may be summarised as follows:

**Extracted from BRE Digest 444: Part 2: 2000 – Figures 4 and 5**
**Very Approximate Minimum Chloride Content, % by weight of cement**

| Risk Category | For 'Cast-in' Chloride | | | | | | | | | | | | For 'Ingressed' Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25years-old | | | | 40years-old | | | | 60years-old | | | | |
| | Dry | | Damp | | Dry | | Damp | | Dry | | Damp | | |
| | A | B | A | B | A | B | A | B | A | B | A | B | |
| Negligible: | 0 | - | 0 | - | 0 | - | - | - | 0 | - | - | - | 0.15 to 0.35 |
| Low: | 0.4 | 0 | 0.4 | - | 0.4 | 0 | 0 | - | 0.4 | 0 | 0 | - | 0.2 to 0.6 |
| Moderate: | 1.0 | 0.4 | 0.7 | 0 | 0.7 | 0.3 | 0.45 | 0 | 0.6 | 0.2 | 0.4 | 0 | |
| High: | 1.5 | 0.7 | 1.0 | 0.6 | 1.0 | 0.6 | 0.7 | 0.4 | 0.8 | 0.6 | 0.6 | 0.4 | 0.5 to 1.35 |
| Very High: | | 1.0 | 1.5 | 1.0 | 1.5 | 1.0 | 1.0 | 0.7 | 1.5 | 0.8 | 0.8 | 0.6 | Not Applicable |
| Extremely High: | | | | | | 1.5 | 1.5 | 1.0 | | 1.5 | 1.5 | 0.8 | 1.0 to 1.95 |

Risk categories appropriate for the concrete under discussion here.

**Note:** A = where the carbonation front **HAS NOT YET** extended down to the reinforcement, whereas B = where the carbonation front **HAS** extended down to the reinforcement.

For concrete of this age, i.e. over 50years-old, where the reduced through carbonation and containing chlorides in the above proportions, BRE Digest 444 would suggest risk categories ranging from 'Negligible' to 'Extremely high' in terms of the potential for steel reinforcement corrosion.

### 5.2.4 Conclusions

On the basis of the limited results above, in our opinion, the concrete elements forming St. Peter's Seminary College have deteriorated and become distressed mainly as a result of localised carbonation induced corrosion, exacerbated by chlorides probably derived from wind-blown marine sea-salts, i.e. BRE Digest 444:Part 3 deterioration "Type C". Footnote 7

Having carried out an appropriate survey and investigation, and classified the type of deterioration, BRE Digest 444 gives guidance on the prognosis for further reinforcement corrosion and then gives guidance on the "principles and methods for remediation of reinforcement corrosion", based upon British Standard Draft for Development, DD ENV 1504-9 Footnote 8.

### 5.2.5 Prognosis

BRE Digest 444: 2000 defines the corrosion risk categories established above, for the interpretation of steel reinforcement corrosion risk and prognosis:

[7] "Type A:" Carbonation induced corrosion with no chlorides, "Type B:" Cast-in chlorides with no carbonation, "Type C:" Ingressed chlorides with no carbonation and "Type D:" Chlorides (either cast-in or ingressed) and carbonation in combination.

[8] **DD ENV 1504-9:1997**, Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – General principles for the use of products and systems.





**Extracted from Figure 6**
**BRE Digest 444: Part 2: 2000**
**Interpretation of Steel Reinforcement Corrosion Risk and Prognosis**

| BRE Digest 444 Risk Category | Description | |
|---|---|---|
| | For Cast-in Chloride | For Ingressed Chloride |
| "Negligible": | No corrosion expected. | Little or no risk of corrosion under current conditions over the lifetime of the structure. Footnote 9 |
| "Low": | With normal maintenance no significant corrosion likely to occur. Some minor corrosion may be identified. | Some corrosion possible under current conditions. Rate of corrosion likely to be low. Footnote 8 |
| "Moderate": | Some corrosion likely to occur. Rate of corrosion likely to be slow. | |
| "High": | Significant corrosion likely, particularly towards the end of the selected age. Footnote10 | Significant corrosion likely, increasing with exposure period. Rate of corrosion could be high in parts. Footnote 8 |
| "Very High": | Significant corrosion likely over considerable area. | Not Applicable. |
| "Extremely High": | Severe corrosion inevitable. Significant area likely to be affected. | Severe corrosion inevitable. Significant area likely to be affected. |

Risk categories appropriate for the concrete under discussion here.

A key factor in the deterioration of any concrete, but particularly, as in this case, the initiation of depassivation and the propagation of corrosion of the reinforcement due to carbonation and/or chloride, is the environment of exposure.

BS 5328: Part 1: 1997 Footnote 11 classifies various exposure conditions as follows:

**BS 5328: Part 1: 1997**
**Guide to Specifying Concrete**
**Table 5, Classification of Exposure Conditions**

| Environment Classification | Exposure Conditions |
|---|---|
| "Mild" | Concrete surfaces protected against weather or aggressive conditions |
| "Moderate" | Exposed concrete surfaces but sheltered from severe rain or freezing whilst wet.<br>Concrete surfaces continuously under non-aggressive water.<br>Concrete in contact with non-aggressive soil.<br>Concrete subject to condensation. |
| "Severe" | Concrete surfaces exposed to severe rain, alternate wetting and drying, or occasional freezing or severe condensation. |
| "Very severe" | Concrete surfaces occasionally exposed to sea-water spray or de-icing salts (directly or indirectly)<br>Concrete surfaces exposed to corrosive fumes or severe freezing conditions whilst wet |
| "Most severe" | Concrete surfaces frequently exposed to sea-water spray or de-icing salts (directly or indirectly)<br>Concrete in sea water tidal zone down to 1m below lowest low water |
| "Abrasive" | Concrete surfaces exposed to abrasive action, e.g. machinery, metal tyred vehicles or water carrying solids |

Exposure conditions appropriate for the concrete under discussion here.

[9] The chloride concentration and, hence, the risk of corrosion may increase with time.

[10] BRE Digest 444 describes age bands of 25 years, 40 years and 60 years for concrete containing cast-in chloride.

[11] BS 5328: Part 1: 1997 was superceded by BS EN 206-1: 2000 in December 2003. BS EN 206-1: 2000: Part 1: Specification, performance, production and conformity does not include exposure classes for concrete containing 'cast-in' chloride, 'cast-in' chloride having been consigned to history by modern specifications. However, in this particular case, in our opinion, the BS 5328 Classifications are still appropriate.

In their current condition, i.e. deteriorated and distressed, with a worst case 'Extremely High' corrosion-risk, as defined above and assuming that the above exposure conditions will remain the same, the prognosis would obviously have to allow for continued corrosion of the reinforcement spreading from currently affected areas.

In our opinion, however, the current condition of the various elements concerned and the prognosis could be significantly improved using one or more of the remediation processes discussed in the following sections.

### 5.2.6 Remedial Options

#### 5.2.6.1 General Discussion

Having carried out an appropriate survey and investigation, such as described above, and having, as in this case diagnosed the cause/s of deterioration, British Standard BS DD ENV 1504-9 gives guidance on the "principles and methods for remediation" of both "defects in concrete" and "reinforcement corrosion".

These principles and methods may be summarised as follows:

| Principle | Principle Definition | Methods Based on the Principle |
|---|---|---|
| **"Principles and Methods Related to Defects in Concrete"** | | |
| Principle 1<br>Protection against Ingress (P1) | Reducing or preventing the ingress of adverse agents, e.g. water, other liquids, vapour, gas, chemicals and biological agents. | 1.1: Impregnation - Applying liquid products which penetrate the concrete and block the pore system.<br>1.2: Surface coating with and without crack bridging ability.<br>1.3 Locally bandaged cracks.<br>1.4 Filling cracks.<br>1.5 Transferring cracks into joints<br>1.6 Erecting external panels<br>1.7 Applying membranes |
| Principle 2<br>Moisture Control (MC) | Adjusting and maintaining the moisture content in the concrete within a specified range of values. | 2.1 Hydrophobic impregnation.<br>2.2 Surface coating.<br>2.3 Sheltering or overcladding.<br>2.4 Electrochemical treatment - Applying a potential difference across parts of the concrete to assist or resist the passage of water through the concrete. (Not for reinforced concrete without assessment of the risk of inducing corrosion). |
| Principle 3<br>Concrete Restoration (CR) | Restoring the original concrete of an element of the structure to the originally specified shape and function.<br><br>Restoring the concrete structure by replacing part of it. | 3.1 Applying mortar by hand.<br>3.2 Recasting with concrete.<br>3.3 Spraying concrete or mortar.<br>3.4 Replacing elements. |
| Principle 4<br>Structural Strengthening (SS) | Increasing or restoring the structural load bearing capacity of an element of the concrete structure. | 4.1 Adding or replacing embedded or external reinforcing steel bars.<br>4.2 Installing bonded rebars in preformed or drilled holes in the concrete.<br>4.3 Plate bonding.<br>4.4 Adding mortar or concrete.<br>4.5 Injecting cracks, voids or interstices.<br>4.6 Prestressing - (post-tensioning) |
| Principle 5<br>Physical Resistance (PR) | Increasing resistance to physical or mechanical attack. | 5.1 Overlays or coatings<br>5.2 Impregnation. |
| Principle 6<br>Resistance to Chemicals (RC) | Increasing resistance of the concrete to surface deterioration's by chemical attack. | 6.1 Overlays or coatings<br>6.2 Impregnation. |

Cont'd...





| Principle | Principle Definition | Methods Based on Principle |
|---|---|---|
| **"Principles and Methods Related to Reinforcement Corrosion"** | | |
| Preserving or restoring passivity (RP)<br>Principle 7 | Creating conditions in which the surface of the steel reinforcement can maintain or return to a passive condition | 7.1: Increasing cover to the reinforcement with additional cementitious mortar or concrete.<br>7.2: Replacing chloride-contaminated or carbonated concrete<br>7.3 Electrochemical realkalisation of carbonated concrete<br>7.4: Realkalisation of carbonated concrete by diffusion<br>7.5: Electrochemical chloride extraction |
| Increasing resistivity (IR)<br>Principle 8 | Increasing the electrolytic resistivity of the concrete | 8.1: Limiting moisture content of the concrete by surface treatments, coatings or sheltering |
| Cathodic control (CC)<br>Principle 9 | Creating conditions in which potentially cathodic areas of reinforcement are unable to drive an anodic reaction | 9.1: Limiting oxygen content by saturation of the concrete or surface coating<br>9.2: Applying cathodic inhibitors to the concrete |
| Cathodic Protection (CP) or prevention<br>Principle 10 | Polarising the steel reinforcement cathodically so as to reduce the rate of anodic reaction | 10.1: Impressed current systems<br>10.2: Sacrificial anode systems |
| Control of anodic area (CA)<br>Principle 11 | Creating conditions in which potentially anodic areas of reinforcement are unable to take part in the corrosion reaction | 11.1 Painting reinforcement with coatings containing active pigments<br>11.2: Painting reinforcement with barrier coatings<br>11.3: Applying anodic inhibitors to the concrete |
| **NB:**<br>Various methods included above may contain products and systems not covered by the 1504 series of European standards.<br>Inclusion of methods in this table does not imply approval or confirmation of their effectiveness. | | |

In our opinion, the successful repair and refurbishment of any structure should, subject to future design-life requirements ideally return the various concrete elements to a better-than-new condition; the "as-built" condition of any deteriorated and distressed structure, now proposed for refurbishment, was such that failure has occurred within it's useful life.

In our opinion, a structure of this type, in this condition, could be repaired and refurbished, using the above principles and the 'state-of-the-art' technologies available today with the aim of providing an indefinite additional life-in-service.

The remedial strategy could range from a simple 'make-safe' (with or without holding repairs) strategy, to a high-Specification, 'one-stop' strategy, with an allowance for a limited number of maintenance re-visits, generally to SAY re-apply surface coatings.

The former would obviously suit a limited budget and / or where the future life of a structure was either limited or uncertain. Such a strategy would allow for the elevations to be 'made-safe' [footnote 12] from the risk of falling debris

[12] 'Made-safe', in this context does not necessarily mean that a structural appraisal has been carried out, or that the structure is deemed to be sound and safe from failure or collapse, either wholly or in part. The elevations would be 'made-safe' from the risk of falling debris following an appropriate external survey. However, the concrete would continue to deteriorate, perhaps at an ever-increasing rate and further loose material, potentially at risk of falling would develop. In our experience, such structures should be regularly monitored, SAY biannually, and further 'make-safe' works carried out as necessary. It should also be noted that successive 'make-safe' works could involve the removal of perhaps significant amounts of concrete and some structure's may also require careful monitoring by a Specialist Structural Engineer.

with an option for simple 'holding-repairs' footnote [13], to extend the safe condition of the elements for up to SAY 5 years. This safe condition could obviously be further extended, with periodic re-visits, assuming that the elements concerned were and remain structurally sound, until the structure is either re-developed, or refurbished.

The detailed design of an appropriate refurbishment strategy to satisfy the latter, using the available technologies can also be tailored to suit specified limits and / or requirements, for example, in terms of budget, longevity and appearance using a combination of one or more of the techniques discussed, in general terms below.

### 5.2.6.2 Concrete Repair

#### 5.2.6.2.1 Conventional or Traditional Patch Repair.

For conventional concrete repairs all of the defective concrete, defined as all carbonated and/or chloride contaminated concrete in contact with the steel, should be removed, the steel cleaned and treated, and the concrete then reinstated using proprietary concrete repair materials and recognised good practice.

> **NB:** If areas of steel were to be left encapsulated within deteriorated concrete, as defined by conventional concrete repair criterion, further deterioration could take place and subsequent distress could possibly occur within the designed life-to-first-maintenance.

This strategy would satisfy BRE Digest 444: Part 3, Principle 7 ("Preserving or restoring passivity") and in particular principle 7.2 ("Replacing chloride-contaminated or carbonated concrete").

For chloride contamination, as indicated above, BRE Digest 444: Part 2 now recognises values, by weight of cement, in excess of 0.2% for "ingressed" chloride and 0.4% for "cast-in" chloride as carrying an elevated risk of inducing reinforcement corrosion.

A conventional or traditional concrete repair strategy, depending upon the prognosis discussed above and the level of Specification should last for between 5years and 15years.

#### 5.2.6.2.2 General

No matter what processes have been involved in the deterioration of the concrete the above conventional patch-repairs or reinstatement will have to be carried out at least to the areas of physically damaged, disrupted or delaminated concrete. The various methods discussed below address the areas where the reinforcement is encapsulated within currently 'sound', but carbonated / chloride contaminated concrete, without the need to remove this concrete. These methods, therefore, limit the quantity of relatively expensive, disruptive and time-consuming cutting-out and subsequent patch-repair needed to achieve the required / specified finished product.

### 5.2.6.3 Electrochemical Rehabilitation.

#### 5.2.6.3.1 General

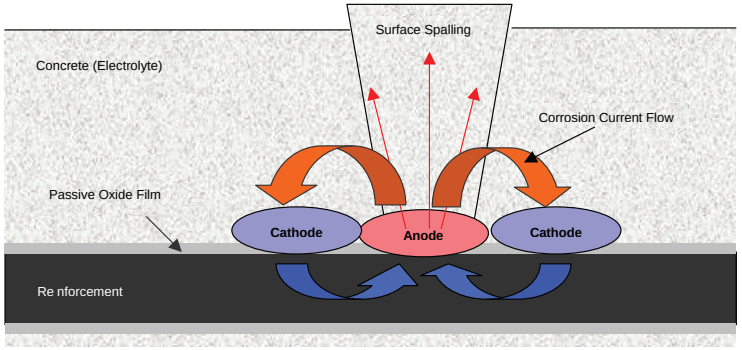
The corrosion of steel in concrete is an electrochemical process with anode and cathode reactions as illustrated below:

[13] Simple 'holding-repairs' would generally comprise cementitious slurry coating of exposed reinforcement at spalled locations, and possibly also slurry coating of the scared concrete surfaces. The slurry coating would limit further corrosion of exposed steel and temporarily seal disrupted concrete surfaces. It should be noted that this option may be considered aesthetically unacceptable.





**Figure 1**: **Anodes and Cathodes**




The anode reactions are as follows:

1. $Fe > Fe^{2+} + 2e^-$
2. $Fe^{2+} + 2OH^- > Fe(OH)_2$
3. $4Fe(OH)_2 + o_2 + 2H_2O > 4Fe(OH)_3 > 2Fe_2O_3.H_2O + 4H_2O$ (RUST)

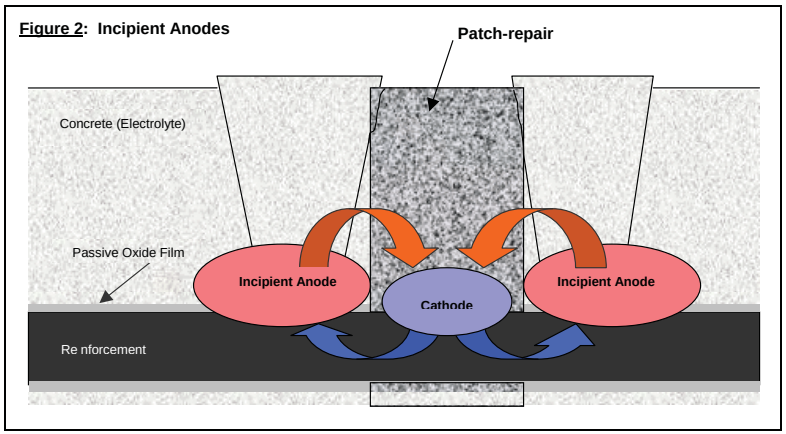
The cathode reaction is as follows:

1. $½O_2 + H_2O + 2e^- > 2OH^-$

Reactions at the anode produce rust, which expands to produce the classical symptoms of surface spalling.

A patch-repair strategy involving only those areas of physically damaged, disrupted or delaminated concrete, only addresses the anodes, leaving the cathodes untreated (except for the effects of any subsequently applied coatings), although the concrete in these areas is potentially similarly deteriorated with respect to carbonation and/or chloride contamination. The reinforcement within a patch-repair will become a cathode with the surrounding, former cathodes becoming anodes, thus causing the onset of "incipient anode" corrosion surrounding the patch-repairs, as illustrated below.

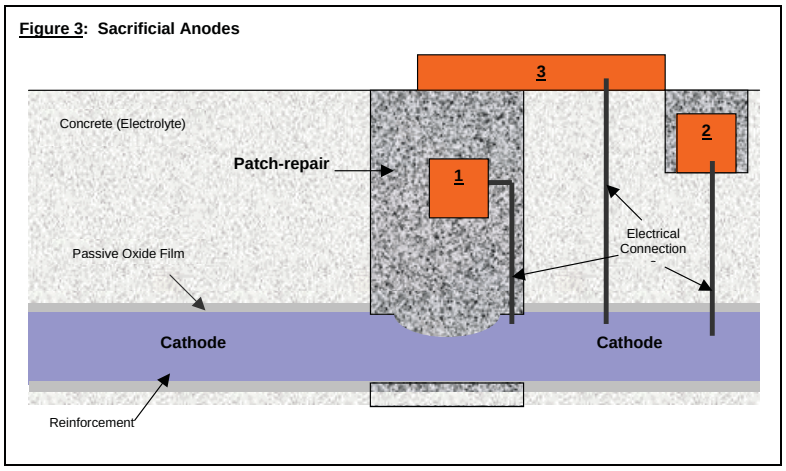
**Figure 2: Incipient Anodes**




Electrochemical treatments artificially modify the polarity of an existing reinforcement system, with the steel maintained, at least for the period of the treatment, as a cathode.

5.2.6.3.2 Sacrificial Anodes or Galvanic Cathodic Protection

**Figure 3: Sacrificial Anodes**




The use of sacrificial anodes, fixed with electrical continuity to the reinforcement, installed either within patch-repairs (**1**), and / or within areas of 'sound' but carbonated / chloride contaminated concrete (**2**), or fixed externally (**3**), can prevent, or at least minimise the risk of incipient anode corrosion.



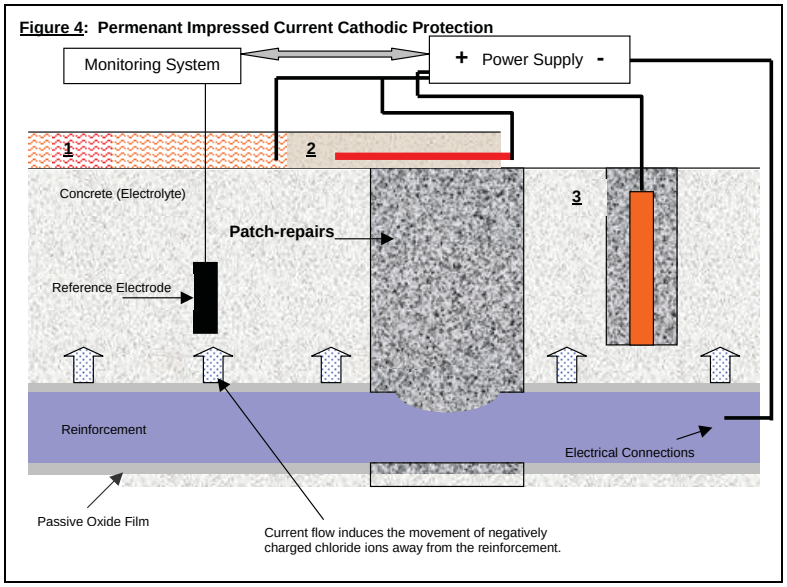


This strategy would satisfy BRE Digest 444:Part 3, Principle 10 ("Cathodic protection or prevention") and in particular principle 10.2.

The life expectancy of sacrificial anodes is advised to be in the region of 10years to 15years, although it should be noted that the long term durability and effectiveness of this treatment, although expected to be good has not yet been proven. As a known technology for the protection of the hulls to steel ships, however, sacrificial anodes have been available for over 150 years and some permanent electrochemical installations or Cathodic protection systems have been designed to include sacrificial anodes, rather than externally applied paint or internally installed, discrete anode systems.

5.2.6.3.3 Permanent Impressed Current Installations or Cathodic protection (CP)

**Figure 4: Permenant Impressed Current Cathodic Protection**




Permanent impressed current installations or Cathodic protection (CP) systems are a well-proven technique for prevention of corrosion of metallic structures in aggressive environments. For reinforced concrete a permanent anode system is installed with a small current flow (10 to 20 $mA/m^2$ ) used permanently to maintain the steel in a passive, cathodic state.

Various anode systems have been developed including surface applied conductive paint (**1**), activated titanium mesh within paint or cementitious overlays (**2**) and discrete titanium rods in drilled holes (**3**). This range of systems means that virtually any structure, or surface whether exposed or hidden can be protected using CP.

Monitoring and control can be achieved remotely by computer with the benefit that the corrosion-state is always under control.

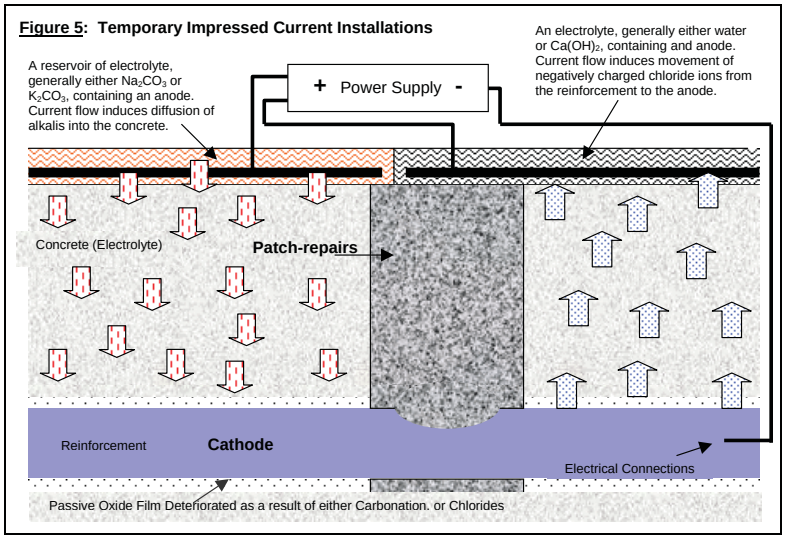
This strategy would satisfy BRE Digest 444:Part 3, Principle 10 ("Cathodic protection or prevention") and in particular principle 10.1.

The condition of the structure after SAY 5 years would be significantly better than immediately following the repairs due to the additional beneficial effects of chloride removal and alkali evolution (re-alkalisation) within the concrete immediately surrounding the steel.

The life expectancy of a CP system would be 15 to 30 years with a minimum of maintenance, dependent on system components.

5.2.6.3.4 Temporary Impressed Current Electrochemical Installations

**Figure 5: Temporary Impressed Current Installations**




Temporary impressed current electrochemical installations may be viewed as short term, high powered cathodic protection (CP), designed relatively rapidly to rehabilitate the cover concrete and the steel / concrete interface.

An anode system, usually consisting of an activated titanium mesh, or similar, installed onto the concrete surfaces and within a suitable electrolyte reservoir will be connected to the reinforcement. An electrical current of approximately ranging from 0.5A/$m^2$ to 2A/$m^2$ will then commonly be used to induce a migration into and out-of the electrolyte.

In the case of re-alkalisation, the migration of an alkali (usually sodium carbonate or potassium carbonate) into the concrete between the reinforcement and the surfaces will re-passivate steel encapsulated within carbonated concrete. An outward migration of free, unbound chloride contaminants, within the concrete between the reinforcement and the surfaces will also take place. This process is known as desalination or chloride extraction.

Renewal of alkalinity within the cover concrete can be achieved within 3 to 14 days with the removal of free, unbound chlorides within 1 to 3 months, depending upon the quality of the concrete and the extent of deterioration / contamination.

Following treatment, the anode system would be removed.





The suitability of a structure or element for these treatments will of course be dependent on a number of factors including size of sections, access to all deteriorated faces, degree and provenance of chloride contaminants and subsequent requirements for maintaining appearances.

These strategies would satisfy BRE Digest 444:Part 3, Principle 7 ("Preserving or restoring passivity") and in particular principles 7.3, 7.4 and 7.5.

The life expectancy of a temporary electrochemical treatment should be 10 to 15 years although it should be noted that the long term durability and effectiveness of these treatments, although expected to be good, has not yet been proven.

### 5.2.6.4 Corrosion Inhibitors.

The prevention or limitation of corrosion of steel in concrete can be achieved by the use of corrosion inhibitors. Three generic types of corrosion inhibitors are available, namely calcium nitrite, sodium monofluorophosphate and amino alcohol.

These compounds, with pH levels of between 8 and 11 penetrate or migrate through the cover concrete, in either the liquid or vapour phases and are attracted towards embedded reinforcement where they form a protective film. The protective film limits anodic ionization at the steel surfaces and obstructs the available free oxygen, which prevents the cathodic part of the corrosion reaction. Potentially deleterious chloride ions can also be displaced from the steel surfaces.

Research and development of these methods of concrete protection and rehabilitation have been undertaken on the continent and in the United States of America for a number of years. The technology was originally developed for the protection of metals exposed to atmospheric corrosion and was first used in conjunction with reinforced concrete in the USA in the early 1980's.

The technology was subsequently introduced into the UK, with various products including; liquid, powder or slurry admixtures for fresh concrete; surface applied aqueous impregnation's, gel injection's and powder filled capsules for existing concrete; additives for various repair grouts and mortars. Specific Vapour Corrosion Inhibitors are also available in various forms including impregnated insulation foam or as paint coatings for the protection of exposed steelwork.

As with the electrochemical techniques detailed above, the use of corrosion inhibitors requires that only the detectable damage needs to be repaired. Concrete, which is carbonated, and/or chloride contaminated [footnote 14] but otherwise sound can, in most cases be left in-situ.

The penetration of the Inhibitors, particularly when applied as either a gel injection or a powder filled capsule installed into a drilled hole could give rise to the protection of reinforcement beneath hidden surfaces.

This strategy would satisfy BRE Digest 444:Part 3, Principle 9 ("Cathodic control", i.e. principle 9.2) and Principle 11 ("Control of anodic area", i.e. principle 11.3).

The life expectancy of this treatment should be at least 5 to 10 years although it should be noted that the long-term durability and effectiveness of these treatments, in the UK, although expected to be good have not yet been proven.

### 5.2.6.5 Surface Treatments

Although coatings can be applied simply for decorative purposes, surface treatments (including coatings) in the context of the concrete repair and refurbishment Industry have generally been applied as the first line of defence in a protection system, i.e. the treatments have been applied primarily to cover and / or seal the surfaces to ensure that the concrete does not continue to deteriorate as a result of further exposure to the environment.

The application of such treatments would satisfy BRE Digest 444:Part 3 Principle 7 ("Preserving or restoring passivity", i.e. principle 7.1), Principle 8 ("Increasing resistivity", i.e. principle 8.1) and Principle 9 ("Cathodic control",

[14] The effectiveness of some products is to be limited to a maximum chloride ion content.

i.e. Principle 9.1). The application of coatings would also perhaps satisfy Principle 10 ("Cathodic protection or prevention", i.e. principle 10.1, where the anodes are incorporated into coatings).

Three main types of surface treatment are available:

**1.** Pore-liners. Hydrophobic impregnation treatments which line the pores and repel water, whilst allowing the concrete to 'breath'.

**2.** Pore-blockers. Materials applied partially or fully to fill the pores and seal the surfaces.

**3.** Coatings and coating systems. Materials comprising cementitious pore fillers or renders, thin barrier coatings or breathable coatings.

Different types of coatings will be more or less appropriate to a specific application depending upon the environmental conditions prevailing and the requirements for the finished 'product'.

A conventional concrete repairs strategy would normally require the use of a proprietary anti-carbonation coatings system to minimise further deterioration through carbonation. The coatings are formulated to allow the passage of water vapour, but to prevent the ingress of carbon dioxide and other deleterious substances such as chloride salts. These coatings in some cases may also produce a natural re-alkalising affect and should also allow the concrete to dry; perhaps modifying the potential, in the long-term, for further corrosion in the presence of chloride.

Following removal of the anode system installed as a part of a re-alkalisation or de-salination strategy surface coatings would normally be required to prevent further ingress of aggressive chemicals or leaching of alkalis which could re-activate corrosion. In this case the coating system would probably be similar to that used following a conventional concrete repairs strategy.

No additional surface coatings would be required after the installation of a CP system to limit further ingress of aggressive chemicals. However, some CP systems use anode components incorporated within coatings.

In some cases, the surfaces following repairs may not be suitable for the application of coatings. For example, rough surfaces or excessively voided surfaces may require pore-filling first, to prevent 'pin-holing'. Rougher surfaces may require the application of thin, high-performance renders to produce the required surface for coating. These applications may also have a decorative effect, in terms of hiding or masking repairs.

As the first line of defence, the coatings system obviously bears the brunt of the various environmental factors which were probably a significant contribution to the deterioration and resultant distress which lead to the repair and refurbishment of the structure in the first place. The coatings will, therefore, be subjected to wear and tear and will require periodic maintenance.

### 5.2.6.6 Over-cladding / Curtain walling

In some circumstances, e.g. a major internal and external refurbishment it may be appropriate or cost effective for the exposed and distressed concrete surfaces to be over clad. In this case, concrete repairs could be limited to a simple make-safe strategy, as discussed above. The over-cladding would essentially seal-in the concrete allowing it to dry-out and thus remove one of the key factors i.e. moisture in the corrosion reaction.

The concrete would continue to deteriorate in terms of carbonation and would remain potentially at risk from any chloride contaminants, although presumably sheltered from any further ingress from an external source/s. The absence of moisture, including condensation would prevent, or at least minimise future corrosion.

In addition to the above, over-cladding could have the advantage that the external appearance of a structure could wholly be updated / modernised, together with improvements in terms of insulation and the internal use of available space.

Potentially, however, over extended periods, a failure or lack of maintenance to weatherproofing details, together with the potentially deleterious effects of condensation upon already deteriorated concrete could give rise to the further deterioration and the development of distress which would be hidden from view.





### 5.2.6.7 Replacement of Elements

In some circumstances concrete elements may be found to be beyond economical repair in terms of the levels of distress and / or when weighed against the potential benefits of replacement using modern, alternative's. In other cases, particularly in older structures where, for example, elements such as precast parapets in a car park have a direct or even in-direct health and safety contribution certain elements and their fixing details may be considered to be either unsatisfactory or not up to modern standards.

In these cases, it may be possible, or better, to re-cast elements using concrete, have replacement precast concrete units manufactured to match existing, have replacement plastic or glass-fibre units manufactured to match existing or to install steelwork.

Relative cost effectiveness would be dependant obviously upon the number of units concerned, their location and interrelationship with neighbouring units, together with any structural requirements (potentially temporarily overcome by propping) and health and safety issues.

### 5.2.6.8 Structural Strengthening

In cases where the structural integrity of an element or structure has been called into question it may be cost effective to augment existing by installing additional reinforcement, perhaps using stainless. As an alternative, however, steel plate bonding or carbon-fibre could be used as external reinforcement.

The installation of additional, or replacement reinforcement would generally be most cost-effective within the cut-outs for concrete patch repairs, or where extensive cutting-out had taken place, i.e. where specific cutting-out would not be necessary.

The use of steel plate bonding or carbon fibre external reinforcement would generally be more cost-effective where elements were not significantly distressed. The former requires both industrial adhesives and the installation of 'peel-off' bolting whereas the latter would generally only require industrial adhesives. Carbon-fibre is also more flexible, available as either rigid plates or bandages ( the latter allowing for the wrapping of elements), together with perhaps significant weight and space savings coupled with the benefit of generally easier and quicker installation.

### 5.2.6.9 General

All materials employed in any refurbishment, regardless of detailed strategy should be of appropriate quality and should generally comprise tried and tested proprietary systems, manufactured under BBA or equivalent accreditation and installed by reputable Contractors covered by ISO 9002 (formerly BS5750) accreditation.

## 5.2.7 Specific Recommendations

### 5.2.7.1 Concrete

The appropriate Specification for the repair and refurbishment of the various concrete elements forming St. Peter's Seminary College would be dependent upon a number of factors, including those discussed above and, in our opinion, could comprise either conventional concrete repairs and coatings, electrochemical treatments comprising either, sacrificial anodes, temporary or permanent impressed electrical installations or corrosion inhibitors. Each of these systems has been used successfully in the UK when installed using appropriate, quality materials and a reputable specialist contractor.

In this particular case, in our opinion, the investigation results and in particular the depths of carbonation and the levels of chloride recorded would suggest various cost-effective options, two of which are described below. The options are described in order of decreasing costs, together with the limitations or potential risks associated with each, i.e. as the level of risk decreases the initial costs will increase.

We would also point out that any specification, including those described below, will be subject to ongoing maintenance. The maintenance cycle and associated costs will vary depending upon the initial specification and system/s employed.

**Option 1 - Conventional Concrete Patch-Repairs Augmented with Corrosion Inhibitors or Sacrificial Anodes**
A brief, generic specification would be as follows:

i) Prepare and clean all concrete surfaces.

ii) Carry out traditional concrete patch-repairs, but incorporating corrosion inhibitors or sacrificial anodes in order to arrest any potential for incipient anode corrosion.

**NB:** In our opinion, this strategy would again be effective, with a life-to-first-maintenance of up to 10years with corrosion inhibitors, extending up to 15years with sacrificial anodes. However, with the risk of incipient anode corrosion addressed maintenance should be limited. The specific materials manufacturers would need to be consulted to confirm the life-to-first-maintenance issues with respect to specific products.

**Option 2 – Holding Repairs**
A brief, generic specification would be as follows:

i) Carry out periodic inspection, with all loose concrete and other materials, considered to be at risk of falling, carefully removed to ground.

ii) Carry out 'holding-repairs' to all areas of scarred concrete, applying a cementitious slurry to broken concrete surfaces and exposed reinforcement.

**NB:** In our opinion, this strategy would again be effective, but with a very limited life-to-first-maintenance, particularly in such an aggressive coastal marine environment. Furthermore, although the processes of deterioration would be, at least be temporarily, arrested at the treated locations, there can be no guarantees that further loose concrete will not develop elsewhere, in currently sound locations. The specific materials manufacturers would need to be consulted to confirm the life-to-first-maintenance issues with respect to specific products and applications.

## 5.3 PRE-CAST PANELS

As discussed above, the condition of the fixing details, and associated concrete, to the pre-cast parapet units could represent the largest single element of any repair / refurbishment project, and probably the most problematical, not only in terms of methodology, but also the consents that would be needed from the planning authorities. These units represent a significant contribution to the architectural appearance of the buildings.

In many locations the fixings and associated concrete structures were deteriorated and distressed, a situation exacerbated, at least in some locations by corroded packers and shims.

The nature of the problem, and its solution, in our opinion warrants further investigation and trials, in order to evaluate the full range of conditions and to develop specific solutions. However, on the basis of the limited investigation carried out to date, we would suggest the following possible options.

**NB:** All corroded bolts should be replaced, together with all of the corroded steel packers and shims. With respect to the latter, at least in some locations, this may not be possible without lifting the units off.

**Option 1 – In-situ Re-protection**
At locations where there is limited outward sign of deterioration, the mortar packing to the fixings pockets should be removed, the fixings checked, cleaned and the mortar re-instated.

**Option 2 – In-situ Concrete Repair and Re-protection**
At locations where there is deterioration of both the mortar packing to the fixings pockets and the adjacent concrete structure the mortar packing should be removed, together with all deteriorated concrete, the fixings checked and cleaned and concrete repairs carried out in accordance with the option selected from Section 5.2.7.1 above.

**Option 3 – Unit Removal, Repair and Reinstatement**
In some cases damage around the unit fixings and / or the presence of corroded packers and shims may require removal of whole units (trials would be required in order to evaluate practicality). Once removed





corroded packers and shims could be removed and replaced, the slab edge could be repaired (if necessary), the panels and fixings could be repaired and the panel could then be reinstated (we have assumed that replacing such panels with light-weight replicas would not be permitted).

## 5.4 RENDERED AND DASHED BRICKWORK

All areas of rendered and dashed brickwork should be hammer tested to identify the extent of delamination. All delaminated render should be removed and the brickwork beneath assessed, and if necessary subjected to repair / re-building. The render should then be reinstated to match existing.

## 6. RECOMMENDATIONS FOR FURTHER WORK

The site currently represents a significant health and safety risk with respect to its accessibility and the potential for falling debris and collapse. Although the site has been fenced off, there is at least one hole in the fence allowing access to local 'youths' etc., who have clearly used the buildings for drinking, setting fires and other activities.

Before any further works are carried out, in our opinion, the site should be subjected to thorough clearance works, to make the site safe and enable access to all areas.

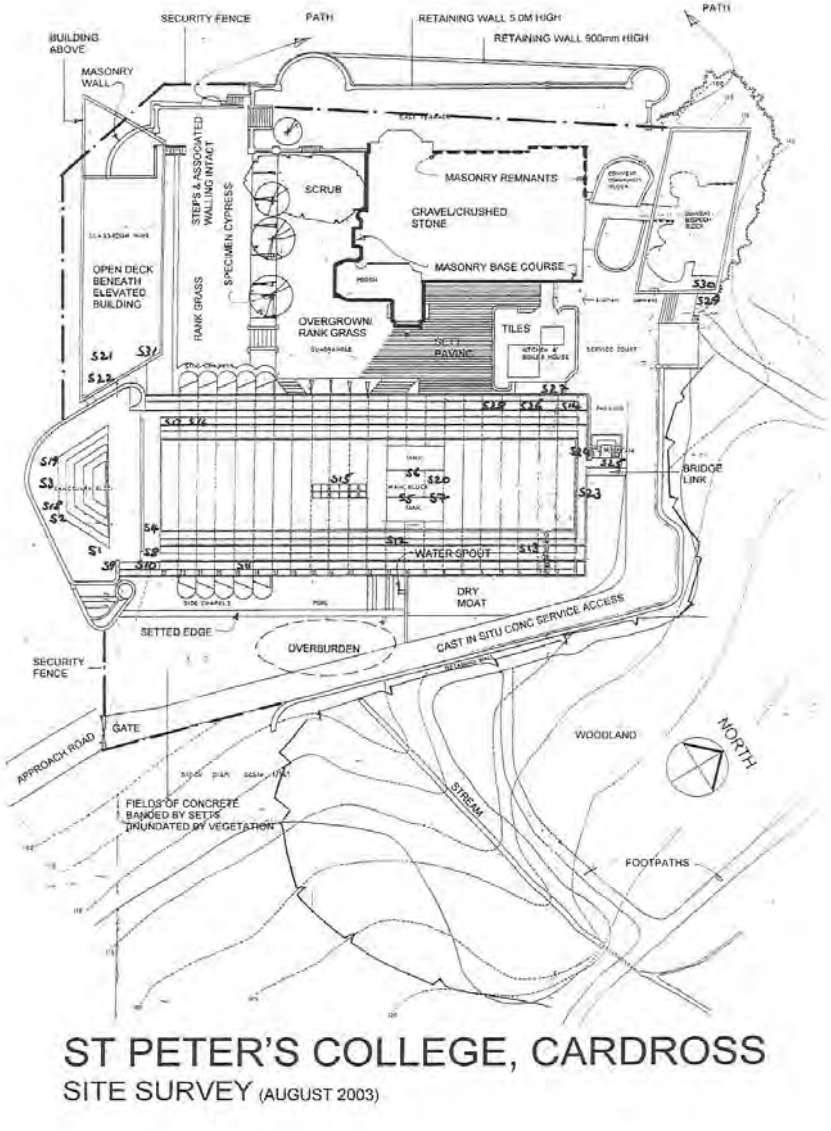
Once these enabling works have been undertaken we would suggest that a full survey should be carried out, to prepare drawings of the site, to fully assess the condition of all of the structures and to evaluate the full extent of the remedial works that would be needed to bring the structures back to the required condition. During these works trials could be undertaken in order to clarify present uncertainties and seek approvals, at least in principle.





# APPENDIX A

# DRAWING INDICATING SAMPLING LOCATIONS






# APPENDIX B

# LABORATORY ANALYSIS REPORT

SANDBERG

REPORT 36133/C/7

ST PETER'S SEMINARY CARDCROSS COLLEGE

ANALYSIS OF CONCRETE SAMPLES

Sandberg LLP
5 Carpenters Place
London SW4 7TD

Tel: 020 7565 7000
Fax: 020 7565 7101
email: clapham@sandberg.co.uk
web: www.sandberg.co.uk

SANDBERG
CONSULTING ENGINEERS
TESTING INSPECTION
QUALITY MANAGEMENT

REPORT 36133/C/7

ST PETER'S SEMINARY CARDCROSS COLLEGE

ANALYSIS OF CONCRETE SAMPLES

Concrete Repairs Limited
Cathite House
23a Willow Lane
Mitcham
Surrey CR4 4TU

This report comprises
1 page of text
Table 1 of 1 sheet

For the attention of Mr Nigel Pierce

21 February 2007

**SANDBERG**
CONSULTING ENGINEERS
INVESTIGATION INSPECTION
MATERIALS TESTING

Sandberg LLP
5 Carpenters Place
London SW4 7TD
Tel: 020 7565 7000
Fax: 020 7565 7101
email: clapham@sandberg.co.uk
web: www.sandberg.co.uk

**REPORT 36133/C/7**

**ST PETER'S SEMINARY CARDCROSS COLLEGE**

**ANALYSIS OF CONCRETE SAMPLES**

**Reference:** Your Order No 010259 SUR07569 dated 14 February 2007

## 1. INTRODUCTION

Thirty one concrete dust samples were received on 14 February 2007 for analysis to determine chloride content.

## 2. SAMPLE DETAILS

Details of the samples are given in Table 1.

## 3. ANALYSIS METHODS AND RESULTS

The samples were prepared and analysed in accordance with documented in-house methods based on BS 1881: Part 124:1988, for chloride.

The results are given in Table 1 expressed as per cent by weight of concrete and as per cent by weight of cement using an assumed value of 14%.

Concrete Repairs Limited
Cathite House
23a Willow Lane
Mitcham
Surrey CR4 4TU

for Sandberg LLP

For the attention of Mr Nigel Pierce

G S Mayers
Department Manager
21 February 2007

GSM/Chemcur/gsm

Tests reported on sheets not bearing the UKAS mark in this report/certificate are not included in the UKAS accreditation schedule for this laboratory.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

**SANDBERG**

UKAS TESTING 0282

36133/C/7

Table/Sheet 1/1

Date of Test 19/02/07

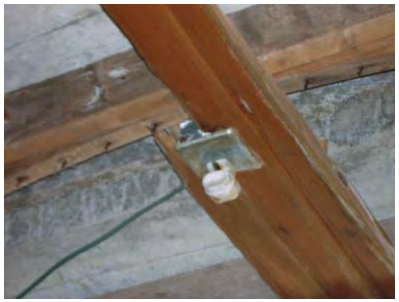
**CONCRETE - CHEMICAL ANALYSIS**
**DETERMINATION OF CHLORIDE CONTENT**
Documented in-house methods based on BS1881:Part 124:1988

| Sandberg Reference | Client Reference | Details St Peters Seminary Cardcross College | Cement content by mass (assumed) | Chloride $Cl^-$ % by mass of | | Mass of sample rec'd, g |
|---|---|---|---|---|---|---|
| | | | % | sample | cement | |
| C61414 | S 1 | - | 14.0 | 0.004 | 0.03 | 62 |
| C61415 | S 2 | - | 14.0 | 0.007 | 0.05 | 60 |
| C61416 | S 3 | - | 14.0 | 0.007 | 0.05 | 61 |
| C61417 | S 4 | - | 14.0 | 0.004 | 0.03 | 51 |
| C61418 | S 5 | - | 14.0 | 0.035 | 0.25 | 63 |
| C61419 | S 6 | - | 14.0 | 0.021 | 0.15 | 34 |
| C61420 | S 7 | - | 14.0 | 0.014 | 0.10 | 32 |
| C61421 | S 8 | - | 14.0 | 0.011 | 0.08 | 53 |
| C61422 | S 9 | - | 14.0 | 0.004 | 0.03 | 114 |
| C61423 | S 10 | - | 14.0 | 0.007 | 0.05 | 49 |
| C61424 | S 11 | - | 14.0 | 0.007 | 0.05 | 57 |
| C61425 | S 12 | - | 14.0 | 0.004 | 0.03 | 43 |
| C61426 | S 13 | - | 14.0 | <0.004 | <0.03 | 47 |
| C61427 | S 14 | - | 14.0 | 0.007 | 0.05 | 42 |
| C61428 | S 15 | - | 14.0 | 0.007 | 0.05 | 65 |
| C61429 | S 16 | - | 14.0 | 0.004 | 0.03 | 47 |
| C61430 | S 17 | - | 14.0 | 0.004 | 0.03 | 72 |
| C61431 | S 18 | - | 14.0 | 0.004 | 0.03 | 55 |
| C61432 | S 19 | - | 14.0 | 0.004 | 0.03 | 51 |
| C61433 | S 20 | - | 14.0 | 0.028 | 0.20 | 37 |
| C61434 | S 21 | - | 14.0 | 0.007 | 0.05 | 54 |
| C61435 | S 22 | - | 14.0 | 0.032 | 0.23 | 61 |
| C61436 | S 23 | - | 14.0 | 0.050 | 0.35 | 52 |
| C61437 | S 24 | - | 14.0 | 0.025 | 0.18 | 58 |
| C61438 | S 25 | - | 14.0 | 0.007 | 0.05 | 52 |
| C61439 | S 26 | - | 14.0 | 0.131 | 0.94 | 37 |
| C61440 | S 27 | - | 14.0 | 0.035 | 0.25 | 54 |
| C61441 | S 28 | - | 14.0 | <0.004 | <0.03 | 53 |
| C61442 | S 29 | - | 14.0 | 0.004 | 0.03 | 57 |
| C61443 | S 30 | - | 14.0 | 0.004 | 0.03 | 58 |
| C61444 | S 31 | - | 14.0 | 0.011 | 0.08 | 59 |

LAB FORM No Chloride 1C

Spring that fed the pools

Damaged convector heater



Fluorescent light fitting

Oil storage tank for boilers

Gas supply to kitchen

Electrical incomer to kitchen

## 4.7 SERVICES

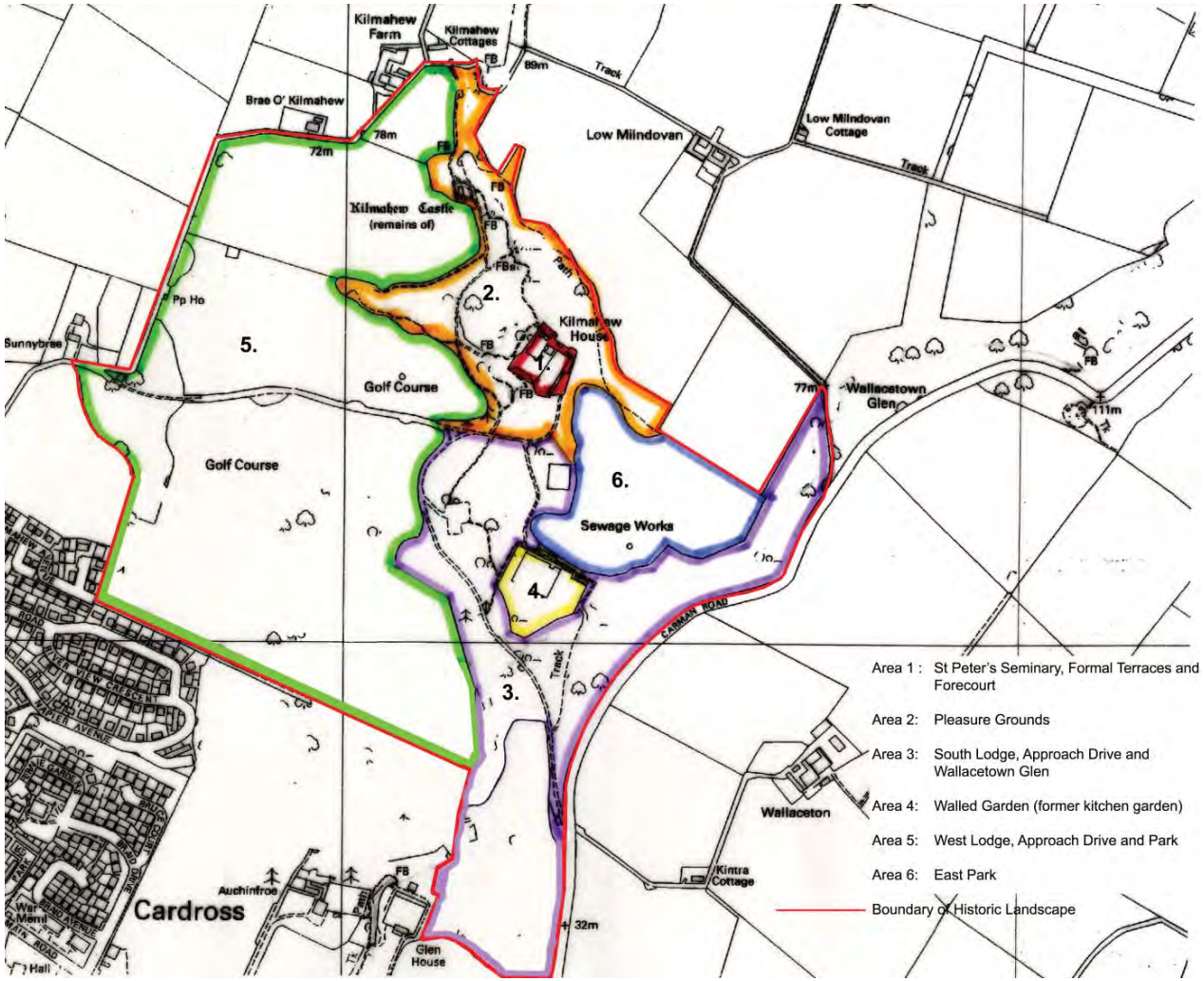
4.7.1 Little remains of the original mechanical and electrical installations.

4.7.2 Occasionally an asbestos clad copper heating pipe can be discovered partly concealed within a built out column and the wiring for the light fittings, though not the fittings themselves can be seen where the construction of the side chapels is decaying away. One or two convector heaters and fluorescent light battens.

4.7.3 All these elements are dilapidated, spare and incomplete. They are generally only to be spotted where the fabric is collapsing and there is nothing of particular interest.

4.7.4 There is some evidence of pipework and cabling being stripped away, probably theft.

4.7.5 All the manhole covers have been removed from site though the site drainage and septic tank system are still intact. The surface water drainage from the access road looks to still be functioning.




## 4.8 THE WIDER ESTATE

*The section considers the current condition and significance of the estate landscape.*

4.8.1 **Area 1: St Peter's Seminary, Formal Terraces and Forecourt**

For condition and significance see Table 4.5

View of herbaceous border terrace, 2007

View looking north west from herbaceous border, 2007

Stone bridge, 2007

View looking west from barrage of lake, 2007

4.8.2 **Area 2: Pleasure Grounds**

4.8.2.1 Formal Grass Terraces

The structure of the formal gardens still exists and the relationship between the open grass and wooded areas is still visible. The low wall that supported the herbaceous border terrace has survived, but like the bank below it is overgrown with rank grass and scrub vegetation, in particular bracken. Clumps of daffodils are the only evidence of ornamental planting. On close inspection, you can see the more formal rockwork undertaken to straighten this section of the burn. The bench and path have disappeared, but there are still views from its general location to the bank rising to the west/north west of the burn where remnants of the ornamental planting are still visible, amidst rank grass, bracken and brambles.

4.8.2.2 Significance:

The garden is a remnant of the late 19th century pleasure gardens, which forms an integral part of the setting of the seminary, in particular affecting the views from the west terrace. In contrast to the rest of the glen this is one of the more designed areas where evidence of man's intervention would have been more apparent. However, by the 1960s the garden was maintained more naturally.

4.8.2.3 The Lake

The barrage built to retain the lake and sluice appears in fair condition. Over the years, the lake has silted up to such an extent that the island is only definable by the trees that have survived such as the monkey-puzzle trees. Trees on the banks and former island are mixed broadleaved species with Scots pine with some specimen birch and cherry, and more recently planted poplars along the south boundary. Some are still in good condition. The iron fence surrounding the lake is in fair condition. The views to and from the west terrace are now obscured by vegetation. A stone bridge from the north bank to the island in good condition and could be a relatively new addition, as it is not shown on any of the early OS maps.

4.8.2.4 Significance:

The Lake is a major feature of the late 19th pleasure grounds, integral to the setting of the mansion house and more latterly the setting of the seminary.

Rhododendron tunnel, 2007

18/early 19th century addition to Kilmahew Castle, 2007

View of Kilmahew Castle interior, 2007

4.8.2.5 Rhododendron Tunnel

The tunnel is very dark and overgrown but it is still possible to pass through it. There is no evidence of any support system. Hummus has built up beneath the rhododendron stems over time and now defines the path edge.

4.8.2.6 Significance:

The tunnel is a feature of the late 19th or early 20th century pleasure grounds, which is integral to the setting of St Peter's Seminary.

4.8.2.7 Kilmahew Castle

Kilmahew Castle is in need of consolidation (For detailed Archaeological Assessment Report see Appendix 12.2). The more open character of the surrounding grounds is no longer evident and it now appears situated in woodland. The alignment of the path is still visible as a well-trodden track. An avenue of late 19th century limes aligns the path to the south, continuing as a single line further north. The limes further north appear much older with lots of epicormic growth. There are older limes and sycamore along the west boundary which show signs of coppicing. Apart from one very old Sycamore just to the north of the ruin, there are no traces of earlier planting or any structures which might indicate the presence of gardens associated with the tower house, although there is some variegated Lamium sp. growing on woodland floor close to the north boundary. At ground level, there are views over west park to the lake and filtered views of the Clyde panorama in the distance.

4.8.2.8 Significance:

The castle's significance is partly recognised by its status as a Scheduled Ancient Monument and its Category B listing as an historic building. The Archaeological Assessment commissioned as part of this report reveals that the building's significance is complex due to a number of development phases and gives a detailed account of the building's significance.

4.8.2.9 The castle is a remnant of the late Medieval landscape. It has been modified over the centuries and was latterly incorporated into the late 19th century pleasure grounds as an antiquarian curiosity. In this period it became a major feature of designed landscape and thus forms an integral part of the setting of the seminary.

Kilmahew Burn (North Glen), 2007

Rose Area, 2007

Metal bridge with criss-cross lattice work, 2007

4.8.2.10 Kilmahew Glen (North)
The burn and waterfalls continue to run through the glen and the ambient temperature drops rapidly once one enters the ravine. It is steep sided with mixed broadleaved woodland in fair condition but in need of management and a lot of fallen timber lies across it, obstructing access along the adjacent paths, visible on the 2nd Edition OS map, 1896-1900.

4.8.2.11 Despite neglect the structure of the late 19th century pleasure grounds has survived and is still discernible. The distinctive profile of the woodland visible in the 2nd Edition OS map, 1896-1900 is still apparent, being defined by the late 19th century iron railings, which survive to a greater extent and in relatively good condition although rusty. Remnants of the late 19th century pleasure grounds include bridges made of criss-cross ironwork, an iron rose arch, and well-trodden tracks indicating pathways, some mature ornamental trees and shrubs, particularly in the area north of the formal terraces.

4.8.2.12 Sycamore dominates the woodland, however there is a greater variety of species with older oak, beech, ash, elm and lime than the wooded glen south of the west approach. The sycamore is showing signs of die back in places. The woodland is even aged and there is little evidence of regeneration due to extensive woody weeds.

4.8.2.13 Significance:
Map evidence suggests that this area has been continuously wooded for over 500 years. The glen still maintains an air of mysticism and romance that has attracted visitors over the centuries. As the main body of the pleasure grounds, it was integral to the setting of the 19th century mansion, and latterly the seminary.

4.8.2.14 Curling Pond
This is now an extremely boggy area with no evidence of a metalled surface. There are ornamental bog plants Rogersia sp. and Sasa veitchii growing here, perhaps remnants of the late 19th century planting scheme.

4.8.2.15 Significance:
The pond is one of the only features of the late 19th century pleasure grounds, to be completely removed by the GKC in 1960s. Unusually there is no evidence of the 1960s development either.

South Lodge, 2007

Remnant of gothic bridge balustrade, 2007

4.8.3 **Area 3: South Lodge, Approach Drive and Wallacetown Glen**

4.8.3.1 South Lodge and Approach Drive

South Lodge is now derelict and the gates have been removed. A red sandstone wall in a variable condition extends south from the lodge connecting with the boundary wall for Bloomhill, a property also owned by the Burns family. It stops at the lodge. A modern security fence now prevents access, although it is possible to enter the site via a gap to the side that has been left unsecured.

The layout of the drive still exists, as does the structure of the late 19th century planting, albeit overgrown and in need of maintenance and management. The double bridge is shrouded in vegetation and views of the burns joining beneath are almost obscured. The robust Gothic bridge parapet is badly vandalised and stonework lies in the river below. The tarmac road surface appears in relatively good condition, however the edges are no longer visible due to soil creep. Woodland sedge and reeds have replaced any signs of a grass verge.

4.8.3.2 Although views looking west to the golf course are attractive, they are different in character to the late 19th century. From the Gothic bridge, it is possible to get a glimpse of the seminary buildings, which make a similarly imposing impression but is obviously different in character.

4.8.3.3 Significance:

The South Lodge is an integral element of the 19th century designed landscape. Its individual importance is recognized in its Category B listing. The upgrading of the drive to the principal approach further increased its status. As the main approach to the seminary, the drive influences the visitor's first impression and thus is integral to the setting of the seminary. The late 19th century layout and structure have survived but its landscape character has been eroded.

4.8.3.4 Stables (or Offices)

The stables have been demolished and the area has the character of a dumping ground. The surrounding woodland consists predominantly of sycamore with some beech, oak and ash. Natural regeneration is occurring in natural skylights.

4.8.3.5 Significance:

The stables were an integral feature of the late 19th century designed landscape In the 1960s they were the one of the few 19th century features outside the seminary complex to be adapted and re-used by

Kilmahew burn (South glen), 2007

the priests. Thus, before demolition they were integral not only to the setting but to the functioning of the seminary itself. Since demolition and since they were designed to be screened from external views, they are not considered to contribute significantly to the setting of St Peter's Seminary

4.8.3.6 Kilmahew Glen (South)
As with the north part of the glen, the banks are relatively steep and gorge-like and the burn plunges through the ravine at quite a drop in places.

4.8.3.7 Evidence suggests that the woodland was planted with sycamore, Scots pine, sessile oak. Silver birch, larch, and wych elm, were more recently planted or have naturally regenerated. With the exception of the flowering border to the south approach drive, evidence suggests ornamental planting was used to augment the indigenous broadleaved species and confined to the edges of specific areas such as along the boundary with walled garden and east park. These include Japanese cedar Cryptomeria japonica, common yew, Portugal and common laurel, and noble fir Picea abies and would have given all year structure to the park boundary. No veteran trees were identified. The steep banks have heavy growth of woody weeds, which is deterring regeneration here.

4.8.3.8 Most of the paths were designed to service the stables/offices and kitchen garden and as the function of these has diminished so have the paths. The path parallel to Kilmahew burn was not inspected. The path leading south from the main approach to the walled garden exists as a well trodden track.

4.8.3.9 Significance:
Over the centuries, the union of the two burns has continually influenced the evolution of this landscape. The woodland provides the setting for south approach drive and shields the working aspects of the late 19th century estate from views. The woodland adjacent to the banks may be ancient as it is unlikely to have ever been farmed and as such may be of interest ecologically as well. The late 19th century network of paths has all but disappeared. The glen was integral to the structure of the late 19th century designed landscape and as such is integral to the setting of the seminary.

Wallacetown burn, 2007

Stone bridge crossing Wallacetown burn, 2007

4.8.3.10 Wallacetown Glen

Wallacetown Glen is less dramatic than its neighbour, and different in character with more gently sloping banks and a shallower river bed, featuring beautifully eroded red sandstone. A well trodden track is still visible in some places, however there are no bridges and much fallen timber. In some places it is necessary to jump across the burn in order to continue. The connection with the path across east park was difficult to discern although a gate in the railings still exists. The spur off the south approach drive leading to the walled garden is relatively clear of vegetation but only really discernible by map. The little bridge that crosses the burn to the walled garden is hardly noticeable as it has no sides.

4.8.3.11 Wallacetown is designated a Site of Importance for Nature Conservation (SINC). The description (dated 1992) is as follows: "The site supports oak/birch community with sycamore, rowan, ash, wych elm, occasional beech and Scots pine. Ferns are abundant in the ground flora and include broad buckler fern and scaly male fern. Acidic conditions are indicated by the frequent occurrence of wood sorrel and greater woodrush. Greater stitchwort and common Polypody have also been recorded at the site. The understorey includes bramble, honeysuckle and holly. At Kilmahew there is an abundance of rhododendron and laurel as undershrubs."

4.8.3.12 During a visual survey undertaken for the purposes of this report, holly and hazel were noted and also an abundance of woodland sedge. No veteran trees were identified. The woodland edge profile has survived and predates late 19th century landscape improvements.

4.8.3.13 Significance:

The SINC designation makes Wallacetown Glen of national significance. The burn has shaped the character of this landscape for centuries. The path connections with the main pleasure grounds suggest that the glen was considered part of the designed landscape in the late 19th century.

4.8.3.14 The route to the kitchen garden predates the late 19th century improvements and is of interest. The bridge that crosses the burn is physical evidence of this earlier route and landscape. The archaeological assessment suggests that it was remodelled at the time of the construction of Kilmahew House and should be considered as a built feature of the Victorian designed landscape and part of a principal circulation route.

Stone entrance arch in east wall of walled garden, 2007

Yew hedge on eastern boundary, 2007

Dilapidated glass houses, 2007

4.8.4 **Area 4: Walled Garden (Former Kitchen Garden)**

4.8.4.1 The glasshouses are now derelict, although some of the timber framework and ironmongery for opening the windows remain. (The metalworkers name is visible on the metal casting -Simpson & Farmer-Horticultural Builders, Glasgow) In some places the rear walls appear to have been faced with a modern terracotta coloured brick.

4.8.4.2 The northwest arch is covered in ivy but appears sound. The generous stone lintel over the east entrance also appears sound, as does the metal gate. The yews on the eastern boundary have been left to grow as small trees and there are remnants of the decorative metal fence. The raised edge either side of the path running parallel to the lower wall of inner enclosure is covered in moss and soil creep. There is no obvious evidence of a sundial.
There are old fruit trees dotted around the wider area. The ground floor is covered in scrub vegetation, including willow herb, bracken and brambles.

4.8.4.3 The cold frames, potting sheds and bothies are also dilapidated. Beyond these a 1m high retaining wall faced with ashlar and weepholes follow the line of an earlier field boundary. On the upper level there is a line of trees including sycamore, ash, lime and some large Portugal laurel. The ash is probably one of the two trees visible on the 1st Edition OS Map, 1864-5. Park railing patched with barbed wire fencing in places defines the boundary with east park.

4.8.4.4 There are no views from the walled garden. However, there are views through gaps in the vegetation to the lower walled garden from the south approach and of the whole garden from east park.

4.8.4.5 Significance:
The walled garden was a significant feature of the late 19th century estate. In its day it was a fine example of its kind and at the very least is of local interest. The structure and general layout of the walled garden has survived. The walled garden also affects the setting of the south approach drive and the east park, which in turn are integral to the setting of St Peter's Seminary.

4.8.5 **Area 5: West Lodge, Approach Drive and Park**

4.8.5.1 Over the last fifteen years West Lodge has deteriorated rapidly and it is now a pile of rubble with only a couple of standing walls. The stone

West Lodge, 2007

View from west approach drive looking south east over golf course, 2007

West approach drive, showing two Wellintonias, 2007

View from west approach drive looking east towards St Peter's Seminary, 2007

gate piers remain but these appear sound. Two mature Wellingtonias stand as sentinels on either side of the drive at the point where it emerges from the woodland surrounding the lodge. The approach drive is a bound gravel track in relatively good condition. The park railing is in relatively good condition too and still follows the alignment visible in 2nd Edition OS Map, 1896-1900. Tree clumps along the drive are much depleted with sycamore and occasional oak. Clumps in the park have been altered to suit the layout of the golf course but remain relatively true to the 19th century layout. Some are quite depleted of trees. They were not inspected close to, but the tree silhouettes suggests they were planted with sycamore.

4.8.5.2 A dilapidated stonewall defines the west boundary of the park. The park railing that encloses the west shelterbelt is relatively in tact. Trees include oak, Scots pine, beech and sycamore.

4.8.5.3 Housing estates have continued to encroach northwards on land either side of the west approach and one field is left to create a buffer zone between the lodge entrance and the village of Cardross.

4.8.5.4 There are filtered views across the golf course to the seminary from the drive. Views from St Peter's Seminary are obscured at ground level. Views to Kilmahew Castle are obscured but there are views across the golf course from it.

4.8.5.5 Significance:
West lodge is an integral element of the 19th century designed landscape. The West Park affects setting of St Peter's Seminary and Kilmahew Castle. The general structure of the parkland has survived but the character of views across the parkland has dramatically changed due to the golf course, the loss of the mansion house and also overgrown vegetation. The significance of the approach was partially downgraded when the south approach drive became the principal approach to the seminary.

4.8.5.6 The West Park, in particular the two northern fields, could contain remains of archaeological interest due to the vicinity of Kilmahew Castle, see Archaeological Assessment in Appendix 12.2 for more detail,

4.8.5.7 West Park is no longer under Archdiocese ownership therefore control is limited.

above, Aerial photograph of East Park, Guthrie Photgraphy,

View to East Park from St Peter's Seminary, 2007

4.8.6 **Area 6: East Park**

4.8.6.1 The land is now rough pasture and rushes are growing in the wetter areas. Aerial photographs taken in the early 1980's show evidence of ridge and furrow. The northern section of the east park consists of a steep batter, which flattens out below a line drawn directly east of the tennis courts. The terrace is only semi flat and possibly man made. There are remnants of an old holly hedge that edged the woodland extended in the late 19th century, along the north boundary.

4.8.6.2 The agricultural land north of the east park is poorly drained and poached. One of the fields was levelled and laid out as a football pitch during the mid 20th century. The profile of the banks created in order to level the field is still visible.
There are views over the east park from the main block of St Peter's seminary. There is a filtered panoramic view over the walled garden to the Clyde estuary from the path on the brow of the hill.

4.8.6.3 Significance:
Providing the immediate focus of views from the 19th century mansion house and more latterly the main block of the seminary complex, the east park is integral to the setting of the seminary. It is an old landscape, the character of which has remained the same for centuries, with few modifications – principally the removal of the Triangle of Mildovan steading in the 19th century and the alterations to the west boundary when the sewage filter and tennis courts were laid out in the early 20th century. Late 19th century panoramic view from the north boundary have survived. The grass land could be of ecological interest.

4.8.6.4 The archaeological assessment states that suggestion of a significant settlement in the Roy map on the upper terrace (to the north of the walled garden) would be of considerable interest, however it is difficult to determine its significance without further investigation.

# Section 5

## Definition of Options

## 5.0 DEFINITION OF OPTIONS

5.0.1 Introduction

The purpose of a Conservation Plan is to inform decisions about the future of a heritage asset so that due consideration is given to its cultural significance and qualities of special interest before any scheme of action is implemented. In such situations there are always choices to be made, and St Peter's Seminary Cardross is no exception. Although the extent of its current dereliction might at first sight suggest the buildings have no future such an impression would be technically incorrect and accordingly the object of this part of our brief is to try to define in systematic technical terms what options might really exist.

5.0.2 It is not the function of this study to choose an option – that decision will be for others to consider – but to set out the range of possibilities in such a way as both to identify the available responses whilst also avoiding precluding any future opportunities that may become available for the buildings despite not being capable of implementation at the current time. It is suggested that all valid options should be compatible with the assessment of significance.

5.0.3 Three generic options that are consistent with the above requirement have been identified as, respectively, The Consolidated Exhibit Option, The Holding Option and the Restoration Option. Two further 'options' are also discussed but regarded as being incompatible with the assessment of significance, The 'Do Nothing' Option and Demolition. Additionally comment is included on the proposal that is currently the subject of a Listed Building Application – The Stabilized Structure – which is also noted as being at variance with the assessment of significance.

### 5.1 Option 1 The Consolidated Exhibit Option

5.1.1 The objective of this option would be to secure and conserve the remaining viable fabric of the buildings and consolidate this in such a way as to achieve a meaningful public exhibit through enabling limited safe access. The property would require a commensurate maintenance and monitoring regime. The scope of works would entail achievement of an effective weather tight envelope in the main building (though not the teaching block) and the removal only of such fabric as is already detached or incapable of being made safe. Such material as was removed would be either retained on

5.1.2 site as representative or re-usable fabric in cases of significance, or disposed of where consisting only of debris or hazardous material. Examples of fabric to be removed but stored on site either for possible future re-fixing or for templating future replacements would include the external balcony pc handrails, the sanctuary roof beams and the longitudinal timber header cradles respectively. Fabric retained in situ and re-secured would include pc panels (other than balcony handrails) and any sound vaults.

5.1.3 The objective of this option is to achieve a consolidated heritage asset that may be safely enjoyed by the public (through limited and well defined access) but without loss of any significant fabric, thereby leaving open the opportunity for a possible restoration/ re-use project at some point in the future. In other words the choice of this option would satisfy immediate conservation principles while not precluding a more ambitious later project. Clearly such a project if and when mobilized, would greatly benefit from these prior consolidation works which could significantly reduce the burden and cost of the remaining restoration.

5.1.4 In this respect the Option 1 strategy and proposed scope of work differ in several particulars from a previously prepared scheme termed ‘the stabilized structure’, currently pending as a Listed Building Application. This is due partly to the criterion that only options consistent with the assessment of significance should be regarded as valid options, and partly to the survey of the condition of the fabric in its current state. An example is the kitchen block, which in our view constitutes a significant element of the understanding of the social and operational history of the original seminary and accordingly should be retained at least as a series of buttressed walls. Another example is the scope of concrete repair work recommended for the seminary building which derives from the investigative survey carried out as part of this study. As the concrete panelling is regarded as a significant element of the architectural value of the building, the consolidation entails securing its fixings over the long term. Only the balcony handrails, which are already unsafe as an entire element, would be removed for storage.

5.1.5 Insofar as ‘additive’ work is involved this would consist of interventions necessary to prevent collapse of significant elements included in the consolidation, eg. providing a new sanctuary roof in order to stabilize the sanctuary wall.

5.1.6 Other works would be related to access arrangements, eg. reinstatement of the ground floor staircase and essential health and safety measures. It would be important for appropriate interpretation measures to be included in the project to optimize public appreciation of the exhibit and promote interest in its possible re-use. (See chapter 6, for detailed scope of Option 1 works),

**5.2** Option 2 The Holding Option

5.2.1 The objective of this option would be to arrest progressive damage to the buildings so as to allow a project for further reinstatement or complete restoration in the near or intermediate future. The result would leave the buildings wind and watertight and secure from further damage. It would differ from Option 1 insofar as the works would be primarily directed towards temporarily arresting further loss of significant fabric by the erection of a weather proof enclosure. The scheme would not involve producing a publicly accessible exhibit, but would be pursued essentially to 'buy time'. The period for the viability of this option would need to be defined. Too short a period would not buy sufficient time for potential new opportunities to emerge and take over. Too long a period would likely entail an uneconomic degree of investment in achieving a more permanent form of stabilisation. Subject to further discussion, a period of 5 years would seem optimum.

5.2.2 As in Option 1 the objective would be to retain as much as possible of the significant original fabric either in place, or in storage on site, so that any such elements of significance as might be feasible to repair and re-use would remain available to do so. Alternatively any such safeguarded items which were no longer viable could be used as templates for accurate replacements in a future project.

5.2.3 A characteristic of 'holding' measures is that their specification should generally take account of the design of the eventual permanent works. Criteria for the identification of 'holding measures' could be identified as follows.

- Work needed to arrest or prevent water ingress to the interior.
- Work needed to remedy conspicuous consequential damage from active or previous water ingress defects.
- Work needed to prevent damage from active defects becoming further entrenched and disproportionately costly to remedy.

- Work needed to arrest deterioration of significant elements of historic fabric. (This would mean removal of an item at risk and safe storage for future work, eg. the balcony handrails.)
- Investigations needed to ascertain the extent and severity of potentially progressive defects.
- Maintenance work needed to ensure or retrieve the operational viability of services installations. (eg. site drainage)
- Works needed to ensure adequate compliance with Health and Safety requirements for safe monitoring by authorized personnel.

5.2.4 Note

It should be appreciated that in addition to the respective building works involved both Options 1 and 2 require differing parallel projects of promotion and management to produce the intended outcomes. In the case of Option 1 the new exhibit would need to be positively promoted as a safe and rewarding public offer to be enjoyed in conjunction with the associated rehabilitation of the estate as a country park. The building complex would also require a suitable management and maintenance regime to protect the investment represented by the capital works, and enable the exhibit to be promoted as a springboard for eventual full re-use.

5.2.5 In the case of Option 2 there would also be a management implication to ensure that the area inaccessible to the public remained secure. But there would be a similar and vital promotional task to maximise the marketing profile of the complex in order to attract a viable new future proposal within the holding period.

**5.3** Option 3 The Restoration Option

5.3.1 This option is based upon the early identification of a viable new use and business plan for the complex. It is the most ambitious of the options, but is essential to be included and considered as a possible one. Of course it is difficult to scope such an option in detail in the absence of a specific operational programme, as there would inevitably be a measure of intervention in order to achieve both the desired arrangements and satisfy the necessary standards of technical compliance. Although the outline costings therefore assume a basic restoration scope of work it may be assumed that an actual project scope would be tailored to the requirements of the new use/s to be adopted.

5.3.2 Whilst the Restoration Option is described as a single 'grand project' it should be appreciated that there may be a variety of ways to reach that ultimate objective. Of course, if it followed the implementation of Option 1, the Consolidated Exhibit, much essential repair work would have already been executed. An intermediate strategy might be identified as 'The Progressive Repair Option'. This would approach the repair of the complex as a series of phased projects, dealing with each building separately as a means of limiting outlay and risk. Such a process would seem best applied to the following sequence – convent, main building, teaching block, with external works and infrastructure in a commensurate relationship to the respective buildings. The advantages that might result from such an approach, such as trialling of repair techniques and material samples, would need to be weighed against the extended time frame entailed in accomplishing the overall rehabilitation of the complex.

5.3.3 This option would of course also need to be related to a specific business strategy and programme of use that made sequential completion of parts of the complex a relevant objective. But the possibility of being able to approach the challenge of rehabilitation other than by means of a single major commitment might itself enable a wider range of opportunities to be considered.

5.3.4 Two further points may be noted here. First, that the comprehensive archival record of the building would provide ample reference material to inform the authentic restoration of virtually any original detail where this was desired. Secondly, and the notwithstanding the above resource, it should not be assumed that the Restoration Option would impose an obligation to reinstate any element of the original that was not pertinent to the proposal made for re-use. Thus whilst Option 1 being essentially orientated to providing an exhibit of the previous seminary would ideally retain elements of, for example the kitchen block, Option 3, being directly geared towards supporting a new use, might exclude retention of this building if it thwarted the viable achievement of the proposed use. The challenge, as with any constructive conservation would be to balance the demands of heritage and viability. The project would call for an imaginative and sensitive assimilation of the new needs and original significance.

**5.4** Stabilized Structure

5.4.1 This option is proposed in the current listed building consent application prepared by Messrs. CDP on behalf of the Archdiocese and Classical House and would involve removal of all roof coverings and structure (except for the sanctuary roof which would be restructured to provide lateral stability for the curved external wall), retaining pre-cast concrete components but otherwise stripping back the main buildings to their structural frame. One bay of the seminary would be restored to represent an example of the original vaulting, but otherwise the building would be open to the elements. The teaching block would be stripped back to the structural frame and left exposed. Retention of the convent would be optional, while the community room, sisters' refectory and kitchen block would all be demolished. Limited public access would be provided to the ground floor of the seminary block only. (See Supporting Planning Statement, 2004, for further details.)

**5.5** The 'Do;Nothing' option

5.5.1 Although this option has not been written into the brief for consideration as such, we are obliged to include it in the study for the sake of completeness. It could be suggested that the 'Do Nothing' Option has already been being pursued de facto inasmuch as with the exception of the installation of perimeter fencing (now breached) there has been no work of any kind undertaken to the buildings themselves or their setting over a considerable number of years. The consequences of this option are effectively what currently exists on site, ie. significant and progressive damage to and loss of original building fabric, degradation of the immediate curtilage and deterioration of the wider setting generally.

5.5.2 Although this option may appear to be free of cost (and is therefore uncosted in this study), it is not free of risk. Risks (and therefore potential cost) are increasing in severity the longer the option continues. These include immediate risk of serious or fatal injury in the event of material collapse. Significant sections of the buildings are insecure, including concrete panels, extensive areas of render, vaulted ceilings, timbers at high level, and various elements of masonry. Other hazards include fallen debris, unsealed asbestos, unguarded edges and uncovered pits.

5.5.3 At the very least immediate measures should be taken to re-secure the perimeter fencing around the buildings, address immediate public safety hazards, post hazard warning notices, and monitor site security on a regular basis.

5.5.4 The state of the wider site also presents significant risks, including uncontrolled water courses (one of which appears to be contaminated), collapsed bridge parapets and partially fallen trees. Any of these risks could materialise in an incident at any time and thus constitute a grave liability for the Archdiocese. Apart from being self-evidently incompatible with the assessment of significance, it is accordingly considered that continuation of the Do Nothing Option is perilous and unsustainable.

**5.6** Demolition

5.6.1 At an interim client/stakeholder team review meeting of 27th April 2007 the project brief was extended to cover the issue of demolition. This 'option' had not previously been included and was also identified as at variance with the Assessment of Significance, which it has been the principal objective of this study to provide. Whilst it is difficult therefore to see how the existing undetermined application, whose first aim is explicitly stated as 'the stabilization of the A listed seminary buildings giving the opportunity for future re-use' could be replaced by an application for consent to demolish, since the issue has been raised in discussion consideration of demolition of the listed seminary complex is considered here in order to ensure that the study is comprehensive.

5.6.2 In this context reference is made to Historic Scotland, Memorandum of Guidance on listed buildings and conservation areas, 1998, and NPPG 18 Planning and the Historic environment, April 1999. These provide at section 2.10 and para 47 respectively that Government policy is that 'no worthwhile building should be lost to our environment unless it is demonstrated beyond reasonable doubt that every effort has been exerted by all concerned to find practical ways of keeping it.' It can be seen that this provision embodies a number of tests to be considered in dealing with applications for demolition of a listed building, namely

- whether the building/s in question may be regarded as 'worthwhile'
- whether there has been 'demonstration beyond reasonable doubt'

- whether ‘every effort – to find practical ways of keeping it’ has been exerted
- and whether the said effort/s have been exerted by ‘all concerned’

5.6.3 These tests may be answered shortly in the following terms. First, there is evidently a sufficient consensus that the buildings are regarded as ‘worthwhile’, both through their statutory designation at Category A, in the considerable interest and attention they continue to command (see bibliography) and indeed in the Supporting Planning Statement itself which refers to the buildings as ‘internationally important’, (para 3.32) stating that ‘St Peter’s Seminary is widely recognized as one of Scotland’s finest post-war buildings’, (para.8.1). The present study also acknowledges that even in its current state it retains a considerable sum of heritage values. The recent (June 2007) addition of St Peter’s Seminary to the World Monument Watch List underscores the established recognition of its importance still further.

5.6.4 Secondly it does not appear that there has been ‘demonstration beyond reasonable doubt’ in the terms suggested by the policy. Such demonstration is assumed to include the manifestation of endeavour by its owners to prevent deterioration of the building in order to maximize or maintain its chances of survival and re-usability, whereas it is reported that over a period (1983-87) efforts were directed towards its demolition including three (unsuccessful) applications to this effect. We are also not aware of any active current regime of site monitoring or management. This test may also be conjoined with the following one in regard to the range of action necessary to demonstrate effort to keep a building.

5.6.5 As regards satisfying the test that ‘every effort to find practical ways of keeping it has been exerted’, a marketing invitation was issued by Messrs Bell Ingram in March 1981. It is further understood that the principal marketing study dates from 1994 (ref. St. Peter’s College, Cardross Market Assessment, prepared for Dunbartonshire Enterprise by EDAW CR Planning, 15th September 1994). However it is not clear as to the extent to which some of the more positive findings from this exercise have been followed up in active marketing, or whether concerted efforts have been made more recently on behalf of the current owner or by others. One specific enquiry that is

reported is that developer Urban Splash who visited the complex in 2006 but declined to follow this up with any positive interest.

5.6.6 Whilst it is evident there has as yet been no conclusive response to the potential opportunity at St Peter's, it is noted these tests relate not to the level of market response but to the level of marketing effort. The inclusion of St Peter's on the Building at Risk Register is cited in this context. This Register, which is operated as a publicly accessible record by The Scottish Civic Trust, provides a detailed narrative of events and press coverage and has maintained an ongoing entry on St Peter's Seminary since 1990. see Appendix 12.7. The last item of correspondence of which we are aware (ref. Supporting Planning Statement, Appendix 2) dates from October 2003 and advised that Scottish Enterprise Dunbartonshire was unaware of any market interest in St Peter's College and would not view redevelopment as a priority. It is reported that 'marketing appraisals and initiatives have been ongoing' (3.15) and that 'the Archdiocese have sought to secure the future of the building by every possible means available' (3.29), Whilst this may still need to be formally evidenced to satisfy the relevant policy test, it is nevertheless asserted that 'market ignorance is most unlikely to lie at the heart of this very difficult issue.'

5.6.7 Fourthly, in this series of tests, it may be difficult to demonstrate conclusively that the said efforts have been exerted 'by all concerned'. It is clear that beyond the immediate group of stakeholders there is a wider circle of concerned parties, some of whom may be willing and able to exert further efforts to explore a beneficial future for the buildings if the only alternative was demolition.

5.6.8 The policy context whereby there is a presumption in favour of preservation requires that any proposal for demolition is further considered in the light of the following specific factors.

5.6.9 Importance

As already indicated above, the obligation to have regard to the importance of the building in question would reinforce the case for preservation in the case of St Peter's Seminary, which is Category A listed on account of its national significance. It could not be contended that the seminary, even in its current state, is of insufficient importance to justify the presumption to preserve. Aspects

of importance suggested in the Guidance include rarity, group value, historic interest, design, plan, materials, location and technology – all of which have relevance in the case of St Peter's, as detailed in the Statement of Significance.

5.6.10 Condition

Policy also dictates that regard should be paid to the condition of the listed building, the cost of repairing it in relation to its importance and the economic value of the building when repaired. Whilst in the case of St Peter's Seminary it must be acknowledged that this test is onerous it must also be recognized that the mitigating factors of importance and outturn value make it difficult to conclude that the test is passed. In the latter case, it is currently not possible to establish a value in the absence of a suitable use model, and also of a feasibility study exploring the viability of retaining the building in active use, which NPPG 18 specifically requires (para 47). The Guidance (2.10b) goes on to emphasize that 'while most old buildings suffer from some defects it is important to distinguish between serious structural faults and less serious but frequently more obvious consequences of poor maintenance, neglect or vandalism'. All of these clearly apply at St Peter's, where despite the extensive results of neglect and vandalism the essential structural condition of the buildings is relatively sound and repairable, the principal area of damage relating to fixings rather than structure as such – as reported in the condition survey, Chapter 4.

5.6.11 Alternative Uses

Policy guidance here indicates that it would be necessary to show beyond doubt that it is not possible to adapt the existing building to any new use that would safeguard its future and benefit the community, (para 2.10c). Whilst reference to an earlier inconclusive proposal to convert the buildings to hotel use is cited as evidence of the difficulty of adaptation, it is not an inevitable inference that adaptation 'to any new use' is impossible. Other alternative proposals are known to exist and have yet to be tested. (See Appendix 12.9 - Examples of Rescue and Re-use). The current Listed Building Application has moreover indicated that even 'in use in a reduced and consolidated state the building would provide educational and heritage benefits to the community'.

5.6.12 Additionally the policy is predicated upon linkage of demolition in circumstances where the existing listed building cannot be adapted

for re-use to replacement with a new building designed for the specified use which 'would positively enhance both the environment and the setting of other listed buildings in the area'. (para 2.10c) In this instance no such replacement scheme is proposed, so it is not possible to address the consequential test of estimating 'the extent to which the community would benefit from redevelopment'.

5.6.13 It is noted that any application for listed building consent to demolish must be notified to Scottish Ministers. At this stage it is likely to be contended that consideration of demolition does not arise from the failed endeavour to seek a beneficial future for the listed building in accordance with the prescribed policy tests, but rather from the assumption that demolition is only what the proceeds of an enabling development might buy. In such circumstances the said development would clearly not qualify for consideration as 'enabling development' as no heritage benefit would be thereby enabled.

5.6.14 Not withstanding the above, for the purposes of providing a theoretical cost the scope of works assumes complete clearance of all surviving structures, with disposal of arisings (which will include hazardous material) in accordance with authorized procedures, and remedial landscape works. This would include necessary strengthening work to the bridge/s on the access route to accept demolition site traffic, and repairs to retaining walls to leave a permanently safe site.

# Section 6

Proposed Schedule of Works for Options 1,2,3

*The following section looks at each building within the St Peters Seminary complex, identifying each building component and scheduling the structural and architectural works required for Option 1: Consolidated Exhibit, Option 2: Holding Option and Option 3: Restoration.*

*Also included within this chapter are two additional sections looking at the provision of new mechanical and electrical services and the concrete repair options detailing the principles adopted for all three options.*

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Roof | Strip off roof covering, sarking, insulation and timber joists completely.<br>Inspect condition of roofing joists and renew where required. Renew firrings and ply roof decking to improved drainage falls. Renew roof covering with improved insulation thickness to new roof outlets in original locations. Provide new perimeter flashing to inside of parapet face.<br>A new roof access and maintenance fall arrest systems should be installed as required. | Carry out inspection of felt, sarking, roof timbers, roof outlets and rwps. Remove any hazardous asbestos material.<br><br>Provide scaffolded temporary roof over the whole of the main block supported off scaffold ladder trusses. Tie scaffold securely avoiding damage to original fabric.<br>Provide the necessary surface water collection system to shed water from the tent enclosure. | Strip off roof covering, sarking, insulation and timber joists completely.<br>Inspect condition of roofing joists and renew where required. Renew firrings and ply roof decking to improved drainage falls. Renew roof covering with improved insulation thickness to new roof outlets in original locations. Provide new perimeter flashing to inside of parapet face.<br>A new roof access and maintenance fall arrest systems should be installed as required. |
|  | Galleries | Remove debris from galleries, clean down and install new felted trough along the length of the galleries, enhancing falls wherever possible. Install new rainwater goods in concealed location wherever possible. | Remove debris from galleries, clean down. Temporary roof and wall protection noted above will form a wind and watertight enclosure and therefore no work will be required to these. | Remove debris from galleries, remove paving tiles, balcony covering back to structure. Inspect and carry out repairs as required. Renew screed to improved drainage falls. Renew balcony roof covering with improved insulation thickness to new rainwater outlets in original locations. Provide new improved perimeter flashing to inside of pre cast cladding face. |
|  | Rooflight above main staircase | Form openings in location of the original rooflights and form kerb upstands to perimeter. Install 3 new cost effective polycarbonate rooflights to re-create the top lit affect above the main staircase. | The scaffolded temporary roof erected over the whole of the main block supported off scaffold ladder trusses will provide protection to the rooflight opening. | Install new insulated roof lights, to original size, shape, profile and location. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Insitu Frame/Primary Structure | Carry out concrete repairs to all insitu concrete frame elements and components. Refer to S.Eng for details. Clean concrete of all graffiti. In addition to traditional concrete repairs undertake one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. Ie, Margel Followed by the Installation of Corrosion monitors. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. The main block is to be protected from wind and rain stabilizing the current deterioration due to the internal concrete being exposed to the external environment. | Carry out traditional concrete repairs to all in-situ concrete frame elements and components. Concrete to be cleaned of all graffiti and extraneous disfiguring manifestation. Refer to S.Eng for details.<br>In addition to traditional concrete repairs consider one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. Ie, Margel Followed by the Installation of Corrosion monitors. |
|  | Pre-cast exposed aggregate parapet handrail panels to galleries | Unscrew/cut off bolts to underside of parapet handrail panels, Lift off pre-cast handrail unit. Record, label and store safely. | Unscrew/cut off bolts to underside of parapet handrail panels, lift off pre-cast handrail unit. Record, label and store safely. | Unscrew/cut off bolts to underside of parapet panels, Lift off pre-cast handrail unit. Record, label and store safely. Repair where bolts fixings have been removed. Renew all new plate connections and fixings with new galvanized metal. Re-instate restored/cleaned parapet panels to match original fixed to new pre-cast concrete/or galvanized mild steel handrail supports (see below)<br>Install corrosion inhibitors to panels. |
|  | Pre-cast post supports to handrail panels. | After the handrail panels are removed, Survey and record posts. Carefully remove posts and store good representative quantity for record purposes. Make good to waterproofing at terrace balcony junction after post is removed | After handrail panels are removed, Survey and record posts. Carefully remove posts and store good representative quantity for record purposes. Make good to waterproofing at terrace balcony junction after post is removed. | After the handrail panels are removed, Survey and record posts and their locations. Carefully remove posts and select a good representative quantity to use as a template. Provide new pre-cast concrete posts to match original profile and visible dimensions and install in original locations. Alternatively consider replacement in purpose made galvanized mild steel sections with integral handrail fixing detail. Following full re-fix of all panels undertake full re-sealing of all soffit joints |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Pre-cast exposed aggregate concrete cladding panels with vaulted profile. | Carry out a comprehensive survey of all panels. Abandon the top bolt fixings and cut out the corroded original bolt fixings. Provide new resin anchored fixing to restrain the panels. Refer to S.Eng details. Install corrosion inhibitors to panels from back face. | Carry out a comprehensive survey of all panels. Establish panels where fixings require immediate attention and provide new resin anchors to S.Eng detail. Assume 20% of panels require urgent attention with the remaining being left in situ | Carry out a comprehensive survey of all panels. Abandon the top bolt fixings and cut out the corroded original bolt fixings. Provide new resin anchored fixing to restrain the panels. Refer to S.Eng details. Repair any damaged panels. Investigation will be required to establish the condition of any buried or concealed fixings. Following full re-fix of all panels undertake full re-sealing of all soffit joints |
|  | Pre-cast exposed aggregate concrete cladding panels to the roof edges of the study rooms | Carry out a comprehensive survey of all panels. Provide new resin anchored fixing to restrain the panels if required. Refer to S.Eng details. | Carry out a comprehensive survey of all panels. Establish panels where fixings require immediate attention and provide new resin anchors to S.Eng detail. Assume 20% of panels require urgent attention with the remaining being left in situ | Carry out a comprehensive survey of all panels. Abandon the top bolt fixings and cut out the corroded original bolt fixings. Provide new resin anchored fixing to restrain the panels. Refer to S.Eng details. Repair any damaged panels. Investigation will be required to establish the condition of any buried fixings. Following full re-fix of all panels undertake full re-sealing of all soffit joints |
|  | Pre-cast exposed aggregate concrete cladding panel to the South end of the main block above sanctuary roof. | Form a level line above the base of the panels just above the sanctuary roof level and disc off the area affected by the corroded fixings and make good to match original. Provide new resin fixings to all panels to S.Eng detail. Remove existing restraint fixings to top of panels. | Inspect panels and install resin ties to support panels. | Form a level line above the base of the panels just above the sanctuary roof level and disc off the area affected by the corroded fixings and make good to match original. Provide new resin fixings to all panels to S.Eng detail. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Upper Floors | Retain all intact areas of sound flooring, and joists. Carefully remove debris lying on top of barrels including any dangerous timber flooring.<br>Establish maintenance route across the length of each floor level to connect with both staircases. Provide temporary timber floor deck to provide safe access spanning across the existing beams. Provide and lay new safety flooring to the identified access routes | Retain all intact areas of sound flooring, and joists. Carefully remove debris lying on top of barrels including any dangerous timber flooring.<br>Establish maintenance route across the length of each floor level to connect with both staircases. Provide temporary timber floor deck to provide safe access spanning across the existing beams. Provide and lay new safety flooring to the identified access routes. | Retain all intact areas of flooring, and joists. Carefully remove debris lying on top of barrels including any dangerous timber flooring. Investigate fixings to and condition of all timber floor bearings and renew as required. Renew timber floor joists as required. Renew timber floor board covering to all internal upper floors, as required. Allow for say 75% area to be replaced. All areas of original flooring to be contained in definable areas. |
| | | | | |
|  | Non structural ceiling vaults | Retain all viable intact barrel vaults in situ. Carefully remove loose plaster and debris lying on top of barrels including any dangerous timber flooring. Assess condition of all Hy-Rib vaults. Establish sound vaults for consolidation. Wire up continuous network of sacrificial elements to arrest further corrosion of the metal vault structure. Encapsulate each vault by spraying light weight concrete on top of the vault from above to secure the original plasterwork. | Retain all viable intact barrel vaults in situ. Carefully remove loose plaster and debris lying on top of barrels including any dangerous timber flooring. Assess condition of all Hy-Rib vaults. Establish sound vaults for consolidation. Wire up continuous network of sacrificial anodes to arrest further corrosion of the metal vault structure. Encapsulate the vault by spraying light weight concrete on top of the vault from above to secure plasterwork. | Retain all viable intact barrel vaults in situ. Carefully remove loose plaster and debris lying on top of vaults including any dangerous timber flooring. Assess condition of all hy-rib vaults. Establish sound vaults for consolidation. Wire up continuous network of sacrificial anodes to arrest further corrosion of the metal vault structure. Encapsulate the vault by spraying light weight concrete on top of the vault from above to secure plasterwork. Maintain service voids to run new services to each room below the floor. Reinstate missing ceiling vaults to original profile and detail. Repair damaged plaster and prepare all vaults to be redecorated following replacement/consolidation. Allow for 20% new vaults to match original. |
| | | | | |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Entrance stair up from cloister level | Carry out repair to the insitu concrete staircase. Refer to S.Eng. Clean concrete of all graffiti.<br>Clean and repair handrail and redecorate handrail with a high quality paint specification to S.Eng specification. In selected locations install sacrificial anodes or corrosion inhibitors and corrosion monitors. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. Refer to S.Eng. Repair handrail and redecorate handrail with a high paint specification to S.Eng specification.<br><br>Construct a new enclosure to the staircase at cloister level, in the location of the original screen with a treated timber frame unfilled with Monarflex protective panels, in order to establish an internal environment for the upper levels. | Carry out repair to the insitu concrete staircase. Refer to S.Eng. Clean and repair handrail and redecorate handrail with a high quality paint specification to S.Eng specification. Provide new double glazed external screen to enclose staircase.<br>In selected locations consider installing sacrificial anodes or corrosion inhibitors and corrosion monitors. |
|  | Central staircase and handrail | Remove all damaged timber handrails and treads.<br>Sections of the timber handrail to be removed carefully to record, method of fixing, detailing and type of timber and finish used. Provide and install temporary treads and scaffold fall arrest handrail to staircase for maintenance purposes.<br>Provide barrier to prevent public access up the building. | Remove all remaining timber handrails and treads.<br>Sections of the timber handrail to be removed carefully<br>Record, method of fixing, detailing and type of timber and finish used.<br>Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement.<br>Provide and install temporary treads and scaffold fall arrest handrail to staircase for maintenance purposes. | Carefully remove all remaining timber handrails and treads, recording detail, fixing, finish and type of timber used. Carry out concrete repair to insitu concrete spine and re-instated new treads, riser and balustrade to original detail. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | External Fire Escape Stair | Undertake concrete repair and ensure that this element is safely accessible to provide essential maintenance access only to all levels.<br>Clean of all graffiti fro concrete surfaces.<br>In addition to traditional repairs undertake in selected locations one of the following additional extra measures:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. Ie, Margel Install Corrosion monitors.<br><br>Refer to S.Eng recommendations.<br>Provide means of controlling access to foot of stairs. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. Ensure that this element is safely accessible to provide essential maintenance access to all levels.<br>Refer to S.Eng recommendations.<br>Provide means of controlling access at foot of stairs. | Undertake comprehensive traditional concrete repair<br>Refer to S.Eng for details.<br>In addition to traditional concrete repairs consider one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. i.e, Margel Install Corrosion monitors.<br>Refer to S.Engineer's recommendations.<br>Carefully remove the small metal bridge links, sand blast back to bright metal, re galvanize re-coat with high performance metal paint and re-instate with new fixings as required.<br>Apply waterproof coating to stair treads and landings as required. |
|  | Pre Cast Concrete Floor and Terrace Slabs | Carry out concrete repair where required.<br>Refer to S.Eng recommendations | Carry out holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. Refer to S.Eng recommendations. | Carry out concrete repair where required. Refer to S.Eng recommendations. |
|  | Floor finish | Remove all debris from floor, clean down flooring and inspect condition. Undertake local repairs/panels replacement to match original where required to achieve safe floor surface. | Remove all debris from floor, clean down flooring and inspect condition. Ensure safe maintenance route is identified. | Remove all debris from floor, clean down flooring and inspect condition. Carry out local repairs where required and restore original floor finish as required. New flooring may be required dependent on integrity of underlying damp proof membrane. This should be installed to original specification and layout. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Entrance bridge and spout, moat | Remove all debris, grass, moss etc from the bridge. Clean out the moat and inspect condition of concrete and repair as required. Repair spout and chain. Apply waterproofing to moat and re-instate water in pool. Investigate and clear out drainage, divert foul and surface water currently discharging across entrance to building. Flush out and repair underground drainage and overflows. | Remove all debris, grass, moss etc from the bridge. Clean out the moat and inspect condition of concrete and repair as required. Investigate and clear out drainage, divert foul and surface water currently discharging across entrance to building. Flush out and repair underground drainage and overflows. | Remove all debris, grass, moss etc from the bridge. Clean out the moat and inspect condition of concrete and carry out concrete repair to S.Engineer's specification. Apply waterproofing to moat and re-instate water in pool. Investigate and clear out drainage, divert foul and surface water currently discharging across entrance to building. Flush out and repair underground drainage and overflows. Clean and repair chain from spout. |
|  | External ground floor timber screen windows | Remove all remaining timber and clean reveals of debris and make good as necessary. Install treated softwood frames with monarflex temporary protection panels to form weather tight enclosure in location of original external screen and windows. | Remove all remaining timber and clean reveals of debris and make good as necessary. 2 Options: 1. Install treated softwood frames with monarflex temporary protection panels to form weather tight enclosure in location of original external screen and windows. 2. Provide scaffold and temporary roof over main block supported off scaffold ladder trusses. Sheet external scaffold to provide wind and watertight enclosure to main block. | Remove all remaining timber and clean reveals of debris and make good as necessary. Retain any original sections of timberwork, profiles that indicate original detail and material quality for record purposes. Renew all external glazed screens to original detail, fenestration pattern in original location. |
|  | External timber windows to trainee priests cells | Remove all remaining timber and clean reveals of debris and make good as necessary. Ensure record timber sections are carefully removed and stored for future reference. Paint scrapings should be taken prior to removal to record paint colour. Install treated softwood frames with monarflex temporary protection panels to form weather tight enclosure in location of original external screen and windows. (See Diagram) | Remove any unsafe material: 2 Options: 1.Remove existing fragments of the timber frame. Install treated softwood frames with monarflex temporary protection panels to form weather tight enclosure in location of original external screen and windows. 2.Provide scaffold and temporary roof over main block supported off scaffold ladder trusses. Sheet external scaffold to provide wind and watertight enclosure to main block, having removed and stored any loose items. | Remove all remaining timber and clean reveals of debris and make good as necessary. Ensure record timber sections are carefully removed and stored for future use. Paint scrapings should be taken prior to removal to record paint colour. Renew all external screen windows and doors to original detail, dimensions, fenestration pattern and colours. Incorporate double glazing to improve overall thermal performance of external building envelope. Improve detailing to reduce the affects of cold bridge. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Soffit cradle head detail above external timber screening and below the barrel vaults | Record profile, details and timber type and finish. Carefully remove trough detail and set aside and store for record purposes/re-use | Record profile, details and timber type and finish. Carefully remove trough detail and set aside and store for record purposes/re-use | Record profile, details and timber type and finish. Carefully remove trough detail and set aside and store for record purposes/re-use. Establish what sections can be restored for re-use and reinstate to match original detail. |
|   | Side Chapels | Record texture, and colour of the harling coat.<br>Undertake paint scrapings/analysis.<br>Remove harling.<br>Repair brickwork face. Replace brick ties, stitch bed joints and repoint brickwork as required.<br>Re-harl all 10 silos.<br>Remove loose internal plaster, make good all loose pointing and leave.<br>Install treated softwood frames with monarflex temporary protection panels to form weather tight enclosure in location of original external windows. | Record texture, and colour of harling coat.<br>Undertake paint scrapings/analysis.<br>Remove harling.<br>Repair brickwork face.<br>Repoint brickwork as required.<br>Re-harl all 10 silos.<br>Install curved slanted treated softwood timber framed monaflex panels to all 10 high level window openings.<br>Remove loose internal plaster, make good all loose pointing and leave. | Record texture, and colour of the harling coat.<br>Undertake paint scrapings/analysis.<br>Remove harling.<br>Repair brickwork face. Replace brick ties, stitch bed joints and repoint brickwork as required.<br>Re-harl all 10 silos.<br>Remove loose internal plaster, inspect substrate and re-plaster interior walls. Re-instate curved slanted clerestory double glazed windows to all 10 chapels to original fenestration pattern.<br>Re-decorate. |
|  | Internal timber screens and doors | No action required | No action required | Provide new timber doors and screens to match original design intent, detail and location. |

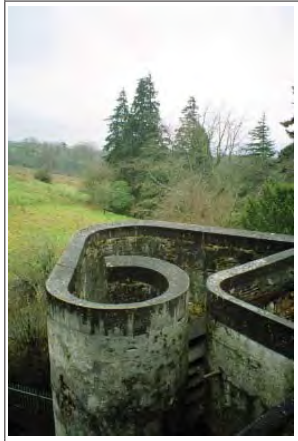
| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Internal timber partitions dividing upper galleries and void over chapel | No work required | No work required | Provide new timber doors and screens to match original design, detail and location.<br>OR new partitions to adopt style sympathetic to original character. |
|  | Timber handrail and guardings to internal upper floor galleries | Record, material, detail, dimensions prior to removal.<br>Carefully remove the original handrail and store for record purposes or re-use. | Record, material, detail, dimensions prior to removal.<br>Carefully remove the original handrail and store for record purposes or re-use. | Record, material, detail, dimensions prior to removal.<br>Carefully remove the original handrail and use to form template and inform reconstruction. Re-instate handrail to match original design, detail and material and locations |
|  | Student's cell interior | Carefully clear away debris, damaged plaster, timber etc.<br>Limit access to defined maintenance routes only. Install signage to alert maintenance teams to where unsafe areas are. | Carefully clear away debris. Remove any damaged and dangerous materials. Retain all sound vaults where possible. See vault item.<br>Limit access to defined maintenance route only. | Carefully clear away debris. Remove any damaged and dangerous materials. Retain all sound vaults and re-instate to original detail.<br>See vaults, floors item above.<br>Retain walls in place.<br>Repair, replace damaged plaster finishes, redecorate.<br>Re-instate clerestory light detail above internal partitions to main circulation space. Re-configure original internal fittings if required subject to new use. |
|  | Cloister and under-building beneath the main block | Clean and repair the concrete Refer to S.Eng recommendations.<br>Remove graffiti.<br>Remove any dangerous render and plaster coating and make good. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. Refer to S.Eng recommendations.<br>Remove any dangerous render and plaster coating and make good. | Clean and repair the concrete. Refer to S.Eng recommendations.<br>Remove graffiti.<br>Remove all damaged render and plaster coating and make good to match original. Clean and restore original external floor surfaces, renew if required, |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
| | Services | See Services Chapter | See Services Chapter | See Services Chapter |
| | | | | |
|  | Boiler Room | Asbestos to be removed by an approved and registered contractor. Boiler room to be sealed. | Asbestos to be removed by an approved and registered contractor. Boiler room to be sealed. | Existing services are no longer viable and should be removed. Asbestos to be removed by an approved and registered contractor.<br>New services should be provided in line with the new use. Refer to section 6.6 |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|   | Roof Covering | Record size and location of rooflight. Remove roof covering, sarking, timbers. Ensure repair works have been carried out to load bearing wall prior to re –roofing works. Inspect and repair in-situ concrete parapet to external wall as necessary. Install new steel/timber structural tie beams spanning the curved sanctuary space bearing on the repaired existing ring beam, shimmed up to allow possible later insertion of new replicated and restored timber serrated pine beams. (These would not therefore perform any structural duty) Form an opening in the roof deck to match the original rooflight shape and location. Infill the surrounding structure with timber or steel joists and lay new sarking to new falls to new outlets and rwps. Re-roof with roofing felt or similar and form flashing to perimeter inside face of existing brick parapet. Consider 'inverted roof design' when re-roofing to accommodate a future addition of insulation. Provide cost effective polycarbonate rooflights to re-create top lit effect. | Record size and location of rooflight. Remove roof covering, sarking, timbers. Ensure repair works have been carried out to load bearing wall prior to re –roofing works. Install new steel/timber structural tie beams spanning the curved sanctuary space bearing on the repaired existing ring beam, shimmed to allow possible later insertion of new replicated and restored timber serrated pine beams. (These would not therefore perform any structural duty) Form an opening in the roof deck to match the original rooflight shape and location. Infill the surrounding structure with timber or steel joists and lay new sarking to new falls to new outlets and rwps. Re-roof with roofing felt or similar and form flashing to perimeter inside face of existing brick parapet. Form a felt covered waterproofed lid to sit on the formed upstands to the rooflight opening. Inspect and repair in-situ concrete parapet to external wall where necessary. | Record size and location of rooflight. Remove roof covering, sarking, timbers. Ensure repair works have been carried out to the load bearing wall prior to re –roofing works. Install new laminated oregon timber serrated beams to match original detail and layout,spanning the curved sanctuary space bearing on the repaired existing ring beam. Lay new roof joists and form rooflight opening and kerb upstand to original shape and location. Lay new sarking to falls to new outlets and rwps. Re-roof with roofing felt or similar and form flashing to perimeter inside face of existing brick parapet. Inspect and repair in situ concrete parapet to external wall and re-render internal face of parapet. |
|  | Roof light | Provide cost effective polycarbonate rooflights to re-create top lit effect. | When providing new steel/timber tie roof structure take account of the location, size and shape of the original rooflight. Form opening and weather upstands to the opening. Provide a waterproofed lid to the opening so that the original rooflight could be re-instated at a future date. | Re-instate stepped wedge shaped copper clad rooflight, incorporating double glazing and solar control glass as required. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Roof Beams | Those beams which are still in place need to be carefully removed and recorded. The timber should be allowed to be dried out correctly to avoid shrinkage. These should then be stored in a environmentally controlled environment for future re use, restoration and/or replication. New structural steel/timber beams to be inserted as detailed above. | The beams which are still in place need to be carefully removed and recorded. The timber should be allowed to be dried out correctly to avoid shrinkage. These should then be stored in a environmentally controlled environment for future re use, restoration and/or replication. New structural steel/timber beams to be inserted as detailed above. | The beams which are still in place need to be carefully removed and recorded. The timber should be allowed to be dried out correctly to avoid shrinkage. These should then be relocated to an environmentally controlled environment and restored if possible. If this proves impossible then they can be used as a template to form new beams. Re-instate new and or restored to original layout and detail. Renew all connection plates and fixings |
| | | | | |
|  | Curved external load bearing wall | Record colour and texture of render.<br>Remove render from external face of wall,.<br>Remove plaster from internal face of wall.<br>Ensure the wall is correctly dried out. Clean all surfaces of all graffiti.<br>Carry out brick and mortar repairs including bed joint stitching and inject a new damp proof course. Renew cavity wall ties. Remove existing corroded wall ties to prevent further damage.<br>Re render the outer face of the wall<br>Re plaster the internal face.<br>Care must be taken to reinstate reveal details to small windows and to reinstate parapet condition. | Record colour and texture of harling.<br>Remove render from external face of wall, Ensure the wall is correctly dried out.<br>Carry out brick and mortar repairs including bed joint stitching and inject a new damp proof course. Renew cavity wall ties. Remove existing corroded wall ties to prevent further damage.<br>Re render the outer face of the wall<br>Care must be taken to reinstate reveal details to small windows and to reinstate parapet condition. | Remove sample area of render and undertake analysis to establish colour, aggregate size and mix.<br>Record colour and texture of render.<br>Remove render from external face of wall,.<br>Remove plaster from internal face of wall.<br>Ensure the wall is correctly dried out.<br>Carry out brick and mortar repairs including bed joint stitching. Remove existing corroded wall ties and insert new ties to S.Engineer's detail<br>Inject a new damp proof course.<br>Re render the outer face of the wall to match original.<br>Re plaster the internal face. |
| | | | | |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Entrance to sanctuary | Carry out concrete repair to the steps and clear away all debris.<br>Clean concrete of all graffiti.<br>In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. Ie, Margel Install Corrosion monitors.<br><br>Refer to S.Eng recommendations. | Carry out holding repairs; remove loose/spalled concrete, prepare/prime exposed corroded reinforcement and clear away all debris. Refer to S.Eng Specification | Carry out concrete repair to the steps and clear away all debris. Refer to S.Engineer's Specification<br>Clean concrete of all graffiti.<br>In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. Ie, Margel Install Corrosion monitors.<br><br>Repair all damaged render and plaster surfaces.<br>Repair entrance steps and re-surface if required to match original. |
| | Circular pre cast concrete staircase | Carry out concrete repair refer to S.Eng proposals to the steps and clear away all debris.<br>In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. i.e, Margel Install Corrosion monitors.<br>Refurbish handrail and check fixings.<br>Clean concrete of all graffiti. | Carry out holding repairs; remove loose/spalled concrete, prepare/prime exposed corroded reinforcement and clear away all debris. Refer to S.Eng Specification.<br>Refurbish handrail and check fixings. | Carry out concrete repair to the steps and clear away all debris. Refer to S.Engineer's Specification<br>Clean concrete of all graffiti.<br>In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. i.e, Margel Install Corrosion monitors.<br>Repair, and re-coat original metal handrail. |
|  | Small punched windows in curved wall | The splayed reveals should be recorded prior to removal of the rough cast render.<br><br>Inspect and carry out repairs in situ as required and carry out local redecoration. | The spayed reveals should be recorded prior to removal of the render. Reveals to be reformed to match original detail and texture<br><br>Inspect and carry out repairs in situ as required and carry out local redecoration. | The spayed reveals should be recorded prior to removal of the render. Reveals to be reformed to match original detail and texture<br><br>Inspect and carry out repairs in situ as required and redecorate to match original colours. |

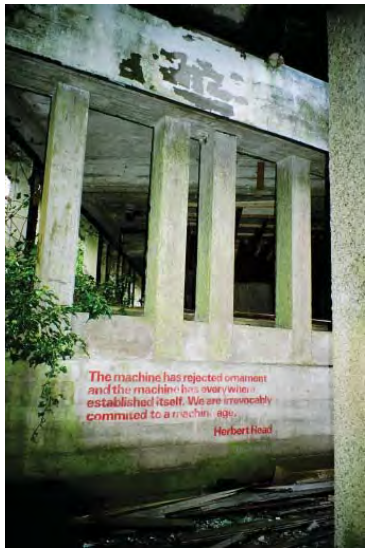
| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Internal Ramp | Remove all debris, clean down floor surfaces, repair all damaged handrails and recoat to S.Eng specification. Inspect concrete ramp and carry out concrete repair. In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. Ie, Margel<br>Install Corrosion monitors.<br>Refer to S.Eng Specification.<br>Refurbish handrail and check fixings are secure. | Remove all debris, clean down floor surfaces, repair all damaged handrails and recoat to S.Eng specification.<br>Inspect concrete ramp and carry out holding repairs; remove loose/spalled concrete, prepare/prime exposed corroded reinforcement and clear away all debris. Refer to S.Eng Specification.<br>Refurbish handrail and check fixings are secure. | Remove all debris, clean down floor surfaces<br>Repair all damaged metal handrails and recoat to S.Engineer's specification.<br>Inspect concrete ramp and carry out concrete repair. In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. Ie, Margel<br>Install Corrosion monitors.<br>Refer to S.Eng Specification.<br>Renew floor finish if required to match original detail, pattern and layout. |
|  | Outside Chapel | Remove all debris, clean down floor surfaces.<br>Record texture and colour of render.<br>Remove render from both sides of external wall.<br>Ensure the wall is correctly dried out.<br>Carry out brick and mortar repairs including bed joint stitching and inject a new damp proof course. Renew cavity wall ties. Remove existing corroded wall ties to prevent further damage.<br>Re render and recoat to match original.<br>Inspect coping and clean, seal or replace if necessary. Carry out concrete repair if required.<br>Refer to S.Eng specification. | Remove all debris, clean down floor surfaces.<br>Record texture and colour of render.<br>Remove render from both side of external wall.<br>Ensure the wall is correctly dried out.<br>Carry out brick and mortar repairs including bed joint stitching and inject a new damp proof course.<br>Renew cavity wall ties. Remove existing corroded wall ties to prevent further damage.<br>Re render and recoat to match original.<br>Inspect coping and clean, seal or replace if necessary. Carry out concrete repair if required.<br>Refer to S.Eng specification. | Remove all debris, clean down floor surfaces.<br>Record texture and colour of render.<br>Remove render from both sides of external wall.<br>Ensure the wall is correctly dried out.<br>Carry out brick and mortar repairs including bed joint stitching and inject a new damp proof course. Renew cavity wall ties. Remove existing corroded wall ties to prevent further damage.<br>Re render and recoat to match original.<br>Inspect coping and clean, seal or replace if necessary. Refer to S.Eng specification.<br>Renew floor finishes as required |
|  | Parapet | Record texture and colour of render.<br>Remove render from both side of external wall.<br>Re render and recoat to match original.<br>Inspect coping, clean, seal and replace if necessary and carry out concrete repair where required.<br>Carry out works in conjunction with the re-roofing works | Record texture and colour of render.<br>Remove render from both side of external wall.<br>Re render and recoat to match original.<br>Inspect coping, clean, seal and replace if necessary and carry out concrete repair where required.<br>Carry out works in conjunction with the re- roofing works | Record texture and colour of harling.<br>Remove render from both side of external wall.<br>Re render and recoat to match original.<br>Inspect coping and replace if necessary otherwise carry out concrete repair as required<br>Carry out works in conjunction with the re roofing works. |

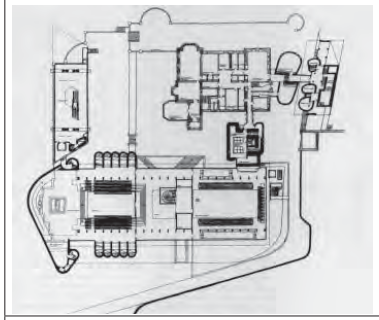
| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Stepped cantilevered back platform of sanctuary | Inspect concrete and carry out concrete repair. In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. Ie, Margel<br>Install Corrosion monitors.<br>Refer to S.Eng Specification. Install temporary protection handrail.<br>Clean off graffiti. | Carry out holding repairs; remove loose/spalled concrete, prepare/prime exposed corroded reinforcement and clear away all debris. Refer to S.Eng Specification. | Remove all debris, clean down floor surfaces<br>Repair all damaged metal handrails and recoat to S.Engineer's specification.<br>Inspect concrete ramp and carry out concrete repair. In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. Ie, Margel<br>Install Corrosion monitors.<br>Refer to S.Eng Specification.<br>Renew floor finish if required to match original detail, pattern and layout. |
|  | Sacristy | Undertake concrete repair and ensure that this element is safely accessible.<br>In addition to traditional repairs undertake one of the following in selected locations additional extra measures:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. i.e, Margel<br>Install corrosion monitors. Refer to S.Eng recommendations | Carry out holding repairs; remove loose/spalled concrete, prepare/prime exposed corroded reinforcement and clear away all debris. Refer to S.Eng Specification. | Remove all debris, clean down floor surfaces<br>Inspect concrete ramp and carry out concrete repair. In addition to traditional repairs undertake one of the following in selected locations to offer additional protection:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install corrosion inhibitors. Ie, Margel<br>Install Corrosion monitors.<br>Refer to S.Eng Specification.<br>Renew floor finish if required to match original detail, pattern and layout. |
|  | Altar | Clean off graffiti. Carefully remove any loose particles of stone and cleave clean and stable. | Carefully remove any loose particles of stone and leave clean and stable. | Clean off graffiti, carry out specialist repair to granite stone as required and if altar is to be retained and/or relocated subject to new use. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Public Access Staircase to Chapel | Undertake traditional concrete repair to S.Eng specification.<br>In addition to traditional repairs undertake one of the following additional extra measures:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install Corrosion inhibitors. Ie, Margel<br>Install Corrosion monitors.<br>Refer to S.Eng recommendations. Check and secure handrail fixings and refurbish metal work. | Carry out holding repairs; remove loose/spalled concrete, prepare/prime exposed corroded reinforcement and clear away all debris. Refer to S.Eng Specification.<br>Check and secure handrail fixings and refurbish metal work. | Undertake traditional concrete repair to S.Eng specification.<br>In addition to traditional repairs consider one of the following in selected locations additional extra measures:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install Corrosion inhibitors. i.e, Margel<br>Install Corrosion monitors.<br>Repair and recoat metal handrail and brackets.<br>Refer to S.Eng recommendations. Repair,renew internal plaster surfaces and recoat. |
|  | Crypt | Undertake traditional concrete repair to S.Eng specification.<br>In addition to traditional repairs undertake one of the following in selected locations additional extra measures:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install Corrosion inhibitors. Ie, Margel<br>Install Corrosion monitors. Refer to S.Eng recommendations. Check for intactness of damp proofing and rectify as required. | Carry out holding repairs; remove loose/spalled concrete, prepare/prime exposed corroded reinforcement and clear away all debris. Refer to S.Eng Specification. | Undertake traditional concrete repair to S.Eng specification.<br>In addition to traditional repairs consider one of the following in selected locations additional extra measures:<br>2 options:<br>1. Install sacrificial anodes.<br>2. Install Corrosion inhibitors. i.e, Margel<br>Install Corrosion monitors.<br>Refer to S.Eng recommendations.<br>Check for intactness of damp proofing and rectify as required.<br>Repair internal plastered wall surfaces as required and redecorate. Repair floor finish as required |

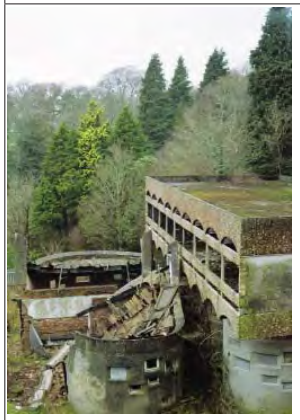
| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|   | Roof | Survey the existing timber roof structure to establish what viable material remains intact. Identify what materials and roof components can be removed and stored for record purposes. Carefully remove the roof structure from the outside by peeling back each consecutive layer of construction, leaving the main laminated timber beams in place. Inspect the timber beams, bearings and connections to the walls and carry out repairs as required. This will probably entail the insertion of new timber connection plates at each end of the beams and possibly the introduction of lateral restraints. Form a zinc flashing over the full length on the tops of all timber beams. Re-coat timber beams to withstand external environment. Add flashing to perimeter concrete gutter to protect beams and spandrels. | Survey existing timber roof structure to establish what viable material remains intact for possible re-use and identify what material and elements can be removed and stored for record or re-use. Carefully remove the roof structure from the outside by peeling back each consecutive layer of construction, leaving the timber beams. Inspect the timber beams, bearings and connections to the walls and carry out repairs as required. This will probably entail the insertion of new timber connection plates at each end of the beams and possibly the introduction of lateral restraint. Provide a new metal temporary roof supported off stub scaffold posts secured to the inside of the main perimeter concrete beam walls. Sheet around stub posts to prevent water ingress inside the classroom volume. | Survey existing timber roof structures to establish what viable material remains intact for possible re-use and identify what material and elements can be removed and stored for record or re-use. Carefully remove the roof structure from the outside by peeling back each consecutive layer of construction, leaving the timber beams. Inspect the timber beams, bearings and connections to the walls and carry out repairs as required. This will probably entail the insertion of new timber sections, beams and new connection plates at each end of the beams. Additional lateral restraint may be required. Install new timber bracing to original detail. Renew, sarking, introduce improved insulation levels and renew ventilated copper roof covering to match original. |
| | | | | |
|  | Structure: Insitu reinforced concrete. | Carry out traditional concrete repairs to all in situ concrete frame elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs undertake one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. ie, Margel.<br>Followed by the Installation of Corrosion monitors. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. The classroom will be protected from further water ingress by installation of temporary roof which will arrest further damage to the concrete as a result of internal concrete becoming exposed to the external environment. | Carry out traditional concrete repairs to all in situ concrete frame elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs consider one of the following additional works to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. ie, Margel.<br>Followed by the Installation of Corrosion monitors.<br>Ensure that all repairs respect and match the external texture and board marking of all exposed concrete. |
| | | | | |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|   | Herringbone board marked in situ concrete beam walls | Carry out traditional concrete repairs to all insitu concrete elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs undertake one of the following additional works to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. ie, Margel Followed by the Installation of Corrosion monitors.<br>Care should be taken to prevent irreversible damage to the herringbone board marking. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. Care should be taken to prevent irreversible damage to the herringbone board marking. | Carry out traditional concrete repairs to all insitu concrete elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs and consider one of the following additional works to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. ie, Margel Followed by the Installation of Corrosion monitors.<br>Care should be taken to prevent irreversible damage to the herringbone board marking. |
|  | External Glazed Screen to Common Room | Record the location of timber mullions, fixing, material, details and colour. Remove timber fragments, label and store. | Record the location of timber mullions, fixing, material, details and colour. Remove timber fragments, label and store. Install acro propped scaffold poles from the floor to the soffit to provide a frame to support sheet protection to enclose the common room level. | Record the location of timber mullions, fixing, material, details and colour. Remove timber fragments, label and use as templates.<br>Provide new full height double glazed screens to original fenestration pattern, incorporating shaped transom to original detail and the randomly placed mullions. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Concrete Mullions and Glazing | Carry out traditional concrete repairs to all insitu concrete elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs undertake one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. ie, Margel Followed by the Installation of Corrosion monitors.<br>Care would be needed to prevent irreversible damage to the board marking. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. Refer to S.Eng proposals.<br>Install acro propped scaffold poles from the floor to the soffit behind the mullions to provide a frame to support sheet protection to enclose the library level. | Carry out traditional concrete repairs to all insitu concrete elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs and consider one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. ie, Margel Followed by the Installation of Corrosion monitors.<br>Care would be needed to prevent irreversible damage to the board marking pattern to surface of concrete.<br>Restore external glazing to match original detail. Incorporate double glazing to improve thermal performance of external envelope as required by Building Regulations. |
|  | Floors | Carry out a more detailed inspection of condition once access is available. Retain the flooring structure and provide waterproofing layer to the top side of floor as exposed to the elements. Ensure drainage routes are provided to base of structure. | Carry out a more detailed inspection of condition once access is available. Carry our concrete repairs as required. Likely to require local repair to beams. Waterproof covering not essential provided building interior is protected from external environment due to external sheeting. | Carry out a more detailed inspection of condition once access is available. Retain the flooring structure and repair concrete beams and pots as required and directed by Structural Engineer. |
|  | Timber external soffits | Carefully survey the original soffit, recording size, pattern, type of material, jointing etc. Carefully detach the structure allowing it to be lowered safely onto a flat pallet which can be removed and stored for reuse. | Carefully survey the original soffit, recording size, pattern, type of material, jointing etc. Carefully detach the structure allowing it to be lowered safely onto a flat pallat which can be removed and stored for reuse. | Carefully survey the original soffit, recording size, pattern, type of material, jointing etc. Carefully detach the structure allowing it to be lowered safely onto a flat palate which can be removed and stored for reuse. Evaluate condition of timber and determine what if any timber can be re-used. Re-instate timber soffits to original detail with restored original timber or new to match original in profile and colour. Apply new high performance breathable coating to external timber to match original colour. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Internal staircase | Carry out traditional concrete repairs to all insitu concrete elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs undertake one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. ie, Margel Followed by the Installation of Corrosion monitors.<br>Provide new treads or carefully remove the remaining timber treads back to the in situ concrete structure. Provide scaffold handrail to provide safe access for maintenance purposes.<br>Install barrier to prevent public access up stairs. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement. Provide new temporary treads or carefully remove the remaining timber treads back to the in situ concrete structure if stepped. Provide scaffold handrail to provide safe access for maintenance purposes. | Carry out traditional concrete repairs to all insitu concrete elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs and consider one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. ie, Margel Followed by the Installation of Corrosion monitors.<br><br>Provide new teak risers, treads, balustrade and handrail to match original detail |
| | | | | |
|  | Internal Plan Layout- Lower Ground Floor | None required | None required | Internal layout of the lower ground floor can be altered to suit new use if required |
| | Internal Plan Layout- Upper Common room level | None required | None required | The original internal layout of common room level should be maintained, so as to retain the openness, and clarity of the solid volume above. |
| | | | | |
| | Internal Plan Layout- Upper Lecture Room Level | None required | None required | The plan of this space can accommodate change provided that both the end glazed elevations and the central staircase and circulation are retained as original. |
| | | | | |

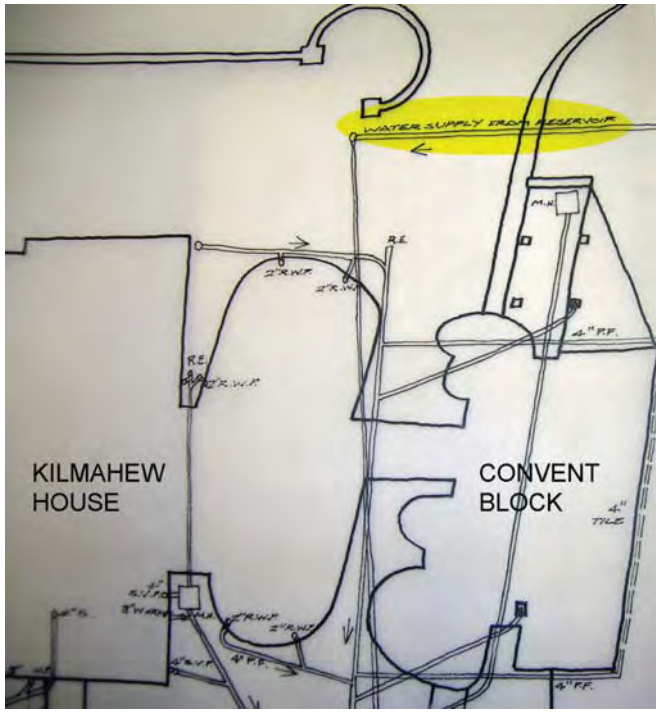
| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Toilet pod | Record, colour, textures of harling before removing harling from surface of brickwork. Check and carry out repairs to brickwork substrate, renew brick ties and re-harl the structure to match original. Infill openings with a treated soft wood frame with monaflex infill panels to provide temporary protection. | Carry holding repairs: remove loose/spalled concrete, prepare/prime exposed corroded reinforcement.<br>Record, colour, textures of harling before removing harling from surface of brickwork. Check and carry out repairs to brickwork substrate, renew brick ties and re-harl the structure to match original. Infill openings with a treated soft wood frame with monaflex infill panels to provide temporary protection. | Record, colour, textures of harling before removing harling from surface of brickwork. Check and carry out repairs to brickwork substrate, renew brick ties and re-harl the structure to match original.<br>Re-instate new double glazed windows to all external openings. Repair internal plastered surfaces and redecorate. Renew internal partitions/sanitary ware if required dependent on new use. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Kitchen Block | Clear away all debris. Remove any un safe structure and take all perimeter and internal walls down to dpc level so that a permanent visible record of the building remains legible.. | Clear away all debris.<br>Uncover quarry tile floor. Remove any un safe structure and retain perimeter walls and all structurally sound internal brick walls. Prop both sides of all walls and provide a metal protective temporary roof, above the whole structure supported off independent scaffold supports. | All works will be dependent on new use. Assume:<br>Record colour and texture of render.<br>Remove render from external face of wall,. Remove plaster from internal face of wall. Ensure the wall is correctly dried out and undertake any stabilization works to structure.<br>Carry out brick and mortar repairs and inject a new damp proof course. Introduce remedial wall ties as required.<br>Re render the outer face of the wall to original detail.<br>Re plaster the internal face.<br>Re-form window opening and provide new double glazed windows, to original fenestration pattern.<br>Provide new roof structure supported on consolidated perimeter walls if possible subject to investigation. Provide new insulated flat roof deck to falls with new roof covering flashed to the internal face of parapet walls. Re-insert roof lights if required. Renew all rainwater goods and connections. |
| | | | | |
|  <br>  | Sisters' refectory and common room | Common Room: Clear away all fallen debris, clean floor. Survey roof and remove sections and store for record purposes. Remove roof and all associated material.<br><br>Consolidate perimeter walls by forming permanent buttresses to prevent collapse. | Common Room: Clear away all fallen debris, clean floor. Install an internal ladder prop to secure the swept ceiling in place.<br>To both buildings: Remove any unsafe material from perimeter wall and secure by sandwich scaffold propping the external walls and proved a protective temporary metal roof above both structures. Care should be taken not to dramatically alter the environmental condition of the timber so as to prevent damage by drying out too quickly for example. | All works will be dependent on new use. Assume:<br>Record colour and texture of render.<br>Remove render from external face of wall,. Remove plaster from internal face of wall. Ensure the wall is correctly dried out and undertake any stabilization works to structure.<br>Carry out brick and mortar repairs and inject a new damp proof course. Introduce remedial wall ties as required.<br>Re render the outer face of the wall to original detail.<br>Re plaster the internal face.<br>Re-form window opening and provide new double glazed windows, to original fenestration pattern.<br>Provide new roof structure supported on consolidated perimeter walls if possible subject to investigation. Provide new insulated upward swept curved roof to match original profile. Clad internal ceiling with timber to match original details. Re-roof both structures with new ventilated traditional copper sheet material as original.<br>Re-new floor finish. Redecorate all internal surfaces, |
| | | | | |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
| Convent Block | | | | |
|  | Roof | Carry out inspection of felt, sarking and roof timbers and roof outlets and rwps.<br>Strip off existing felt, sarking and inspect roof timbers, assume that 50% of the roof joists will need to be replaced. Install new built up roofing over new sarking laid to fall to new plastic outlets leading to new rwps. Renew parapet flashings to protect pre-cast panels. | Carry out inspection of felt, sarking and roof timbers and roof outlets and rwps.<br>Provide scaffolded temporary roof over main block supported off scaffold ladder trusses. Establish a method of surface water collection. | Strip off roof covering, sarking, insulation and timber joists completely.<br>Inspect condition of roofing joists and renew where required. Renew firrings and ply roof decking to improved drainage falls. Renew roof covering with improved insulation thickness to new roof outlets in original locations. Provide new perimeter flashing to inside of parapet face.<br>A new roof access and maintenance fall arrest systems should be installed as required. |
| | | | | |
|  | Insitu Frame/Primary Structure | Carry out traditional concrete repairs to all insitu concrete frame elements and components. Clean off graffiti from all visible surfaces. Refer to S.Eng for details.<br>In addition to traditional concrete repairs undertake one of the following additional works in selected locations to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. Ie, Margel<br>Followed by the Installation of Corrosion monitors. | Carry out holding repairs comprising: remove loose/ spalled concrete; prepare/prime exposed corroded reinforcement. The block is to be protected by a temporary roof which will arrest further damage to the concrete by returning the concrete into an internal environment. | Carry out traditional concrete repairs to all insitu concrete frame elements and components. Refer to S.Eng for details.<br>In addition to traditional concrete repairs consider one of the following additional works to offer greater protection.<br>2 options:<br>1. Install Sacrificial Anodes.<br>2. Install Corrosion Inhibitors. Ie, Margel<br>Followed by the Installation of Corrosion monitors. |
| | | | | |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Pre cast cladding | Carry out a comprehensive survey when access is available. Provide new resin anchored fixing to restrain the panels if required. Refer to S.Eng details. | Carry out a comprehensive survey of all panels. Establish panels where fixings require immediate attention and provide new resin anchors to S.Eng detail. Assume 20% of panels require urgent attention with the remaining being left in situ. | Carry out a comprehensive survey when access is available. Provide new resin anchored fixing to restrain the panels if required. Remove graffiti and repair pre-cast face as required. Refer to S.Eng details. |
|  | Rendered blockwork walls. | Investigate condition of blockwork and render and retain if sound. Carry out local repairs if required. | Investigate condition of blockwork and render and retain if sound. Carry out local repairs if required. | Remove original render and repair blockwork substrate. Re-render external walls to match original and apply breathable cosmetic coatings to match original colour. |
|  | Convent bedroom windows | Remove all remaining timber and clean reveals of debris and make good as necessary.<br>Install treated softwood frames with monarflex temporary protection panels to form weather tight enclosure in location of original external screen and windows. | Remove all remaining timber and clean reveals of debris and make good as necessary.<br>2 Options:<br>1. Install treated softwood frames with monarflex temporary protection panels to form weather tight enclosure in location of original external screen and windows.<br>2.Provide scaffold and a temporary roof over the whole convent block supported off scaffold Sheet external scaffold to provide wind and watertight enclosure to block. | Remove all remaining timber and clean reveals of debris and make good as necessary. Re-instate new double glazed windows to match original fenestration pattern, size, profile, detail and colour. Improve reveal detail to eliminate cold bridging wherever possible. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Ceiling vaults | Retain all intact barrel vaults in situ. Carefully remove loose plaster and debris lying on top of barrels including any dangerous timber flooring. Assess condition of all hy-rib vaults. Establish sound vaults for consolidation. Wire up continuous network of sacrificial elements to arrest further corrosion of the metal vault structure. Encapsulate the vault by spraying light weight concrete on top of the vault from above to secure plasterwork. | Retain all intact barrel vaults in situ. Carefully remove loose plaster and debris lying on top of barrels including any dangerous timber flooring. Assess condition of all hy-rib vaults. Establish sound vaults for consolidation. Wire up continuous network of sacrificial elements to arrest further corrosion of the metal vault structure. Encapsulate the vault by spraying light weight concrete on top of the vault from above to secure plasterwork. | Retain all intact barrel vaults in situ. Carefully remove loose plaster and debris lying on top of barrels including any dangerous timber flooring. Assess condition of all hy-rib vaults. Establish sound vaults for consolidation. Wire up continuous network of sacrificial elements to arrest further corrosion of the metal vault structure. Encapsulate the vault by spraying light weight concrete on top of the vault from above to secure plasterwork.<br>Re-new all missing vaults to match original profile, surface texture and colour. |




Archive drawing referring to 'water supply from reservoir'


Map showing Carman Reservoir to the east of the site

**6.5** SERVICES (proposed schedule of works for options 1, 2 & 3)

**6.5.1** Internal Services

6.5.1.1 Option 1 'Consolidated Exhibit'
Services are to be removed along with those elements of the buildings to be demolished or stripped back. In the elements remaining, any existing plant, pipes and cables are to be removed where surface-mounted. Pipes and cable-ways concealed in the fabric are to be plugged where they emerge in buildings to be open to the elements to prevent them from acting as a conduit for rainwater or a home for vermin.
Any missing internal manhole or floor access covers are to be replaced for safety reasons.
Basic lighting, water, and background heating services are to be installed for the new car park WC's.

6.5.1.2 Option 2 'Holding Option'
Internal services are to be left as existing.
Any missing internal manhole or floor access covers are to be replaced for safety reasons.
Basic lighting, water, and background heating services are to be installed for the new car park WC's.

6.5.1.3 Option 3 'Full Restoration'
The scope of works needs to be tailored closely to the proposed new use of the building.

**6.5.2** External Services

6.5.2.1 Water Supply Options

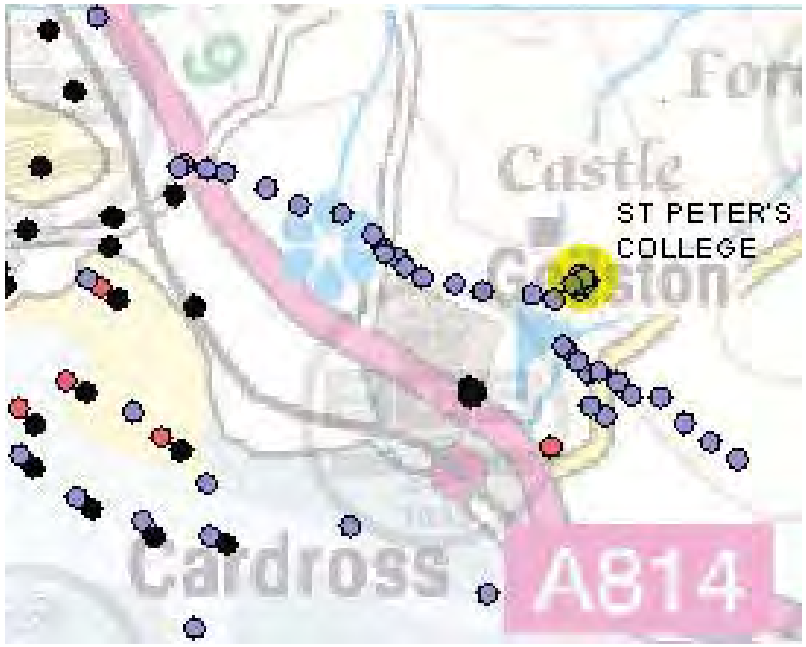
6.5.2.2 Local Reservoir
Archive drawings indicate that St Peter's College was supplied with water from a reservoir. The location of this reservoir is not shown, although the supply pipe from it is indicated as coming in from the east. It is believed that the reservoir referred to is Carman Reservoir, approximately 1 mile to the east of site.

6.5.2.3 Mains Water
Scottish Water's maps indicate no distribution mains in the vicinity of St Peter's College. The nearest distribution main (5" cast iron) lies
(continued p.210)

**Table 1**

**ENVISAGED UTILITY/ SITE SERVICES REQUIREMENTS FOR THE CONSERVATION PLAN OPTIONS**

| Option | Water | Power | Heating | Telecoms | Sewerage Disposal | Stormwater Disposal |
|---|---|---|---|---|---|---|
| 1 – 'Consolidated Exhibit' | required for:<br>- public car park WC<br>- maintenance (standpipe adjacent to buildings)<br>- filling of ponds by entrance | required for:<br>- low-key security lighting<br>- public WC at car park<br><br>estimated supply size/ annual consumption:<br>- 23kVA/ 20kWh | no requirement | no requirement | required for:<br>- visitor amenities | required for:<br>- runoff from roofs (main block + sanctuary, convent)<br>- runoff from hardstanding<br>- open teaching block, to prevent ponding<br>- possible diversion of local water courses |
| 2 – 'Holding Option' | required for:<br>- public car park WC | required for:<br>- public car park WC | no requirement | no requirement | required for:<br>- visitor amenities | required for:<br>- runoff from temporary roofs on all buildings<br>- |
| 3 – 'Full Restoration' | required for:<br>- future use of the building | required for:<br>- future use of the building<br><br>estimated supply size/ annual consumption:<br>- 80 kVA/ 160MWh | required for:<br>- future use of the building<br><br>estimated supply size/ annual consumption:<br>- 160kW/ 400MWh | required for:<br>- future use of the building | required for:<br>- future use of the building | required for:<br>- future use of the building |




300m to the north on the road to Low Milndovan Farm from Carman Road. However, connecting to this main would not be straightforward as a way-leave would first have to be sought to allow the service pipe to be run across the field of the neighbouring property. From there it would then be necessary to trench through 100m of woodland to the north of the College.

6.5.2.4 A 450mm diameter trunk main runs 150m to the south of the College. However, Scottish Water rarely allow service connections from trunk mains, and have stated in this instance that they are unlikely to grant permission.

6.5.2.5 Borehole Water

British Geological Survey information shows that there are a number of boreholes on the site, and that they are less than 10m deep. It is highly likely that these boreholes were used to supply Kilmahew House with potable water before the construction of Carman Reservoir. We see no reason why boreholes could not be used again to supply the site. The re-use of the existing boreholes may be possible dependant on how easy it is to locate them, and providing their condition is suitable.

6.5.2.6 To prove the productivity of any existing or new borehole a pumped trial would need to be carried out. A licence would need to be obtained from SEPA before any abstract could take place. Chemical and bacteriological tests would be required to confirm the purity of the water and any treatment necessary.

6.5.2.7 Rainwater

Rainwater runoff could be collected from roofs and non-trafficked areas of hard-standing to provide a supply of non-potable water for applications such as WC flushing or irrigation. Once collected the water would require coarse filtration to remove debris such as leaves, before being discharged into a storage tank. A pump would be required to deliver the water to where it was required.

6.5.2.8 Suitability for Conservation Options

See table 1 for requirements of each conservation option.
Before assessing which option would be best to provide potable water to the site it will be necessary to further investigate the supply from Carman Reservoir, and ascertain where it is owned privately or by Scottish Water and what legal arrangements exist or can be put in place for water to be drawn from it. If the supply from the reservoir

Electrical intake and kitchen block

cannot be re-used then it appears that water from a borehole may offer the cheapest supply alternative.

6.5.2.9 For options 1 and, the consolidated exhibit and holding options, rainwater storage and re-use could be considered for supplying water to visitor WC's. Careful siting of the WC's below the level of any storage tank, or pond, would allow them to be fed by gravity, avoiding the requirement for a pump and associated power supply.

6.5.2.10 For option 1 and option 3 there is the desire to re-fill the ponds in front of the main elevation of the Main Block as these are integral to the building's approach and to how the architecture should be read. Archive drawings show that these ponds were originally fed from a couple of springs that naturally occurred below the upper of the ponds. For some reason water no longer flows from these springs. It is hoped that it may be possible to restore the supply from these springs.

6.5.2.11 If it is not possible to restore the supply from the springs then it may be possible to provide a source of water from a stream that ran through the site and which was diverted and culverted over.

6.5.2.12 <u>Power Supply Options</u>

6.5.2.13 Mains Electricity
Archive drawings indicate that St Peter's College was connected to the mains. The location of the incoming power supply fuses have been found in the kitchen area, and indicate that the supply was 100A three-phase. No incoming cable now rises up to the fuses, but it is not known how far it has been stripped back.

6.5.2.14 Information received from Scottish Energy shows that St Peter's College was served by its own substation. This substation was located on the wooded slope to the east of the main block. The 11kV high voltage feed came from the pole-mounted cables running north-south through East Park. A branch ran south from the substation to serve the stable block to the northwest of the walled garden. Scottish Energy's drawings indicate that the substation is now out-of-use. It is not known whether the transformer has been removed. If cables were carefully sealed at the time of disconnection then it is likely that they can be re-used. It should be assumed that to re-energize the network a new transformer will be required. Scottish Energy have


**Comparative Capital & Running Cost of Power Generation Options[1]**

| | mains electricity | micro-hydro | wind | photovoltaic | diesel generator |
|---|---|---|---|---|---|
| capital cost (£/kW) | ~75k total | £2,000 – 2,700 | £2,600 - £3,000 | £4,000 – 5,000 | £300 – 500 |
| fuel / maintenance cost (p/kWh) | 8.8p | 1.6p | 2.6p | 5.3p | 16p |

Note: costs are indicative only. Actual costs may vary, and depend on a number of factors such as the scale of the installation, site constraints and current market prices

give a budget quotation of £50,000 for this. The cost of new services run out from the transformer would be additional.

6.5.2.15 Micro-Hydro

Micro-hydro describes hydro-electric generation up to 100kW. It is increasingly being used across Scotland in remote locations for developments such as hotels and distilleries where there is no local connection to the mains network.

Kilmahew Burn and Wallacetown Burn flow through the site joining together about 100m to the south of the walled garden. The Ordnance Survey map indicates that Kilmahew Burn forms a series of waterfalls to the north of St Peter's College. Initial visual inspection of the burns indicate that they are unsuitable for the installation of micro-hydro generation because of their low flow rate. When seen in April the flow in either burn did not appear more than 10l/s. It seems likely that during dry spells the flows would reduce down to only a trickle.

6.5.2.16 Wind Turbines

As wind turbines only generate electricity when there is a moderate amount of wind and as the storage of electricity is very inefficient, wind power would not provide a continuous supply of electricity to the site except to meet very small-scale requirements. On a larger scale they could only be considered as part of a broader power supply strategy: they could, for example, provide environmental benefits by reducing dependence on mains electricity.

6.5.2.17 Photovoltaic Panels

As with wind turbines, photovoltaic panels, could only provide a continuous supply of electricity to meet very modest requirements and this would require electricity storage via batteries. They could be used as part of a wider strategy to provide environmental benefits by supplementing mains electricity during daylight hours. The long payback time of photovoltaic panels makes them uneconomic even with partial grant funding.

6.5.2.18 Diesel Generator

A diesel generator could be considered to provide a stable small-scale power supply. It's efficiency, particularly on low loads, is poor and this leads to high running costs. Issues of noise and security of generation set and diesel fuel would need to be carefully considered.

Comparative Capital & Running Cost of Power Generation Options1

**Comparative Capital & Running Cost of Heating Options**[1]

| | mains gas | oil | lpg | biomass | heat pump |
|---|---|---|---|---|---|
| capital cost (£/kW) | £50 – 100 boiler + ~£150k supply | £60 - 115 | £60 -115 | £110 - 265 | £800 – 1,200 |
| fuel + maintenance cost (p/kWh) | 3.0p | 4.7p | 5.5p | 2.5p | 4.8p |

Note: costs are indicative only. Actual costs may vary, and depend on a number of factors such as the scale of the installation, site constraints and current market prices


Extract from British Telecom apparatus map

Note: costs are indicative only. Actual costs may vary, and depend on a number of factors such as the scale of the installation, site constraints and current market prices

6.5.2.19 Suitability for Conservation Options

See table 1 for requirements of each conservation option.

It appears that the cheapest and simplest way of providing power to the site is to re-energize the original mains distribution network. This will require a new transformer to be installed in the existing substation housing. The condition of the substation housing is not known, and may require some remedial work. As already stated, there is a risk that the existing incoming buried 11kV high voltage cable to the substation housing may have degraded over time and would need to be replaced. However, the risk of this is small if the cable was carefully disconnected. The size of any new transformer can be chosen to suit the anticipated future use of the building.

6.5.2.20 For options 1 and 2 it will not be economic to provide a new transformwe, and the use of wind or solar should be considered. Of these two options a wind turbine may be more robust as photovoltaic panels are easily vandalized or stolen. A diesel generator could provide a temporary solution, but running costs are high and the units would need to be replaced after about ten years.

6.5.2.21 Heat Source Options

6.5.2.22 Mains Gas

Archive drawings indicate that Kilmahew House was supplied with town gas via an incoming main. This supply may have been installed primarily for gas lighting. The construction of St Peter's College necessitated the diversion of the this gas main. Archive drawings show an incoming gas supply to the kitchen block of St Peter's College itself. It is likely that gas was just used for cooking, as we know that oil was used to fuel the boilers. It is assumed that the incoming gas main continued to be used after the conversion of the town gas network to natural gas in the late 60's and early 70's.

The incoming gas main to St Peter's College is indicated as 4". We have obtained maps from Scotland Gas Networks, which show that the nearest gas main to St Peter's College is about one kilometre away, and so the existing incoming service pipe is of a significant length.

6.5.2.23 Oil

Oil was used to fuel the boilers at St Peter's College. The existing fuel tank stands to the east of the kitchen block.
Fuel oil could be considered to provide the heating requirements on the site again. It may be possible to re-use the exiting fuel tank, but even if this is not possible the capital cost of new local storage tanks and a new distribution systems would be modest.

6.5.2.24 Lpg

Liquefied petroleum gas could also be considered. Again capital costs would be modest. The running cost of lpg is higher than oil, but the fuel offers greater versatily when use for cooking.

6.5.2.25 Biomass

Argyll and Bute Council are keen to encourage the use of biomass, in particular wood fuel, as they see the potential benefits to Argyll's forests and forestry industry. The Forestry Commission Scotland has been encouraging the wood fuel industry as part of its Developing Farm Woodland Energy Scheme. It confirms that 'there is now a network of suppliers including foresters, farmers, sawmills and estates, pretty much covering the whole of Scotland.'

6.5.2.26 Ground-Source Heat Pump

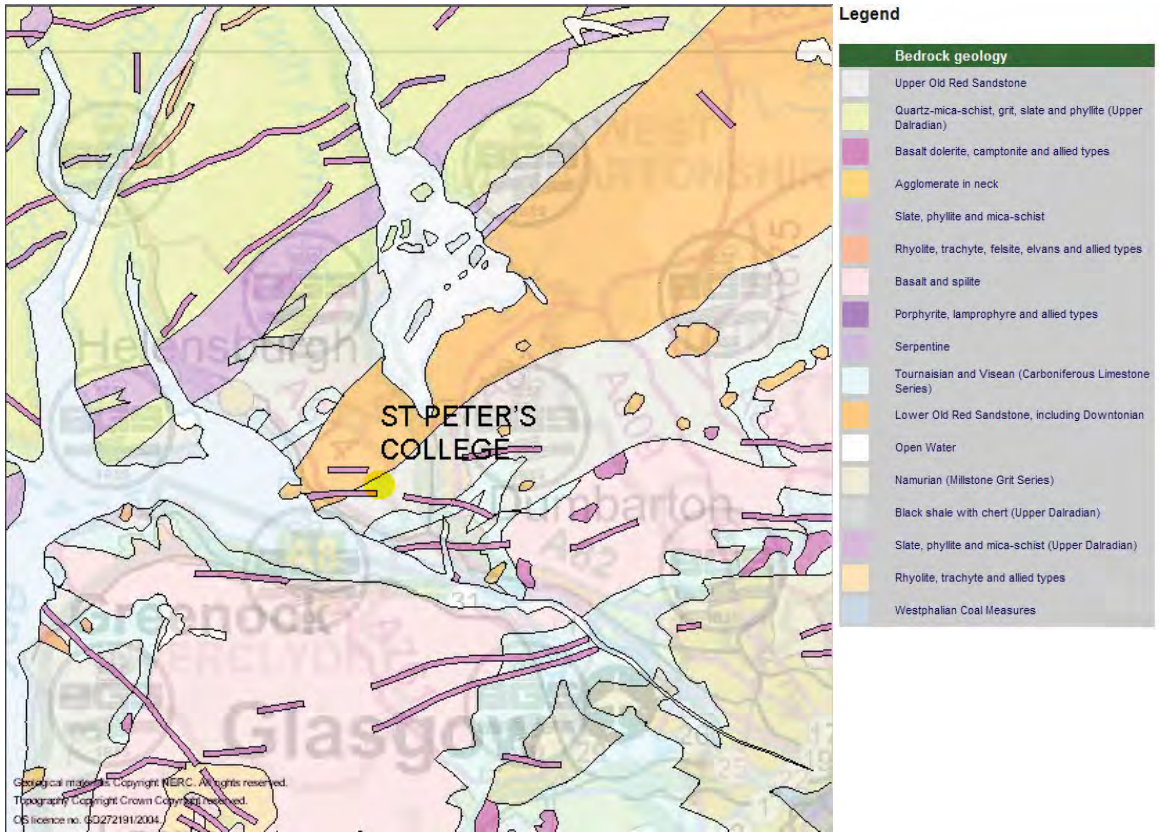
When the sun shines it heats the ground. Ground source heat pumps use modest amounts of electricity to extract this heat from ground. The hot water generated by heatpumps is not as hot as that from gas boilers and so the heating system needs to be designed to accommodate this. Heat pumps work well in combination with underfloor heating. For individual dwellings it would make sense to install individual heat pump systems.
A heat pump system would be coupled to the ground by circulating a fluid in coils or loops buried in the ground.

6.5.2.27 Comparative Capital & Running Cost of Heating Options2

Note: costs are indicative only. Actual costs may vary, and depend on a number of factors such as the scale of the installation, site constraints and current market prices

6.5.2.28 Suitability for Conservation Options

See table 1 for requirements of each conservation option.
All of the above heat source options could be considered for option 3,




Local geological map

the full refurbishment of St Peter's College. It would make sense to investigate if the condition of the existing incoming gas service pipe is suitable for re-use, as this would offer a convenient form of supply. The capacity of the incoming pipe would need to be assessed against the estimated load of the refurbished building to confirm that it was of sufficient size.

6.5.2.29 The more sustainable option of biomass fuel (wood chip boilers) should also be considered for the site, especially in the light of declining North Sea gas production and the ongoing increase in fossil fuel prices.

6.5.2.30 TELECOMS

Extract from British Telecom apparatus map

The British Telecom apparatus map above indicates a duct running from Geilston to St Peter's College. Depending on the size and condition of this duct it may be possible to re-use it.

British Telecom charge a small standard fee for new connections, but do not charge directly for bringing their cables to a new site. They do however, require the developer to lay ducts provided by them to their specification. If the existing ducting cannot be re-used then a significant amount of trenching will be required to run a new duct back to a suitable location.

6.5.2.31 DRAINAGE

6.5.2.32 SURFACE WATER OPTIONS

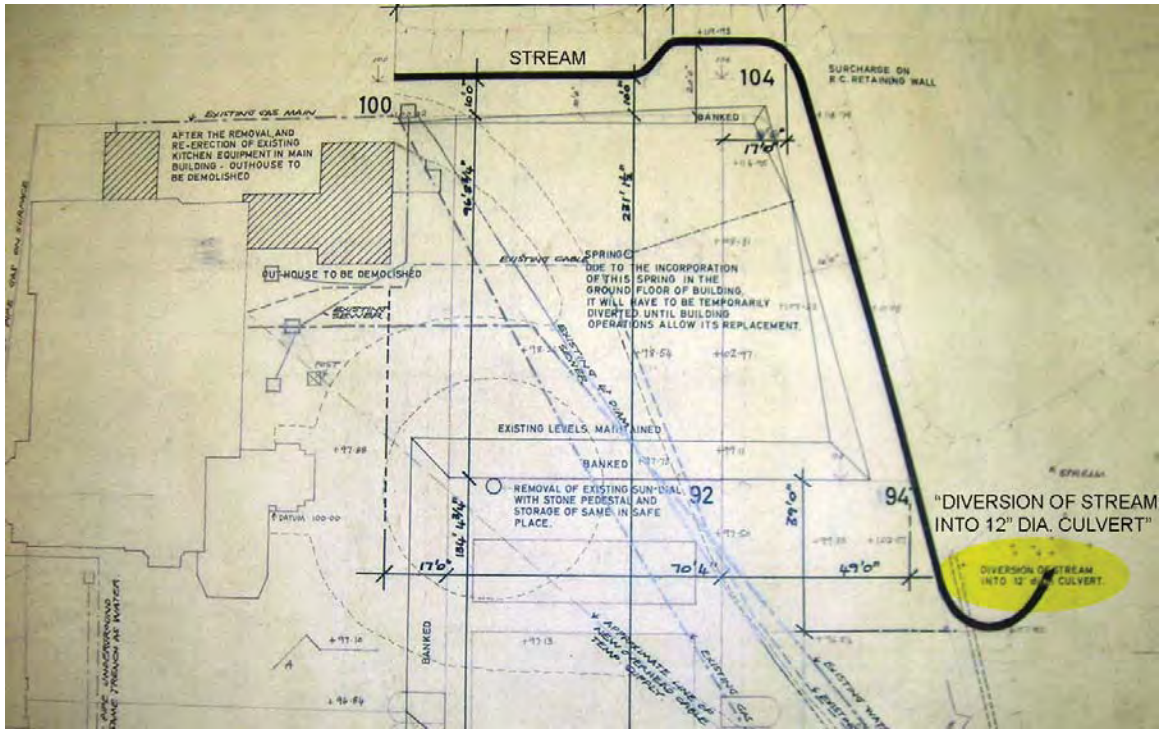
6.5.2.33 Discharge to Water Course

The simplest way of discharging of surface water from the site would be to discharge it into Kilmahew Burn through a conventional drainage system, as was done for the original buildings. Permission may need to be gained from SEPA, who may need to confirm that the increased peak flow of the burn would not now cause problems with erosion or flooding downstream.

6.5.2.34 Infiltration Drainage

If SEPA consider that discharging surface water into the burns is not acceptable then infiltration drainage will need to be considered. This would involve disposing of surface water locally through means such as permeable paving, soakaways and swales.

The bedrock below the site is sandstone, which is likely to have




Archive drawing showing diversion of stream around site prior to construction

a reasonable porosity. However, if water is to be abstracted from the ground it is important that points of surface water discharge are suitably located to prevent contamination of the water supply. Dialogue would be required with SEPA to agree conditions of discharge: they may require, for example, that runoff from roads and car parks needs to pass through petrol interceptors before being discharged to the ground.

6.5.2.35 Suitability for Conservation Options

As stated above, discharge of surface water runoff to Kilmahew Burn would be the simplest option if permitted.

For options 1 and 2 it will be necessary to install rainwater gutters and rainwater pipes on all buildings where roofs are to be repaired as these have been damaged or stolen. Buildings that are to be left roofless are to have granular material such as gravel laid within them, and so do not require formal drainage. The exception to this is the Teaching Block in option 1 where due to the sunken ground floor it will be necessary to install piped drainage.

6.5.2.36 Drainage of Surrounding Land

At the moment water is entering the site from surrounding land to the north and east. This is most apparent adjacent to the ponds in front of the Main Block where water flowing into the site has made the ground boggy and stained the concrete retaining wall. It is interesting to note that a stream once flowed through the site of St Peter's College. It was diverted and culverted prior to the College's construction. The site of the culvert corresponds closely to the site of water ingress. It would be worth investigating therefore if this culvert has become blocked, and if water from it is now the source of the flooding.

6.5.2.37 Foul Water Options

6.5.2.38 Refurbishment of Existing Treatment Plant

The existing sewage treatment plant lies approximately 500m south of St Peter's College. It consists of a primary settlement tank and filter bed with rotary distributor. The treated effluent from the filter bed was presumabley discharged to Wallacetown Burn, although this needs to be confirmed. The settlement tank is in reasonable condition, but the filter bed is not: a tree is growing in it and the mechanism for distributing the 'liquor' over the filter media has rusted away.

Existing sewage treatment plant

Trees growing in filter bed of existing sewage treatment plant

We are not confident that if the existing sewage treatment plant was restored the effluent from it would meet current discharge standards.

6.5.2.39 Packaged Treatment Plant

These are compact packaged and easily installed which reduce the overall system size by using mechanical aeration. This type of sewerage treatment requires a power supply and needs regular maintenance and desludging. The quality of discharge achieved is normally sufficient for effluent to be discharged directly to a watercourse.

The location of a new packaged treatment plant would need to be considered carefully. In particular, it would make sense to install it:

- not far from Kilmahew or Wallacestown Burn to which treated effluent could be discharged.
- not far from an existing road so easy vehicular access for desludging.
- at a low point on the site so that foul water from any future development on the site could be discharged to it by gravity, without the need for pumping.

Its location, as well as discharge standards, would need to be agreed with SEPA.

6.5.2.40 Septic Tank

A septic tank relies on sewage solids settling in its tank. Anaerobic bacteria in the settled sludge provide a degree of treatment. A septic tank needs to be desludged regularly by lorry. The effluent produced by the septic tank is discharged to the ground where it is broken down by naturally occurring bacteria in the soil. Alternatively a reedbed can be used to assist this process and provide a better quality of discharge to the ground. Again, the siting of any point of effluent discharge would need to be carefully considered to limit contamination of the local aquifer.

6.5.2.41 Pit Latrine/ Composting WC

Pit latrines or composting WC's could be considered for small-scale installations. Of these two options composting WC's could provide:

- a more pleasant solution – the heat generated by aerobic digestion can be used to drive foul air flow out through a vent away from the occupied zone,

- containment of effluent for collection if infiltration into the ground was not acceptable to SEPA,
- a useful byproduct.

6.5.2.42 Suitability for Conservation Options

See table 1 for requirements of each conservation option.

For options 1 and 2 where the only sewerage requirement is to serve the car park WC's, a composting WC arrangement would appear to be the most appropriate solution.

For option 3, a packaged treatment plant should be installed. It capacity would be dependent on the occupancies of te refurbished buildings.

(Endnotes)

i Sources of price data:
'Woodfuel heating in tithe North of England: A Practical Guide', The National Non-Food Crops Centre.
http://www.nnfcc.co.uk/nnfcclibrary/publications/download.

## 6.6 STRUCTURE

### 6.6.1 Repair Options

6.6.1.1 In Situ Reinforced Concrete Elements

The general principles for the repair of reinforced concrete are set out and discussed in detail in the CRLS Report in Section 5.2.6. Based upon the limited investigation undertaken to date we recommend that these elements are repaired by a combination of traditional repairs and selected use of corrosion inhibitors and/or sacrificial anodes. The former process reinstates currently physically defective concrete and the latter methods deal with latent damage such as the incipient anode effect.

6.6.1.2 Corrosion inhibitors are specified to deal with latent defects in areas where cover/carbonation is critical or will become so in the short term. They are intended to provide a protective coating around the reinforcement and thus prevent further corrosion. The advantage of using a corrosion inhibitor is that it allows less breaking out of the concrete where rust has initiated but not yet caused cracking or spalling. Without a corrosion inhibitor, some of the apparently sound concrete has to be removed to provide a long lasting repair. Apart from a cost saving in the breakout work, occupants in the building in question or nearby ones benefit from the reduced noise, dust etc. This clearly does not apply at St Peters but the health and safety benefit of reducing the risk of “white finger” for the operatives would apply. Corrosion inhibitors have had a checkered history but are now considered to be reasonably reliable and if properly applied would probably require reapplication after between 10 and 15 years.

6.6.1.3 A typical repair procedure would comprise:-

- Surface preparation to remove coatings, dirt, surface contaminants, graffiti, etc and expose defects. Most in situ elements have a timber board finish and the method(s) of cleaning will need to be carefully selected to avoid damage to the appearance of the concrete. We would envisage that a combination of gentle water jetting, wet blasting (using a soft medium such as Olivine) and mild acid/detergent cleaning would be required following trials.

- Close up survey of all cleaned surfaces comprising visual

inspection, hammer tapping, covermeter, carbonation, chloride testing.
- Controlled breakout of defective areas of concrete and exposure of corroding reinforcement.

- Preparation of exposed reinforcement to remove corrosion products followed by application of steel primer.
- Reinstatement of breakout using hand placed cement based repair mortar.

- Application of thin cement based render and tooling off surface to match surrounding board finish.

- Targeted installation of corrosion inhibitors or sacrificial anode systems both of which would involve controlled breakout/drilling and reinstatement.

- The installation of corrosion monitoring systems as required. It must be appreciated that the patch repairs will remain visible particularly on external weathered surfaces.

6.6.1.4 Pre Cast Reinforced Concrete Elements

With the notable exception of the gallery balustrade panels, the remaining pre cast panels are currently in a fair condition and hence require only minor isolated repairs following the principals noted above in 7.1. However we recommend that corrosion inhibitors are installed in all panels to deal with latent damage occurring on the rear faces.

6.6.1.5 Pre Cast Cladding Panel Fixings

If no action is taken the current aggressive anodic corrosion of the cladding panel fixings will continue and ultimately result in failure of the fixings and damage and/or collapse of the panels. We therefore recommend that new, durable stainless steel panel ties are installed through the panels to attach the cladding units to the in situ concrete walls/beams/columns behind. Thus the panels will be supported and restrained. A number of proven proprietary remedial tie systems are available most being developed to tie LPS sandwich panels together. Following installation of the remedial ties the existing corroding fixings will need to be removed to prevent future durability problems.

6.6.1.6 Gallery Balustrading Handrails and Posts

The slender pre cast balustrade posts are considered to be beyond

repair and we therefore recommend that replacement components are made from galvanised mild steel incorporating modified, durable flashing and fixing details. The corroding fixings and sockets within the handrail units require replacing with new durable fixings and corrosion inhibitors should also be installed to deal with latent damage.

6.6.1.7 Cavity Walls

The structural adequacy of the cavity walls is dependant upon the presence of effective wall ties and integrity of the brick bonding. We therefore recommend the following works are undertaken to all cavity walls:-

- Removal of all loose, debonded external render and internal plaster finishes.
- Survey of all exposed brick faces to remove all exfoliating brick faces.
- Selective bed joint stitching with stainless steel helical reinforcement.
- Wall tie survey to locate all existing wall ties.
- Installation of stainless steel wall ties
- Removal or islolation of existing wall ties.
- Repointing
- Renewal of render and plaster finishes.

6.6.1.8 Timber Beams and Joists

- Decayed and fire damaged timber should be replaced, repaired and/or treated as required following detailed inspections by specialists.

- Modern timber repair methods may often involve the use of resin patch repairs, partial replacement of element using steel reinforced resin splices, installing steel flitch plates, etc, etc.

- Existing corroded metal fixings should be replaced with new durable components.

# Section 7

## Proposed Schedule of Works Options for Conserving the Immediate Setting

7.1 Options 1, 2 & 3

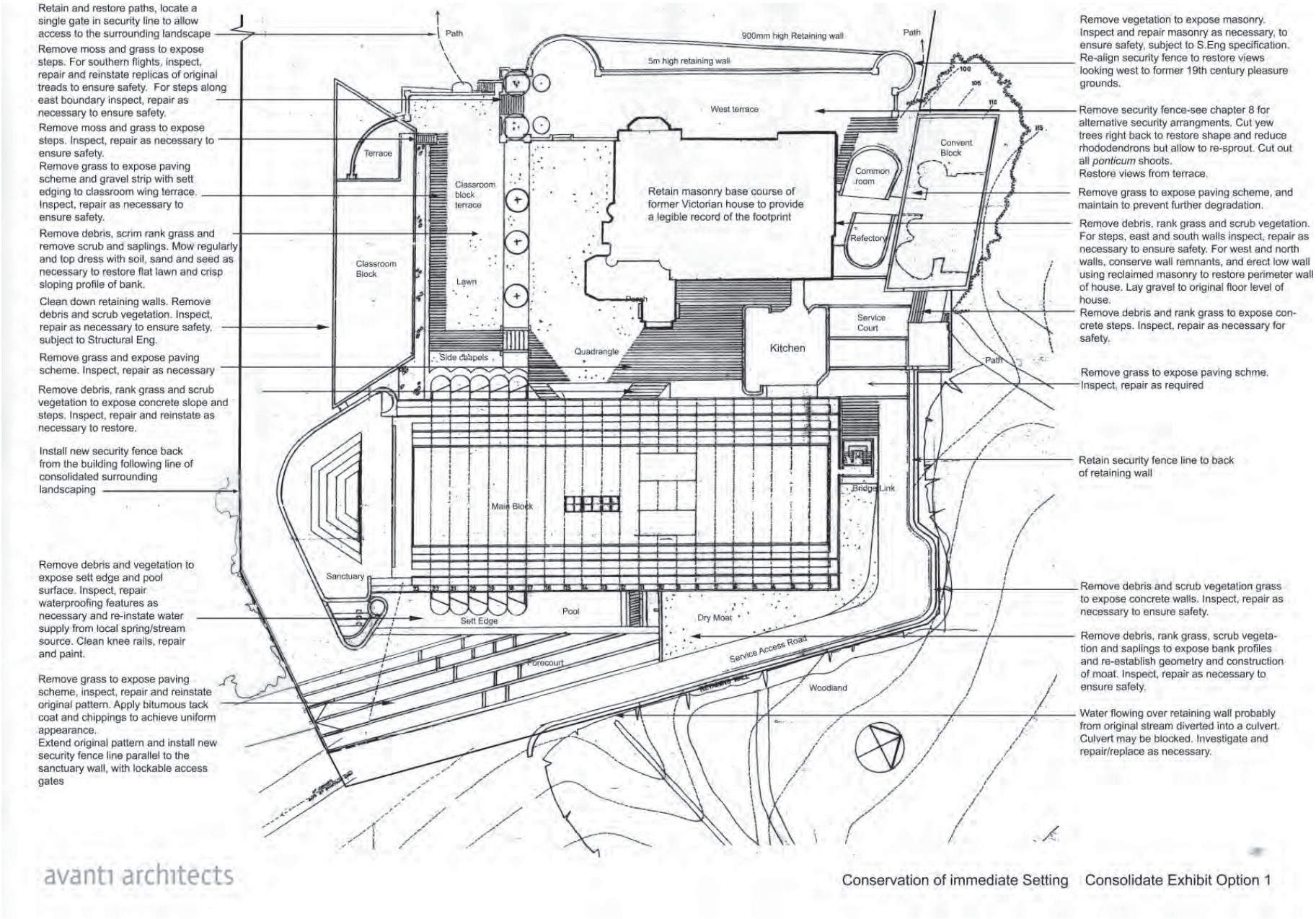
| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
| Entrance Forecourt | | | | |
|  | Paving | Remove grass to expose paving scheme. Inspect, repair as necessary to ensure safety. | Remove grass to expose paving scheme, and maintain to prevent further degradation. | Remove grass to expose paving scheme, inspect, repair and reinstate original pattern as necessary to restore. Apply bituminous tack coat and chippings to achieve uniform appearance. |
|  | Pool | Remove debris and vegetation to expose sett edge and pool surface. Inspect, repair waterproofing features as necessary and reinstate water supply from local spring/stream source as necessary to restore. Clean safety rails and repair and paint as necessary. | Remove debris and vegetation to expose sett edge and pool surface. Maintain to prevent further degradation. | Remove debris and vegetation to expose sett edge and pool surface. Inspect, repair waterproofing features as necessary and reinstate water supply from local spring/stream source as necessary to restore. Clean safety rails and repair and paint as necessary. |
|  | Dry Moat | Remove debris, rank grass, scrub vegetation and saplings to expose bank profiles and re-establish geometry and construction of moat. Inspect, repair as necessary to ensure safety. | Remove debris, rank grass, scrub vegetation and saplings to expose bank profiles and re-establish geometry and construction of moat. Maintain to prevent further degradation. | Remove debris, rank grass, scrub vegetation and saplings to expose bank profiles and re-establish geometry and construction of moat. Inspect, repair and reinstate as necessary to restore. |
|  | Main Building Steps | Remove debris, rank grass and scrub vegetation to expose concrete slope and steps. Inspect, repair and reinstate as necessary to restore. . | Remove debris, rank grass and scrub vegetation to expose concrete slope and steps. Maintain to prevent further degradation. | Remove debris, rank grass and scrub vegetation to expose concrete slope and steps. Inspect, repair and reinstate as necessary to restore. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
| Quadrangle | | | | |
|  | Courtyard paving | Remove grass to expose paving scheme. Inspect, repair as necessary to ensure safety. | Remove grass to expose paving scheme. Maintain to prevent further degradation. | Remove grass to expose paving scheme. Inspect, repair and reinstate original pattern as necessary to restore. |
|  | Grass Lawn | Remove debris, scrub and saplings and strim rank grass. Mow regularly and top dress with soil, sand and seed as necessary to restore flat lawn | Remove debris, rank grass and scrub vegetation. Restore grass lawn. | Remove debris, scrub and saplings. Strip turf and re-grade soil to restore original levels. Prepare and lay turf. |
|  | Mansion House Walls and Steps | Remove debris, rank grass and scrub vegetation. For steps, east and south walls inspect, minimal repair as necessary to ensure safety. For west and north walls, conserve wall remnants. Erect low wall (material to be agreed) or metal edge to allow gravel to be maintained at floor level, ie. to height of top of main steps. | Remove debris, rank grass and scrub vegetation. For east and south walls, repair coping and re-point masonry walls. For west and north walls, conserve wall remnants. | Remove debris, rank grass and scrub vegetation. For steps, east and south walls inspect, repair and reinstate as necessary to restore. For west and north walls, conserve wall remnants. Erect low wall (material to be agreed) or metal edge to allow gravel to be maintained at floor level, i.e. to height of top of main steps. |
| Classroom Wing Terrace | | | | |
|  | Paving | Remove grass to expose paving scheme. Inspect, repair an as necessary to ensure safety. | Remove grass to expose paving scheme. Maintain to prevent further degradation. | Remove grass to expose paving scheme. Inspect, repair and reinstate original pattern as necessary to restore. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
|  | Edging to Classroom Wing | Remove debris, grass and scrub to expose original material. Inspect, repair an as necessary to ensure safety. | Remove debris, grass and scrub to expose original material. Maintain to prevent further degradation. | Remove debris, grass and scrub to expose original material. Inspect, repair and reinstate as necessary to restore. |
|  | Terrace Steps | Remove moss and grass to expose steps. Inspect, repair an as necessary to ensure safety. | Remove moss and grass to expose steps. Maintain to prevent further degradation. | Remove moss and grass to expose steps. Inspect, repair and reinstate as necessary to restore. |
|  | Masonry Retaining Walls | Remove debris and scrub vegetation. Inspect, repair an as necessary to ensure safety, subject to Structural Engineer's recommendations. | Remove debris and maintain to prevent further degradation, subject to Structural Engineer's recommendations. | Remove debris and scrub vegetation. Inspect, repair and reinstate to restore, subject to Structural Engineer's recommendations. |
|  | Grass Lawn and Bank | Remove debris, strim rank grass and remove scrub and saplings. Mow regularly and top dress with soil, sand and seed as necessary to restore flat lawn and crisp sloping profile of bank. | Remove debris, strim rank grass and remove scrub vegetation and saplings. Mow regularly to maintain. | Remove debris, scrub and saplings. Strip turf and re-grade soil to restore original levels. Prepare and lay turf. Clear fell cypresses; grind out stumps and plant semi-mature replicas. |

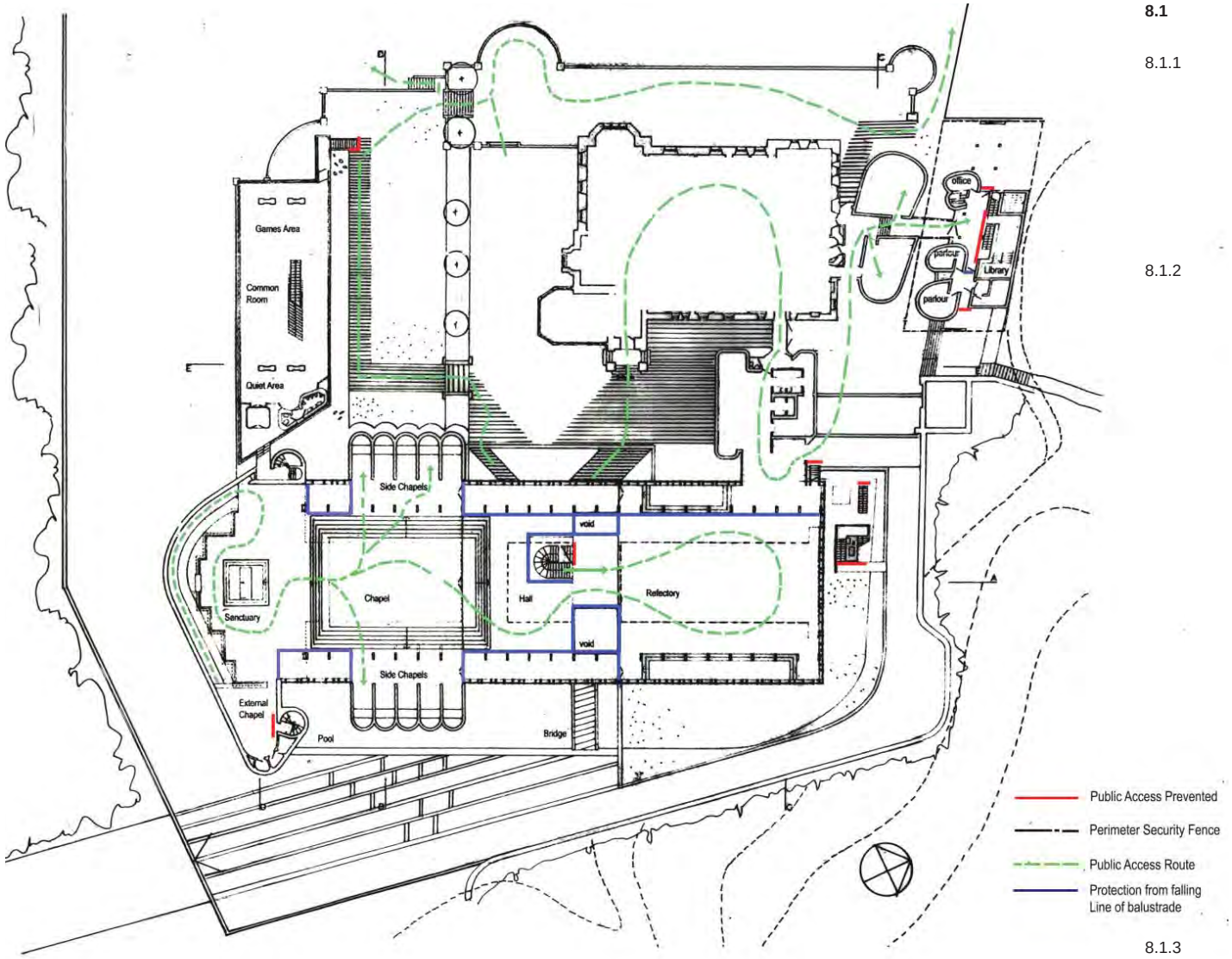
| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
| West Terrace | | | | |
|  | Terrace | Remove security fence – see below for alternative arrangement. Remove grass to expose paving. Inspect, repair as necessary to ensure safety. Cut yew trees right back to restore shape and reduce rhododendrons but allow to re-sprout. Cut out all *ponticum* shoots. Restore views. | Realign security fence. Remove grass to expose paving, and maintain to prevent further degradation | Remove security fence – see below for alternative arrangement. Remove grass to expose paving. Inspect, repair and reinstate as necessary to restore. Consider applying bituminous tack coat and chippings to achieve uniform appearance. Restore views. Consider removing ornamental vegetation and replanting replicas. |
|  | Masonry Retaining Wall and Balustrade | Remove vegetation to expose masonry. Inspect, repair an as necessary to ensure safety, subject to Structural Engineer's recommendations. Realign security fence to restore views looking west to former 19th century pleasure grounds. | Remove vegetation to expose masonry and maintain to prevent further degradation, subject to Structural Engineer's recommendations. | Remove vegetation to expose masonry. Inspect, repair and reinstate to restore, subject to Structural Engineer's recommendations. Erect guard rail along top of parapet wall. |
|  | Terrace Steps and Low Walls | Remove moss and grass to expose steps. For southern flight, inspect, repair and reinstate replicas of original treads to ensure safety. Access to steps further south to be prevented by security fence, but maintain to prevent further degradation. For steps along east boundary inspect, repair an as necessary to ensure safety. | Remove moss and grass to expose stone. Maintain to prevent further degradation. | Remove moss and grass to expose steps. Inspect, repair and reinstate as necessary to restore and ensure safety. |
|  | Undercroft to Convent Block | Remove grass to expose paving scheme, and maintain to prevent further degradation. | Remove grass to expose paving scheme, and maintain to prevent further degradation | Remove moss and grass to expose steps. Inspect, repair and reinstate as necessary to restore and ensure safety. |

| Photograph | Item | Option 1: Consolidated Exhibit | Option 2: Holding Option | Option 3: Restoration |
|---|---|---|---|---|
| Service Access and Court | | | | |
|  | Paving | Remove grass to expose paving scheme. Inspect, repair an as necessary to ensure safety. | Remove grass to expose paving scheme, and maintain to prevent further degradation | Remove grass to expose paving scheme, inspect, repair and reinstate original pattern as necessary to restore. Apply bituminous tack coat and chippings to achieve uniform appearance. |
|  | Retaining Wall | Remove debris and scrub vegetation grass to expose concrete walls. Inspect, repair an as necessary to ensure safety. | Remove debris and scrub vegetation grass to expose concrete walls. Maintain to prevent further degradation. | Remove debris and scrub vegetation grass to expose concrete walls. Inspect, repair and reinstate as necessary to restore. Remove security fence and erect more aesthetically pleasing guard rail. |
|  | Steps to Gardens | Remove debris, rank grass and scrub vegetation to expose concrete steps. Inspect, repair an as necessary to ensure safety. | Remove debris, rank grass and scrub vegetation to expose concrete steps. Maintain to prevent further degradation. | Remove debris, rank grass and scrub vegetation to expose concrete steps. Inspect, repair and reinstate as necessary to restore. |


Retain and restore paths, locate a single gate in security line to allow access to the surrounding landscape
Remove moss and grass to expose steps. For southern flights, inspect, repair and reinstate replicas of original treads to ensure safety. For steps along east boundary inspect, repair as necessary to ensure safety.
Remove moss and grass to expose steps. Inspect, repair as necessary to ensure safety.
Remove grass to expose paving scheme and gravel strip with sett edging to classroom wing terrace. Inspect, repair as necessary to ensure safety.
Remove debris, scrim rank grass and remove scrub and saplings. Mow regularly and top dress with soil, sand and seed as necessary to restore flat lawn and crisp sloping profile of bank.
Clean down retaining walls. Remove debris and scrub vegetation. Inspect, repair as necessary to ensure safety. subject to Structural Eng.
Remove grass and expose paving scheme. Inspect, repair as necessary
Remove debris, rank grass and scrub vegetation to expose concrete slope and steps. Inspect, repair and reinstate as necessary to restore.
Install new security fence back from the building following line of consolidated surrounding landscaping
Remove debris and vegetation to expose sett edge and pool surface. Inspect, repair waterproofing features as necessary and re-instate water supply from local spring/stream source. Clean knee rails, repair and paint.
Remove grass to expose paving scheme, inspect, repair and reinstate original pattern. Apply bitumous tack coat and chippings to achieve uniform appearance.
Extend original pattern and install new security fence line parallel to the sanctuary wall, with lockable access gates
Path
900mm high Retaining wall
5m high retaining wall
West terrace
Terrace
Classroom block terrace
Classroom Block
Lawn
Side chapels
Quadrangle
Retain masonry base course of former Victorian house to provide a legible record of the footprint
Porch
Kitchen
Service Court
Convent Block
Common room
Refectory
Path
Bridge Link
Main Block
Sanctuary
Sett Edge
Pool
Dry Moat
Service Access Road
Forecourt
Woodland
Remove vegetation to expose masonry. Inspect and repair masonry as necessary, to ensure safety, subject to S.Eng specification. Re-align security fence to restore views looking west to former 19th century pleasure grounds.
Remove security fence-see chapter 8 for alternative security arrangments. Cut yew trees right back to restore shape and reduce rhododendrons but allow to re-sprout. Cut out all ponticum shoots.
Restore views from terrace.
Remove grass to expose paving scheme, and maintain to prevent further degradation.
Remove debris, rank grass and scrub vegetation. For steps, east and south walls inspect, repair as necessary to ensure safety. For west and north walls, conserve wall remnants, and erect low wall using reclaimed masonry to restore perimeter wall of house. Lay gravel to original floor level of house.
Remove debris and rank grass to expose concrete steps. Inspect, repair as necessary for safety.
Remove grass to expose paving schme. Inspect, repair as required
Retain security fence line to back of retaining wall
Remove debris and scrub vegetation grass to expose concrete walls. Inspect, repair as necessary to ensure safety.
Remove debris, rank grass, scrub vegetation and saplings to expose bank profiles and re-establish geometry and construction of moat. Inspect, repair as necessary to ensure safety.
Water flowing over retaining wall probably from original stream diverted into a culvert. Culvert may be blocked. Investigate and repair/replace as necessary.
avanti architects
Conservation of immediate Setting Consolidate Exhibit Option 1

# Section 8

Scheme for Public Access to Seminary Complex, Estate and Works required to Form a New Country Park




Ground Floor : Option 1: Public Access Diagram

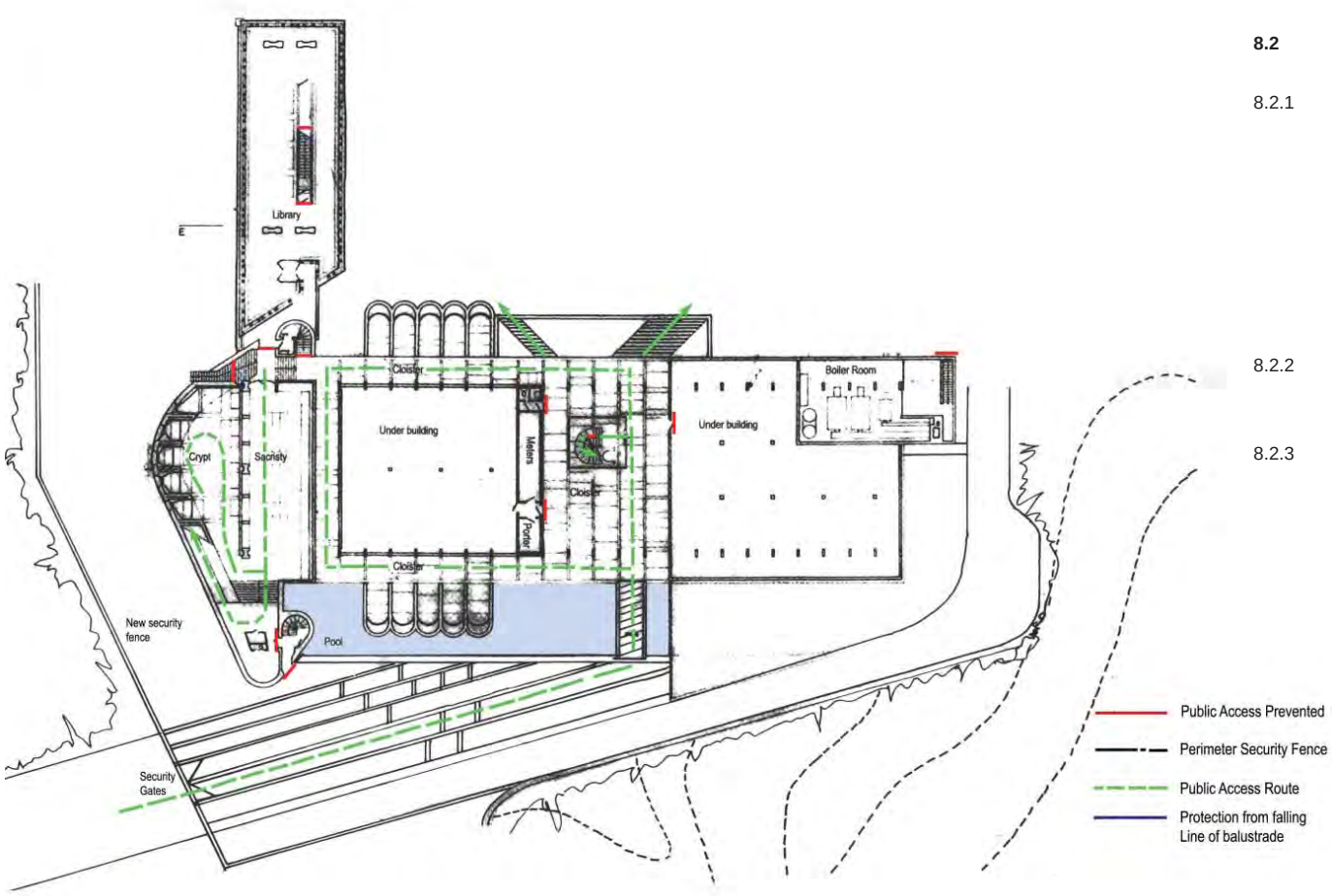
## 8.1 Public Access

### Option 1- Consolidated Exhibit

8.1.1 On completion of the works outlined in Option 1 in Chapter 6 of this report, the original buildings and surrounding landscaped grounds will have been repaired sufficiently to allow for safe public access of the Category A Listed building complex and enjoyment of the surrounding landscaped estate. The following outlines the proposed visitor regime.

8.1.2 It is proposed that a new secure perimeter fence is located around the original building complex with a main lockable gate at the main eastern entrance and a pedestrian gate on the western boundary. The new security fence should be located away from the building line, see previous chapter 7. The gates would be open and closed at an agreed time of every open day by a park keeper. Once open, the public would be able to approach the complex as originally intended, over the bridge spanning the water filled restored pool/ moat to the cloister level of the main block. The public would then be able to circulate around the cloister level stepping up towards the courtyard and the foundation perimeter stones of the original Kilmahew House, or move up the original internal curved concrete staircase to the upper raised level of the main block. On reaching the principal level of the main block the visitor would be able to freely move through the original refectory, chapel and side chapel spaces. From the chapel visitors could then move into the sanctuary, around the altar and down the processional ramp to the lower sacristy and crypt level connecting back to the cloister level. Safety guarding would need to be provided to all voids/slab edges to prevent the risk of falling and access to the upper levels would be prevented for safety reasons. Barriers would be required to prevent public access into the teaching block, up to the first floor of the convent block and down into basement plant rooms. The proposed new barriers should be designed to limit their visual impact on the listed buildings and be located well back from elevation lines and facades wherever possible.

8.1.3 Within the external courtyard, visitors could circulate freely around the remains of the original Kilmahew House, Kitchen block, Nun's common room, refectory and the undercroft area of the convent block. The removal of the current security fence and reinstatement of a new secure fence line further away from the building complex would allow visitors the opportunity to enjoy the newly restored historic views form the west terrace.




Lower Ground Floor : Option 1: Public Access Diagram

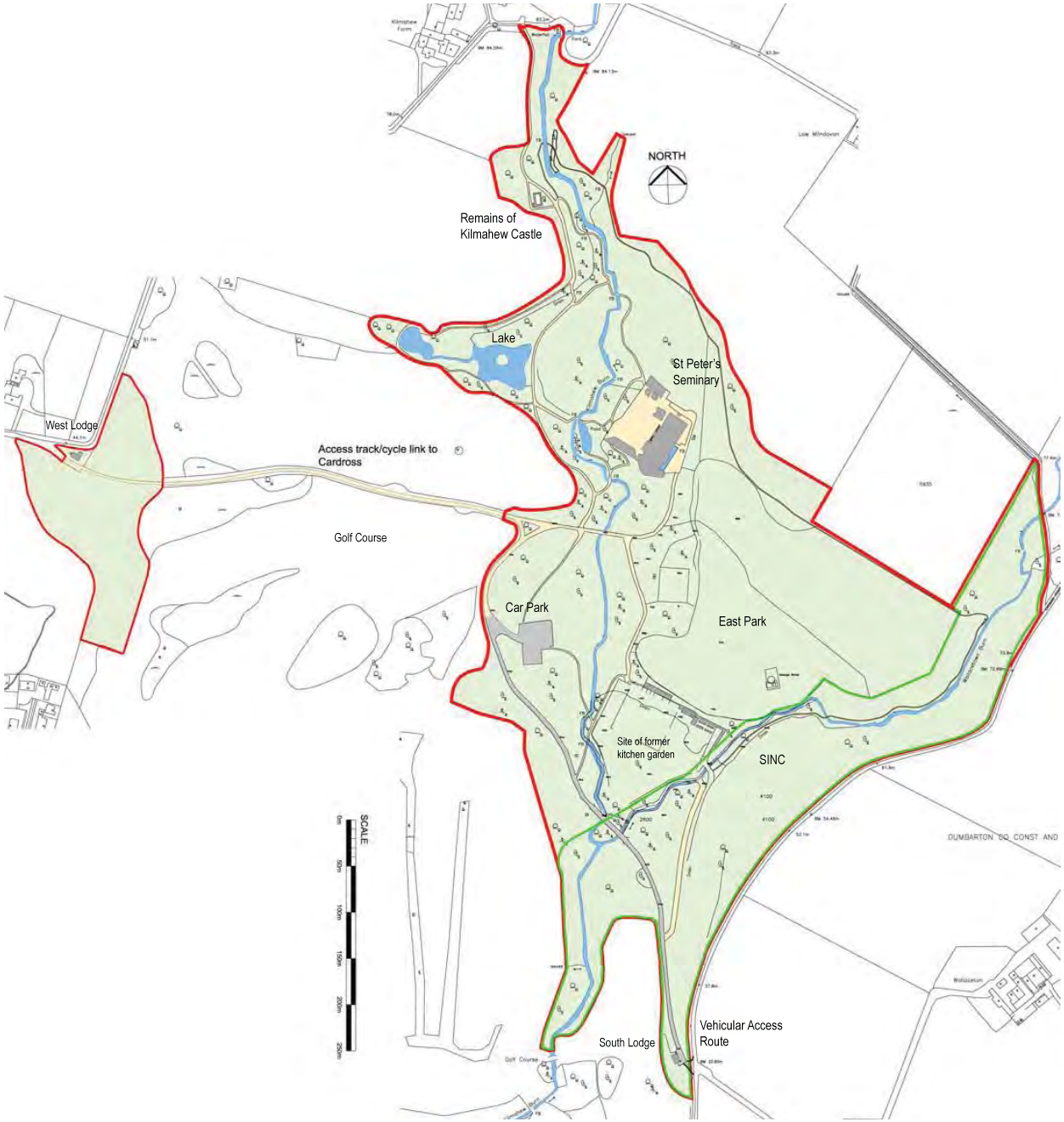
8.1.4 On completion of the visit, the visitor could then choose to exit from the same gate into the landscaped grounds or alternatively follow the restored pathways leading into the estate from the west terrace.

**8.2 8.2 Public Access**

8.2.1 **Option 2 - Holding Option**
On completion of the works outlined in Option 2 in Chapter 4 of this report, it will be necessary to prevent public access to the St Peter's complex with the installation of a secure perimeter high fence. The security of this fence would need to be checked on a regular basis and maintained. An information board could be installed at the main entrance in front of the locked maintenance access gate providing detailed information about the Listed building complex and estate.

8.2.2 Access to the complex would be restricted to authorized maintenance personnel only.

8.2.3 The wider landscape would be restored and publicly accessible as detailed in Option 1 above.



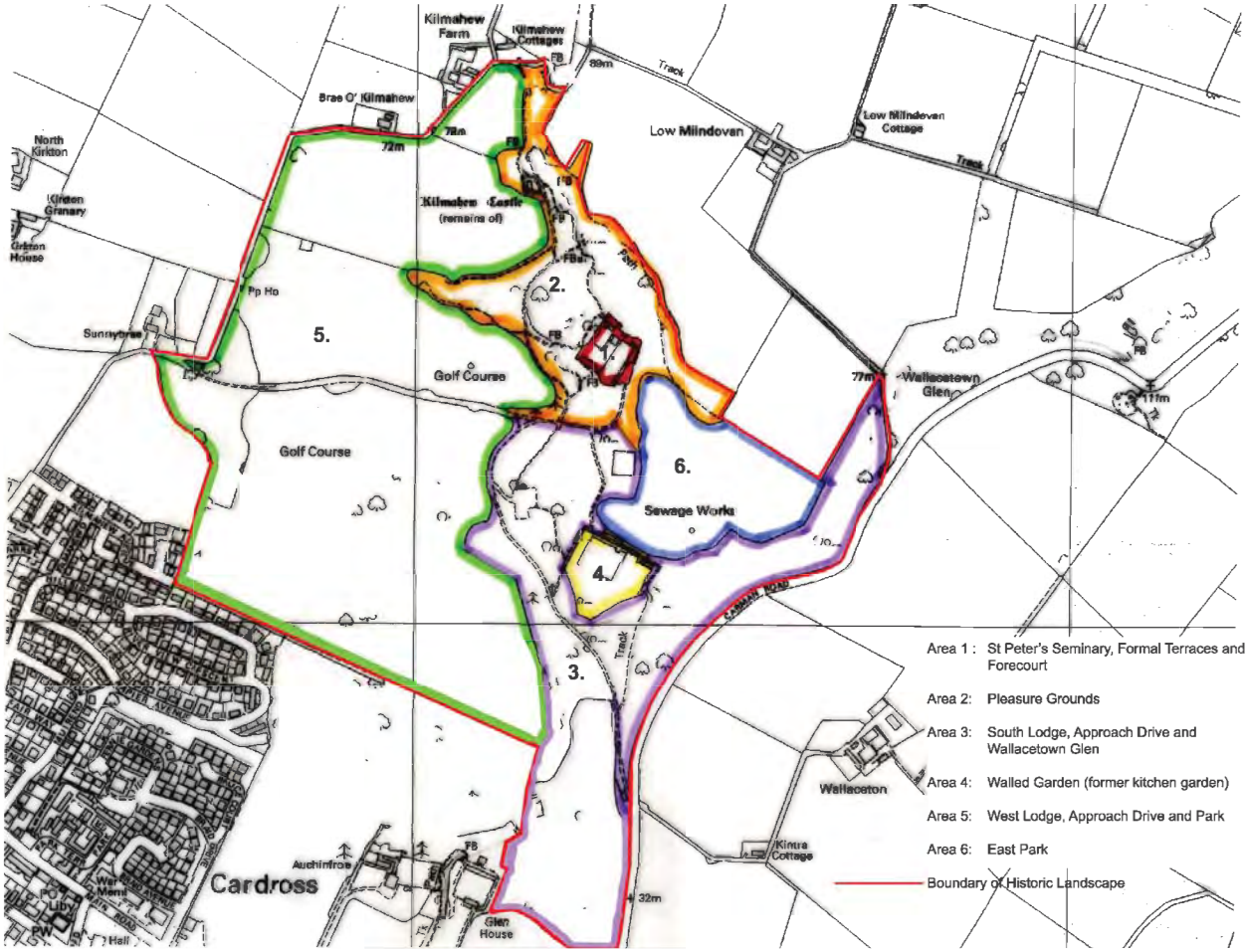

## 8.3 Country Park and Public Access

8.3.1 The diverse landscape of the original Kilmahew estate is of considerable value and offers an exciting opportunity to create a well maintained park freely accessible to the public and surrounding community. The creation of a country park is achievable in all options albeit option 2 would not allow access into the building complex and access to the building complex in option 3 would be determined by a future new use for the buildings.

8.3.2 In the formation of the park, it is proposed that public vehicular access into the park would be prioritized from Carmen Road through the original gate piers and past the South Lodge along the current southern approach road. This will help maintain the significance of entry to the estate, and avoid difficulties of vehicular traffic passing across the golf course. This access route would terminate in a new public car park located on the site of the former stable block. Both bridges over the Kilmahew and Wallaceton burns would be repaired, with reinstatement of waterproofing, local strengthening and restoration of the parapet walls.

8.3.3 The western approach to the complex is proposed to be closed to vehicular traffic other than authorized vehicles, pedestrian and cycle traffic. Pedestrian and cycle traffic entering the park would pass between the restored original gate piers, past the West Lodge and connect into the extensive network of restored original Victorian paths within the estate.

8.3.4 All principal original paths through the grounds would be restored offering the visitor a variety of routes through the estate leading to the existing restored ponds, up to the remains of Kilmahew Castle at the top of the estate, through the rhododendron tunnel and out to viewpoints where expansive views are available across East Park to the Clyde valley.




8.4 8.4 Conservation Aims and Tasks to form a New Country Park

8.4.1 The following policies are determined by our understanding of the significance of the historic landscape at this point in time and are subject to a detailed vegetation survey of the site and findings relating to any further research.

8.4.2 It is strongly suggested that before any work takes place, an historic landscape management plan should be prepared for the wider landscape that takes not only historic landscape considerations into account but also archaeological and ecological ones too. See Archaeological Assessment Report, Appendix 12.2.

8.4.3 Area 1: St Peter Seminary, Formal Terraces and Forecourt
See Chapter 7

8.4.4 Area 2: Pleasure Grounds

8.4.5 Formal Grass Terraces
Conservation Aim
Restore character visible in 1960s photographs
Tasks

- Inspect low retaining wall, repair and reinstate as necessary to restore.
- Remove bracken, scrub vegetation, strim grass and mow regularly as necessary to restore grass lawns and terrace.

8.4.6 The Lake
Conservation Objectives

- Restore late 19th century layout of lake.
- Restore early 20th century view to and from west terrace visible.
- Restore late 19th century views from lake to wider landscape.

Tasks

- Clear fallen wood, retain for wildlife (location to be agreed).
- Structural Engineer to inspect barrage and sluice, repair and reinstate as necessary to restore.
- Drain and de-silt lake; restore late 19th century profile of lake and island.
- Remove vegetation to expose alignment of late 19th century footpath. Lay new bound gravel path with timber edge.
- Selectively thin existing trees, remove and prune back

rhododendron understorey as necessary to open up late 19th century viewpoints and open up woodland canopy to encourage natural regeneration.
- Trained aboriculturalist to inspect, and undertake tree surgery to extend life expectancy and ensure safety of mature trees and shrubs.
- Plant understudies for distinctive ornamental trees. (allow 50no.).

8.4.7 Rhododendron Tunnel

Conservation Aim
- Restore late 19th century character of the tunnel.

Tasks
- Prune back rhododendrons.
- Erect metal arches as a support structure .
- Train rhododendrons.

8.4.8 Kilmahew Castle

Conservation Aims
- Conserve Kilmahew Castle. (Refer also to Archaeological Assessment Report, Appendix 12.2).
- Restore more open character of late 19th century parkland setting for Kilmahew Castle.
- Restore late 19th century views across lake to west park
- Conserve veteran trees.

Tasks
- Clear fallen wood, retain for wildlife (location to be agreed).
- Remove vegetation to expose alignment of late 19th century footpaths. Lay new bound gravel path with timber edge.
- Selectively thin existing trees, remove and prune back rhododendron understorey as necessary to open up late 19th century viewpoints and open up woodland canopy to encourage natural regeneration.
- Trained aboriculturalist to inspect, and undertake tree surgery to extend life expectancy and ensure safety of mature trees and shrubs to be retained.
- Plant understudies for distinctive ornamental trees. (allow 50no.).

8.4.9 Kilmahew Glen (North)

Conservation Aims
- Conserve spiritual and unspoilt character of burn and

woodland.

- Conserve distinctive profile of 19th century woodland.
- Restore network of late19th century paths.
- Restore late 19th century ornamental character of woodland on bank opposite formal grass terraces.
- Ensure ecological significance is understood.

Tasks

- Clear fallen wood, retain for wildlife (location to be agreed).
- Remove vegetation to expose alignment of late 19th century footpaths. Lay new bound gravel path with timber edge.
- Restore crossing points over burn, using more economical rustic alternatives.
- Maintain 19th century iron railings.
- Selectively thin existing trees, remove and prune back rhododendron understorey as necessary to open up late 19th century viewpoints and open up woodland canopy to encourage natural regeneration.
- Trained aboriculturalist to inspect, and undertake tree surgery to extend life expectancy and ensure safety of mature trees and shrubs to be retained.
- Plant understudies for distinctive ornamental trees and shrubs on bank opposite formal grass terraces (allow 50no. trees, 100no. shrubs).
- Undertake a detailed Phase 2 woodland survey to fully evaluate status and evaluate faunal interest of site.

8.4.10 Curling Pond

Conservation Aim

- Further research into bog garden character of this area.

Tasks

- Improve drainage.

8.4.11 <u>Area 3: South Approach Drive and Wallacetown Glen</u>

8.4.12 South Lodge and Approach Drive

Conservation Aims

- Maintain the south approach drive as the principal approach to the seminary.
- Restore late 19th century character approach drive.
- Restore and reinstate gates and restore.

Tasks

- Conserve lodge (Refer also to Archaeological Assessment

Report, Appendix 12.2).

- Inspect, repair and reinstate double bridge to conserve and ensure safety to agreed loading duty.
- Inspect, repair and reinstate Gothic bridge to conserve and ensure safety.
- Inspect the drive, repair and reinstate as necessary.
- Remove sedge along verge and lay to grass.
- Cut back rhododendron, allow to re-grow but maintain at appropriate height.
- Clear dead and fallen wood, retain for wildlife (location to be agreed).
- Selectively thin existing trees, remove and prune back rhododendron understorey as necessary to open up late 19th century viewpoints visible in 2nd Edition OS map, 1896-1900.

8.4.13 Stables (or Offices)

Conservation Aims

- Conserve late 19th century relationship between open and enclosure on the site of the stables or offices.

Tasks

- Selectively thin existing trees, remove and prune back rhododendron understorey as necessary to maintain open area on site of stables.
- Form new public carpark.

8.4.14 Kilmahew Glen (South)

Conservation Aims

- Conserve spiritual and unspoilt character of glen. Maintain distinctive profile of late 19th century woodland edge
- Restore ornamental character of late 19th century planting near walled garden and East Park.
- Ensure ecological significance is understood.

Tasks

- Conserve and maintain existing late 19th century iron railings.
- Selectively thin existing trees, remove and prune back rhododendron understorey as necessary to open up woodland canopy to encourage natural regeneration.
- Trained aboriculturalist to inspect, and undertake tree surgery to extend life expectancy and ensure safety of mature trees and shrubs to be retained.
- Plant understudies for distinctive ornamental trees and shrubs where appropriate (allow 50no.).
- Undertake a detailed Phase 2 woodland survey to fully evaluate status and evaluate faunal interest of site.

8.4.15 Wallacetown Glen

Conservation Aims

- Manage woodland appropriately in accordance with its status as a SINC.
- Restore late 19th century network of paths (providing this is compatible with the above).
- Maintain distinctive profile of late 19th century woodland edge.
- Conserve bridge.

Tasks

- Undertake a detailed Phase 2 woodland survey to fully evaluate status and evaluate faunal interest of site (in accordance with planning authority recommendations). Management brief to be compiled as part of survey.
- Restore path to east side of kitchen garden and link with path to Wallacetown Glen.
- Inspect bridge to kitchen garden, repair and reinstate as necessary to conserve and ensure safety for pedestrians.
- Remove vegetation to expose alignment of late 19th century footpaths. Lay new bound gravel path with timber edge (subject to above).
- Restore crossing points over burn, using more rustic timber alternatives (subject to above).
- Conserve and maintain 19th century iron railings.
- Conserve remains of Kilmahew house.

8.4.16 Area 4: Walled Garden (Former Kitchen Garden)

Conservation Aims

- Further research to understand more fully the archaeology.
- Conserve remaining features of late 19th century structure and layout.
- Conserve aspects of walled garden relating to setting of south approach drive and east park. (See also to Archaeological Assessment Report, Appendix 12.2).

Tasks

- Inspect all built structures, repair and reinstate as necessary to conserve and ensure safety ie. Outhouses, glasshouses, walls, archways, metal gates and fencing.
- Secure walled garden to prevent further vandalism.
- Remove vegetation to prevent further damage to/erosion of walled garden structure and layout.

8.4.17 Area 5: West Lodge, Approach Drive and Park

Conservation Aims

- Record; conserve masonry base course of West Lodge; remove and store remaining stone (Refer also to Archaeological Assessment Report, Appendix 12.2).
- Conserve approach drive as secondary approach to St Peter's Seminary.
- Conserve and restore late 19th century views to seminary.

Tasks

- Inspect West Lodge, repair and reinstate as necessary to conserve and ensure safety.
- Inspect gate piers, repair and reinstate as necessary to conserve and ensure safety.
- Inspect drive surface, repair and reinstate as necessary to conserve and ensure safety.
- Consultation with golf course to ensure late 19th century tree clumps are managed and that species mix and distinctive profile is conserved. Also to conserve late 19th century metal railings.

8.4.18 Area 6: East Park

Conservation Aims

- Conserve setting of St Peter's seminary
- Conserve late 19th century panoramic view from north boundary.
- Ensure archaeological interest of the site is fully understood (Refer also to Archaeological Assessment Report, Appendix 12.2).
- Ensure significance of ground flora is understood.

Tasks

- (Refer also to Archaeological Assessment Report, Appendix 12.2).
- Commission Phase 1 habitat survey of the grassland.

8.4.19

Note: The works specified in the above schedules assume the estate site remains intact, and takes no account of possible enabling development.

# Section 9

## Maintenance Schedule and Site Safety

*This section provides outline maintenance schedules for the effective stewardship of the seminary complex in both Options 1 and Option 2 scenarios. No schedule is included for Option 3 (Full Restoration) as it is assumed that effective maintenance will form an integral part of the management and operational policy established by a sustainable re-use. The maintenance and life cycle costs associated with these schedules have not been estimated as part of this report and should be considered before embarking on any option.*

**Option 1: Consolidated Exhibit**

| Element/Item | Maintenance Work Item | Frequency |
|---|---|---|
| Wider Landscape Works | Management Plan should be undertaken to identify the approach and scope of works required to maintain the extensive 40 ha estate. | Urgent |
| Entrance Gates | Check that the security gates are intact, secure and locked at the beginning and end of every open day. | Daily |
| Public Access Barriers | Check that these remain in place and are secure to prevent public access into risk areas. | Daily |
| Balustrade protection from falling | Check that all safety balustrades remain in place and are secure. | Daily |
| Perimeter Security Fence to Consolidated Exhibit | Walk perimeter fence line, check that fence is intact, no breaches or damage. | Daily/Weekly |
| External Fire Escape | Visual inspection from ground level to check for damage caused by wind action or vandalism | Weekly |
| Side Chapels | Inspect external render. Inspect temporary softwood protection frames. | Weekly |
| Temporary timber external screens to all external openings and student cells | Inspect and ensure that all temporary screens are secure and watertight and have not been vandalized or penetrated. | Weekly |
| In Situ Concrete | Visual inspection from ground level to check for damage caused by wind action or vandalism, | Weekly |
| Paving/Terrace/Steps | Keep clear of weeds, leaves etc | Weekly |
| Grass Lawn | Mow grass | Summer-Fortnightly |
| Rooflights | Check flashings, clean and re-seal if required. | Monthly |
| Pre cast panels and fixings | Visual inspection of all panels, check for any evidence of deterioration. | Monthly |
| Upper Floors | Check maintenance route and safety guarding remains intact. | Monthly |
| Non structural ceiling vaults | Monitor sacrificial anode protection installed to Hy-Rib. Check for any deterioration of plaster surfaces. | Monthly |
| Teaching Block Timber Beams | Check metal flashings are secure and intact to tops of original beams. | Monthly |
| Metal lining to parapet gutter to beam walls of teaching block. | Clean out leaf debris and silt and flush through outlets. | Monthly (More frequently in Autumn months) |
| Entrance Pool | Drain down pool and clean out silts, leaves, etc. Re-fill | Monthly |
| Retaining wall | Inspect condition of retaining wall | Annually |
| Masonry Walls | Check pointing and repair as necessary | Annually |
| Pre-Cast Floor and Terrace Slabs | Visual inspection to check for any deterioration | Annually |
| Floor Finish | Visual inspection to check for any deterioration | Annually |

**Option 1: Consolidated Exhibit**

| Element/Item | Maintenance Work Item | Frequency |
|---|---|---|
| External Fire Escape | Inspection of structures should be undertaken by an experienced structural engineer to monitor signs of deterioration | Annually |
| Internal staircase | Ensure surfaces are free from trip hazards, check handrail. | Annually |
| In Situ Concrete | Inspection of structures should be undertaken by an experienced structural engineer to monitor signs of deterioration | Annually |
| Roofs | Check all flashings, seals and solar protective chippings/coatings | Annually |
| Galleries | Check all flashings, seals and solar protective chippings/coatings | Annually |
| Temporary timber external screens to all external openings and student cells | Replace damaged timber framing and monarflex protective sheet as required | Annually |
| Teaching Block Timber Beams | Re-coat timber beams with water based protective coating. | 3-5 years |
| Waterproof coating to floor deck | Re-coat floor deck with waterproof liquid coating | 5 years |

**Option 2: Holding Option**

| Element/Item | Maintenance Work Item | Frequency |
|---|---|---|
| Entrance Gates | Check intact, secure and locked | Weekly |
| Perimeter Security Fence to consolidated Exhibit | Walk perimeter, check that fence is intact, that there are no breaches or damage. | Weekly |
| Wider Landscape Works | Management Plan is required to be set in place to identify the scope of works required to maintain the extensive 40 ha estate. | Urgent |
| Temporary Roofs | Check that all temporary roofs are wind and water tight and secure. | Weekly (More frequently in Autumn months) |
| | Carry out a visual inspection after extreme weather such as gales or very heavy rain and snow falls | As required |
| Galleries | As above | Weekly (More frequently in Autumn months) |
| Rooflights | As above | Weekly (More frequently in Autumn months) |
| Side Chapels | Inspect external render. Inspect temporary softwood protection frames. | Weekly |
| Public Access barriers | Inspect that these are intact and secure to prevent public access into unauthorized areas. | Weekly |
| Paving/Terrace/Steps | Keep clear of weeds, leaves etc | Weekly |
| External Fire Escape | Visual inspection from ground and landing levels for damage caused by wind or vandalism | Weekly |
| Grass Lawn | Mow grass | Summer-Fortnightly |
| In Situ Concrete | Visual inspection from ground level to check for damage caused by wind action or vandalism, | Monthly |
| Pre cast panels and fixings | Visual inspection of all panels, check for any evidence of deterioration. | Monthly |
| Upper Floors | Check maintenance route and safety guarding remains intact. | Monthly |
| Non structural ceiling vaults | Monitor sacrificial anode protection installed to Hy-rib. Check for any deterioration of plaster surfaces. | Monthly |
| Metal lining to parapet gutter to beam walls of teaching block. | Clean out leaf debris and silt and flush through outlets. | Monthly (More frequently in Autumn months) |
| In Situ Concrete | Inspection of structures should be undertaken by an experienced structural engineer to monitor signs of deterioration | Annually |
| Pre cast panels and fixings | Inspection of structures should be undertaken by an experienced structural engineer to monitor signs of deterioration | Annually |
| Internal staircase | Ensure surfaces are free from trip hazards, check safety handrail. | Annually |
| External Fire Escape | Inspection of structures should be undertaken by an experienced structural engineer to monitor signs of deterioration | Annually |
| Pre-Cast Floor and Terrace Slabs | Visual inspection to check for any deterioration | Annually |
| Floor Finish | Visual inspection to check for any deterioration | Annually |
| Masonry Walls | Check pointing and repair as necessary | Annually |
| Retaining wall | Inspect condition of retaining wall | Annually |

# Section 10

## Cost Summary of Defined Options including formation of Country Park and Enabling Works

10.0.1 Introduction

10.0.2 A full suite of budget estimates prepared by Stace Cost Consultants for all options (except Option 4 'Do Nothing') is provided in Volume 2 of this study, as follows –

- Consolidated Exhibit — Option 1
- Holding Option — Option 2
- Restoration — Option 3
- Stabilized Structure — CRGP Proposal (outturned and technically updated)
- 'Do Nothing' — (Not costed)
- Demolition
- Country Park
- Review of CRGP cost plan vis-à-vis projected sales receipts from this proposal for Enabling Development.

(Note: Volume 2 is not part of the website publication)

10.0.2 Executive summaries of each option are included here in this volume together with a spreadsheet providing a comparative read-across for each option and cost sub-collection – main building, sanctuary, teaching block, convent blocks & kitchen, external works to immediate setting. Costs for formation of the Country Park and the review of the enabling development costs and receipts are tabled separately.

10.0.3 The costs are presented for each option treated as a unified scheme, though it will be appreciated that all options comprise a series of constituent parts - seminary, teaching block, etc - which could if necessary be disaggregated and otherwise re-combined to suit a particular strategy. In other words a specific iteration might comprise a 'hybrid scheme' involving restoration of some elements, and consolidation or holding works to others. We have not attempted to map out all the possible permutations, but the range of opportunity should nonetheless be noted. In this context however it should be understood that the elemental cost estimates as given for unified options could alter when combining differing types of work from separate columns and that the figures quoted should not simply be re-assembled without appropriate adjustment.

10.0.4 It should be noted that the Stabilized Structure option, which was prepared several years ago by others, has required updating to provide like-for-like comparison both in terms of cost index linking and also in respect of various technical aspects as a result of changes in prices and in the condition of the buildings themselves since it was prepared.

## 10.1 Consolidated Exhibit

**ARCHDIOCESE OF GLASGOW**
**ST PETER'S SEMINARY KILMAHEW ESTATE CARDROSS**
**CONSERVATION ASSESSMENT BUDGET ESTIMATE**
**CONSOLIDATED EXHIBIT**

STACE
QUANTITY SURVEYING

| REF | EXECUTIVE SUMMARY | COST (£/ft2) | COST (£/m2) | TOTAL (£) |
|---|---|---|---|---|
| 1.00 | MAIN BLOCK | 37.93 | 408.32 | 2,361,800 |
| 2.00 | SANCTUARY | 37.68 | 405.65 | 318,000 |
| 3.00 | TEACHING BLOCK | 28.42 | 305.91 | 290,200 |
| 4.00 | CONVENT BLOCKS AND KITCHEN | 48.80 | 525.25 | 242,500 |
| 5.00 | EXTERNAL WORKS TO IMMEDIATE SETTING | | | 249,900 |
| | **ADD** | | **£** | **3,462,400** |
| 6.00 | DESIGN FEES & CHARGES | | 18% | 623,200 |
| | | | **£** | **4,085,600** |

Arithmetically Checked - Initials
Date of Issue

This Fixed Price Budget Estimate has been computed to reflect our view on construction market trends to the conclusion of the project as defined herein. We reserve the right to review this Estimate in the event that significant changes occur in the markets as a result of international conflicts, etc.

See Section 5.1 for details of this option

**ARCHDIOCESE OF GLASGOW**
**ST PETER'S SEMINARY KILMAHEW ESTATE CARDROSS**
**CONSERVATION ASSESSMENT BUDGET ESTIMATE**
**THE HOLDING OPTION**

STACE
QUANTITY SURVEYING

| REF | EXECUTIVE SUMMARY | COST (£/ft2) | COST (£/m2) | TOTAL (£) |
|---|---|---|---|---|
| 1.00 | MAIN BLOCK | 24.67 | 265.55 | 1,536,000 |
| 2.00 | SANCTUARY | 24.91 | 268.14 | 210,200 |
| 3.00 | TEACHING BLOCK | 25.30 | 272.28 | 258,300 |
| 4.00 | CONVENT BLOCKS AND KITCHEN | 33.50 | 360.64 | 166,500 |
| 5.00 | EXTERNAL WORKS TO IMMEDIATE SETTING | | | 146,400 |
| | **ADD** | | **£** | **2,317,400** |
| 6.00 | DESIGN FEES & CHARGES | | 18% | 417,100 |
| | | | **£** | **2,734,500** |

Arithmetically Checked - Initials
Date of Issue

This Fixed Price Budget Estimate has been computed to reflect our view on construction market trends to the conclusion of the project as defined herein. We reserve the right to review this Estimate in the event that significant changes occur in the markets as a result of international conflicts, etc.

See Section 5.2 for details of this option

**ARCHDIOCESE OF GLASGOW**
**ST PETER'S SEMINARY KILMAHEW ESTATE CARDROSS**
**CONSERVATION ASSESSMENT BUDGET ESTIMATE**
**FULL RESTORATION**

STACE
QUANTITY SURVEYING

| REF | EXECUTIVE SUMMARY | COST (£/ft2) | COST (£/m2) | TOTAL (£) |
|---|---|---|---|---|
| 1.00 | MAIN BLOCK | 109.54 | 1,179.16 | 6,820,500 |
| 2.00 | SANCTUARY | 76.20 | 820.22 | 643,000 |
| 3.00 | TEACHING BLOCK | 108.32 | 1,165.98 | 1,106,100 |
| 4.00 | CONVENT BLOCKS AND KITCHEN | 136.98 | 1,474.49 | 656,200 |
| 5.00 | EXTERNAL WORKS TO IMMEDIATE SETTING | | | 402,900 |
| | **ADD** | | **£** | **9,628,700** |
| 6.00 | DESIGN FEES & CHARGES | | 18% | 1,733,200 |
| | | | **£** | **11,361,900** |

Arithmetically Checked - Initials
Date of Issue

This Fixed Price Budget Estimate has been computed to reflect our view on construction market trends to the conclusion of the project as defined herein. We reserve the right to review this Estimate in the event that significant changes occur in the markets as a result of international conflicts, etc.

See Section 5.3 for details of this option

## 10.4 Stabilized Structure (Technically Updated and Outturned).

**ARCHDIOCESE OF GLASGOW**
**ST PETER'S SEMINARY KILMAHEW ESTATE CARDROSS**
**CONSERVATION ASSESSMENT BUDGET ESTIMATE**
**STABILIZED STRUCTURE (OUTTURNED/ TECHNICALLY UPDATED)**

STACE
QUANTITY SURVEYING

| REF | EXECUTIVE SUMMARY | COST (£/ft2) | COST (£/m2) | TOTAL (£) |
|---|---|---|---|---|
| 1.00 | MAIN BLOCK | | | 1,367,100 |
| 2.00 | SANCTUARY | | | 356,500 |
| 3.00 | TEACHING BLOCK | | | 237,200 |
| 4.00 | CONVENT BLOCKS AND KITCHEN | | | 224,200 |
| 5.00 | EXTERNAL WORKS TO IMMEDIATE SETTING | | | 254,900 |
| | | | £ | **2,439,900** |
| 6.00 | DEVELOPMENT ENABLING WORKS | | | 712,000 |
| | **ADD** | | £ | **3,152,000** |
| 7.00 | DESIGN FEES & CHARGES | | 18% | 567,400 |
| | | | £ | **3,719,400** |

Arithmetically Checked - Initials
Date of Issue

This Fixed Price Budget Estimate has been computed to reflect our view on construction market trends to the conclusion of the project as defined herein. We reserve the right to review this Estimate in the event that significant changes occur in the market

See Section 5.4 for details of this option

**ARCHDIOCESE OF GLASGOW**
**ST PETER'S SEMINARY KILMAHEW ESTATE CARDROSS**
**CONSERVATION ASSESSMENT BUDGET ESTIMATE**
**DEMOLITION**

STACE
QUANTITY SURVEYING

| REF | EXECUTIVE SUMMARY | COST (£/ft2) | COST (£/m2) | TOTAL (£) |
|---|---|---|---|---|
| 1.00 | MAIN BLOCK | 10.25 | 110.37 | 660,300 |
| 2.00 | SANCTUARY | 10.43 | 112.25 | 82,000 |
| 3.00 | TEACHING BLOCK | 8.70 | 93.61 | 102,300 |
| 4.00 | CONVENT BLOCKS AND KITCHEN | 11.45 | 123.24 | 59,900 |
| 5.00 | EXTERNAL WORKS TO IMMEDIATE SETTING | | | 575,700 |
| | **ADD** | | **£** | **1,480,200** |
| 7.00 | DESIGN FEES & CHARGES | | 12% | 177,600 |
| | | | **£** | **1,657,800** |

Arithmetically Checked - Initials
Date of Issue

This Fixed Price Budget Estimate has been computed to reflect our view on construction market trends to the conclusion of the project as defined herein. We reserve the right to review this Estimate in the event that significant changes occur in the markets as a result of international conflicts, etc.

See Section 5.6 for details of this option

## 10.6 Country Park

10.6.1 The costs presented below include all works required to form a new country park in association with the Consolidated Exhibit Option 1, and assumes a contract period of nine months. These costs do not take account of any reduced labour costs which may be available through Argyll & Bute Employability Schemes.

10.6.2 It will be appreciated that costs will vary slightly depending on whether the project is combined with works to the seminary (and on which option is adopted) or is organized as a stand alone project.

10.6.3 For details of the work content see chapter 8.4 Note that landscape works to the immediate setting of the seminary are included in the respective option costs noted in table 10.7.

| | COST (£) |
|---|---|
| | |
| FORMATION OF COUNTRY PARK | £1,405,000 |
| DESIGN FEES AND CHARGES | £252,900 |
| **TOTAL £** | **£1,657,900** |

To provide an overall project cost combine works to the seminary complex with formation of the country park, add the above total to any of the option totals noted in table 10.7

| | EXECUTIVE SUMMARY/OPTION | CONSOLIDATED EXHIBIT | HOLDING OPTION | RESTORATION | STABILIZED STRUCTURE TECHNICALLY UPDATED/OUTTURNED | DEMOLITION |
|---|---|---|---|---|---|---|
| 1.00 | MAIN BLOCK | £2,361,800 | £1,536,000 | £6,820,500 | £1,367,100 | £660,300 |
| 2.00 | SANCTUARY | £318,000 | £210,200 | £643,000 | £356,500 | £82,000 |
| 3.00 | TEACHING BLOCK | £290,200 | £258,300 | £1,106,100 | £237,200 | £102,300 |
| 4.00 | CONVENT BLOCKS AND KITCHEN | £242,500 | £166,500 | £656,200 | £224,200 | £59,900 |
| 5.00 | EXTERNAL WORKS TO IMMEDIATE SETTING | £249,900 | £146,400 | £402,900 | £254,900 | £575,700 |
| | **SUB TOTALS £** | **£3,462,400** | **£2,317,400** | **£9,628,700** | **£2,439,900** | **£1,480,200** |
| 6.00 | DESIGN FEES AND CHARGES | £623,200 | £417,100 | £1,733,200 | £439,200 | £177,600 |
| | **TOTALS £** | **£4,085,600** | **£2,734,500** | **£11,361,900** | **£2,879,100** | **£1,657,800** |

**ARCHDIOCESE OF GLASGOW**
**ST PETER'S SEMINARY KILMAHEW ESTATE CARDROSS**
**CONSERVATION ASSESSMENT BUDGET ESTIMATE**
**REVIEW OF ENABLING DEVELOPMENT COST PLAN**

STACE
QUANTITY SURVEYING

| REF | EXECUTIVE SUMMARY | TOTAL (£) |
|---|---|---|
| 1.00 | CONSTRUCTION COSTS (OUTTURNED). | 2,440,000 |
| 2.00 | COUNTRY PARK COSTS (OUTTURNED). | 1,222,000 |
| 3.00 | ENABLING DEVELOPMENT COSTS (OUTTURNED). | 3,009,000 |
| | **TOTAL SCHEME COST ESTIMATE (OUTTURNED) £** | **6,671,000** |
| | **LESS** | |
| 4.00 | SALES RECEIPTS (OUTTURNED). | 3,310,000 |
| 5.00 | NOTES | |
| 5.01 | Construction cost of 28 nr new residential dwellings NOT included. | |
| 5.02 | Assume inflation on sales figures mirrors that of construction industry allowances for tender price inflation. | |
| 5.03 | Allowance for annual receipts received from Country Park NOT included. | |
| 5.04 | CRGP original allowances for professional fees, planning application fees, building control fees and finance charges have all been adjusted upwards to reflect increased scope of works. | |
| 5.05 | Assume £65,000.00 costs expended up to June 2004 included in updated figures. | |
| | **ANTICIPATED FINANCIAL LOSS ON DEVELOPMENT £** | **-3,361,000** |
| | Arithmetically Checked - Initials | |
| | Date of Issue | |

This Fixed Price Budget Estimate has been computed to reflect our view on construction market trends to the conclusion of the project as defined herein. We reserve the right to review this Estimate in the event that significant changes occur in the markets as a result of international conflicts, etc.

10.8.1 The following costs associated with the enabling development are the updated and outturned costs based on the current planning application submitted on behalf of Classical House. (See illustrations in Chapter11). These costs include site clearance, construction of a new access road, bridge and roundabout off Carmen Road, a new road around West Lodge and mains services provision including sewage treatment. Also included are all site acquisition costs, professional fees and charges and sales and marketing costs. The sales receipts below are updated costs also based on the current planning application and include the receipts from the sale of the 28 house plots, south and west lodges, agricultural land and include assumed grant contribution.

10.8.2 The table (left) shows these figures together with the costs associated with the stabilized structure option and formation of the country park to give an overall estimated financial outcome of the current planning application scheme.

10.8.3 Note that the costs of building the houses themsleves, and the sale receipts of same, are excluded from the figures as it is advised that these will accrue to the private housebuilder and therefore will not contribute to enabling development funds.

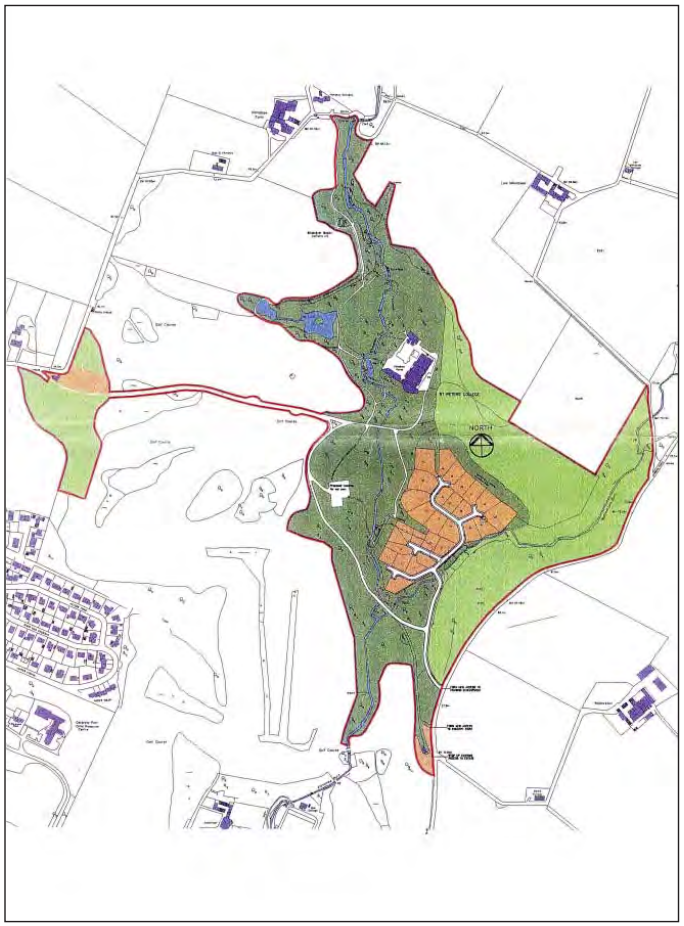
10.8.4 The tables below extract the costs and receipts from the enabling development (current scheme) as separate figures, showing a net of £301,000 yield. (See commentary in Section 11)

| | COST (£) |
|---|---|
| | |
| ENABLING DEVELOPMENT (COSTS) | £3,009,000 |
| **TOTAL £** | **£3,009,000** |

| | SALES RECEIPTS (£) |
|---|---|
| | |
| ENABLING DEVELOPMENT (RECEIPTS) | £3,310,000 |
| **TOTAL £** | **£3,310,000** |

# Section 11

Enabling Development



ARM Architects; Overall proposals for Kilmahew Estate
(Planning Application Drawings 576-301A Dated Aug 2003)


ARM Architects; Indicative Housing Layout
(Planning Application Drawing 576-301 Dated Aug 2003)

The above illustrations are taken from the current planning application to show the nature of the enabling Develpment proposed by Classical House. Note that the application scheme proposes formation of house plots and associated infrastructure only, and excludes design and construction of the houses themselves.

11.1 The predicament of St Peter's Seminary in its deteriorating state has naturally led to consideration of Enabling Development as a potential generator of funding to assist in the consolidation and/or rehabilitation of the property. This section of the report considers the implications of this possibility.

11.2 The problem which enabling development typically seeks to address is that the cost of maintenance, major repair or conversion of a building is greater than its resulting value to its owner, or in the property market. This means that a subsidy to cover the difference – the 'conservation deficit' – is necessary to secure its future. The concept of enabling development is that development which would otherwise be contrary to established planning policy may be permissible if it can be demonstrated that the benefits it would bring to securing the future of a heritage asset at risk outweigh the harm that would be caused by the development itself. The likelihood of some harm resulting is intrinsic. The issue to consider is whether the benefit (and principally the financial benefit) is sufficiently substantial and secure to compensate for it.

11.3 Development that brings heritage assets into optimum beneficial use which is in accordance with policy as defined in the relevant statutory development plan is not 'enabling development' in the technical meaning of the term. (The term 'enabling development' was confirmed in England as a legitimate planning tool in 1988 in a Court of Appeal judgment upholding a planning consent which authorized office development as a means of generating otherwise unobtainable funds for the improvement of the Royal 0pera House.)

11.4 The circumstances, form and scale of enabling development can vary widely, and it should be noted that it need not even be located at the site of the heritage asset to be benefited, but can take place on a remote site in the same ownership.

11.5 Enabling development's defining characteristics are that it is contrary to national, regional or local planning policy and that the gain that would accrue from contravening such policies would subsidize a public benefit that could not otherwise be achieved. For this reason financial issues are central to its consideration. Criteria for the application and acceptability of enabling development are clearly defined in conservation policy and guidance, and these are briefly summarized below. (Refer: 'Enabling Development and the Conservation of Heritage Assets', English Heritage, 2001, p.14)

- The enabling development will not materially harm the heritage values of the place or its setting, and also meets all of the following criteria
- It avoids detrimental fragmentation of management of the place
- It will secure the long term future of the place, and where applicable, its continued use for a sympathetic purpose
- It will meet the costs of resolving problems arising from the inherent needs of the place, rather than the circumstances of the present owner, or the purchase price paid
- Sufficient financial assistance is not available from any other source
- It is demonstrated that the amount of enabling development is the minimum necessary to secure the future of the place
- Its form minimizes harm to other public interests, particularly conflict with other planning policies
- The public benefit of such enabling development decisively outweighs the disbenefits of breaching other public policies

11.6 It may be inferred from the above criteria that the default presumption is against enabling development. However, if it is decided that a scheme of enabling development meets all the above criteria, the guidance goes on to specify that planning permission should only be granted if -

- The impact of the development is precisely defined at the outset – normally requiring the granting of full rather than outline planning permission
- The achievement of the heritage objective is securely and enforceably linked to it
- The heritage asset is repaired to an agreed standard, or the funds to do so are made available as early as possible in the course of the enabling development, ideally at the outset and certainly before completion or occupation
- The planning authority closely monitors implementation to ensure the obligations are fulfilled.

11.7 The current Planning Application scheme for enabling development

The current listed building application in respect of works to the seminary buildings and other elements of the estate submitted by The Archdiocese of Glasgow and Classical House Ltd is linked to a planning application which includes proposals for enabling development in the form of the provision of infrastructure to serve a series of 28 individual house plots for

subsequent development by an independent housebuilder. The scheme includes construction of a new site entry road from Carman Road and new access roads to serve the various plots, which would be located within the former walled garden and orchard, on the old tennis court and, further north, onto a currently open area of hillside that formed part of the East Park of Kilmahew House, these areas forming what has been identified on historic maps as The Triangle of Milndovan. (See Appendices 12.1 Site History, and 12.2 Archaeological Assessment Report.) It should be noted that the proposal includes only the formation and marketing of the house plots and associated infrastructure, and excludes design and construction of the houses themselves. It is proposed that this would be undertaken by a private housebuilder, to whom accordingly the proceeds of the property disposals would also accrue.

11.8 The application also includes for the separation and private disposal of the two original gatehouse plots, with the Kilmahew estate entrances being amended accordingly; the west entry being re-located slightly north of its existing position to skirt the gatehouse garden, the south entry being reformatted as a site road branching off the new vehicular entrance on Carmen Road, as noted above. (See illustrations of proposals by ARM Architects, drgs 576-301/301A).

11.9 Our brief includes the requirement (refer Appendix 12.8, Q9) to compare the amount of funds raised by this scheme of enabling development with 'the costs of consolidation established by this exercise' – (ie. the Stabilized Structure Option) - to identify any shortfall, and these figures, which have been updated to reflect current costs and scope of work, are reported elsewhere in this study. (See Section 10 – Review of CRGP Cost Plan). According to policy guidance it would therefore be necessary for a determination to be made as to whether the net funds yielded from this proposal are sufficient to pass the financial test indicated above – ie. "meeting the costs of resolving problems arising from the inherent needs of the place, etc." The figures reported in Section 10.8 confirm that this is not the case.

11.10 Decision makers will likewise need to determine whether the proposed scheme meets the series of test posed by the criteria.

11.11

1. Will the enabling development materially harm the heritage values of the place or its setting ? The proposed enabling development would occupy the promontory above the confluence of Kilmahew

and Wallacetown burns, within the former walled garden, on the tennis court and across part of the East Park. It is understood that the planning and conservation authorities have agreed that these are the most suitable areas on the estate if enabling development is to be considered at all. At the same time, as the above locations have all been identified in the Assessment of Significance (Chapter 3) and Archeological Assessment Report (Appendix 12.2) as having heritage values, whether in terms of archeological interest, evidence of their former use (in the case of the walled garden the remaining glasshouses – which would be removed - and evidence of the possible previous existence of a medieval settlement, in the case of East Park, an undisturbed arable field) or as part of a significant landscape view, it will be necessary to estimate the 'material harm' to these values. Insofar as these areas represent supporting elements of the former Kilmahew House, aspects to consider would also include the extent of impact on the integrity and understanding of the estate as a whole, notwithstanding the loss in 1995 of the original house itself. (Refer : Historic Scotland - Memorandum of Guidance 1998, section 8, et.al.) In terms of visual impact it would be necessary to assess the effect of development on the promontory, and how effectively development inside the walled garden would be contained by the enclosure itself. The visual impact of development in the East Park would need to be assessed in the light of its potential concealment by existing or new planting.

11.12 Issues relating to loss of habitat and biodiversity (parts of the site being registered as a Site of Importance for Nature Conservation) would also have to be taken into account, though commentary in the application landscape proposals refers to measures to address this. The introduction of a new estate access arrangements (noted above) would need to be evaluated in relation to impact on the significance of the original estate entrances being marked and 'guarded' by its two lodges.

11.13 The form and architectural character of the development itself - other than what may be interpreted from the series of building footprints on the proposed layout plan - is difficult to evaluate given the exclusion of detailed architectural design from the application. It would however be relevant to assess whether the form and character of proposed dwellings are specifically tailored to the circumstances of their respective settings, which themselves have a variety of differing landscape characteristics.

11.14 The overall test to be met is whether the benefits claimed for the development would outweigh any material harm. The evaluation would entail consideration of the extent of compensating financial benefit in relation to the totality of the harm. This is reported in the cost section of this study, (Section 10), but see also below, 9.

11.15 2. Will the enabling development also meet all of the following criteria ? These are considered individually in turn, as follows.

11.16 3. Will it avoid detrimental fragmentation of management of the place ? The development would segregate and privatize three sections of the Kilmahew Estate from the estate as a whole (ie. the area of the new housing together - which in turn would presumably become further subdivided into its constituent plots – together with the plots of the south and west lodges). It is also suggested that the country park is transferred to separate ownership from that of the seminary complex itself, (respectively to the Cardross Trust and the St Peter's Building Preservation Trust, Supporting Planning Statement, para 7.9, p.47). Whether this fragmentation would be detrimental (or conversely beneficial) to 'management of the place' would need to be established through detailed assessment of the capacity of the prospective owners to undertake their respective responsibilities and confirmation of the detailed operational arrangements. One aspect of this fragmentation which requires specific clarification is how the introduction of the new housing would provide a 'stabilising and security presence' as is claimed, (Supporting Planning Statement, para 8.5, p.49) when it is to be effectively contained within its own discrete enclave.

11.17 4. Will it secure the long term future of the place, and where applicable, its continued use for a sympathetic purpose ?
The contention of the Supporting Planning Statement (June 2004) that the 'limited amount of enabling development is considered to be sufficient to facilitate not only the stabilization of St Peter's College but also the rehabilitation of Kilmahew Estate as a Country Park' (Appendix 4 3.04) would need to be tested by the comparison of cost estimates for the stabilization works with funds potentially raised by the enabling development, as reported elsewhere in this study. The position on this is as already stated, but it is noted here that policy would not justify the use of enabling

development yields for the rehabilitation of the Country Park only, with no benefit to the listed buildings.

11.18 5. Will it meet the costs of resolving problems arising from the inherent needs of the place, rather than the circumstances of the present owner, or the purchase price paid ? This test can be considered by reference to the Cost Summary, Section 10. An attendant concern described in the Policy Statement (p.8) highlights cases where the enabling development 'delivered the harm but not the benefit, leaving matters worse than before'. This indicates it would be necessary to establish whether sufficient funding to make up for any shortfall from the development is absolutely secure before any commitment is made on the development itself.

11.19 6. Is sufficient financial assistance is not available from any other source ? At the time of undertaking this study it is not known whether sufficient financial assistance is available from any other source or combination of sources. The Archdiocese has advised of various endeavors over the years to attract interest in the buildings including the potential for funding from Historic Scotland. Its inclusion in the Scottish Civic Trust Buildings at Risk Register as a means of indicating the need for funds is noted elsewhere in this report. Part of the purpose of this study is indeed to re-stimulate interest in St Peter's Seminary and its current predicament, and encourage systematic enquiry to establish whether financial assistance may be available from any other sources. The recent inclusion of St Peter's Seminary on the World Monument Fund Watch List 2008 is surely a new catalyst in this context, which needs to be furthered explored.

11.20 7. Has it been demonstrated that the amount of enabling development is the minimum necessary to secure the future of the place ? This test is intended to limit the extent of enabling development to that which is just sufficient to secure the heritage asset and thus prevent excessive development for its own sake. As the amount of enabling development that is being proposed is insufficient to secure the future of the place it is clear that the minimum criterion is not applicable.

11.21 8. Its form minimizes harm to other public interests, particularly conflict with other planning policies. To deal with this test it would

first be necessary to identify the 'other public interests' that might be harmed, and then consider the extent of any such harm. In this case an aspect to be evaluated would be the segregation of an area of approximately 4 hectares, which would otherwise remain a part of the country park, no longer contributing to the public amenity. The extent to which the proposed development impacted on areas of the estate that did remain open to the public would also need to be determined through evaluation of the design in its context. Issues to be examined would include questions of intervisibility of the new housing development with its historic context and its impact on any significant views, including those to and from the listed buildings, the efficacy and compatibility of new planting, retention of historic pathways including, for example, the route over the northern side of the East Park linking Kilmahew with Wallacetown Glen, etc. These matters and various suggestions for mitigation are discussed in some detail in the Supporting Planning Statement, Appendix 4. It would be for the local planning authority to evaluate the proposal in the light of any other relevant planning policies.

11.22 9. <u>The public benefit of such enabling development decisively outweighs the disbenefits of breaching other public policies</u>
The extent of dereliction of St Peter's has made the subsidy test especially severe in achieving sufficient funding to deliver 'the public benefit' of repair and restoration of the heritage asset.
If the anticipated yield could be shown to completely or very substantially meet the repair costs then it might be argued that the public benefit of the enabling development decisively outweighed the disbenefits. The question as to whether a lesser yield would still constitute a justification for enabling development could only be answered by weighing the costed benefit against the perceived harm.

11.23 If it is decided that a proposed scheme of enabling development meets all the above criteria, the guidance goes on to specify that planning permission should only be granted if -

11.24 <u>The impact of the development is precisely defined at the outset – normally requiring the granting of full rather than outline planning permission.</u>
As noted above, the current application proposals relate only to the provision of enabling infrastructure and formation of 28 building

plots and exclude detailed design of the intended dwelling houses themselves, responsibility for which it is understood would be left to an (as yet unnamed) private housebuilder. (Ref. Supporting Planning Statement, para 4.4) The congruity of the proposal with its setting is the subject of correspondence between the planning authority and the applicant's agent - (ref. Argyll & Bute letter, dated 6th September 2006) It is therefore not clear from current available information as to how the quality of the proposed enabling development is to be effectively secured as part of agreeing the predisposing principle of the proposed enabling development as would be necessary in order to meet this test.

11.25 The achievement of the heritage objective is securely and enforceably linked to it

The Supporting Planning Statement makes reference to the establishment of a Section 75 Agreement in relation to the proposed enabling works. Various considerations would need to be checked and safeguarded including that the agreement is sufficient, enforceable, and binding upon all the relevant parties. In the latter connection a typical consideration in such circumstances is that the obligation to deliver the heritage benefit 'runs with the land' to ensure that delivery of this benefit is not lost through transfer/s of ownership that may be part of the enabling development process.

11.26 The heritage asset is repaired to an agreed standard, or the funds to do so are made available as early as possible in the course of the enabling development, ideally at the outset and certainly before completion or occupation

An 'agreed standard' of repairs to the heritage asset has yet to be established. It may be noted that these requirements should also be secured through legal agreement to ensure delivery of the heritage benefits prior to progress or appropriate phasing of the commercial development and also to ensure that the required outcome will be guaranteed through a surety in circumstances of default.

11.27 The planning authority closely monitors implementation to ensure the obligations are fulfilled.

It is assumed that in the event of a scheme for enabling development being approved the local planning authority will mobilize sufficient resources to satisfy itself that all the stated obligations and requisite works are carried out to an approved standard.

11.28

**Important Note**

Whilst the above commentary regarding enabling development is specifically related to the proposed scheme submitted with the current planning application, it should be noted that the concept of enabling development is generic in nature and that the various tests examined above would need to be applied to other potential schemes not yet formulated or specifically covered by this report.. Aspects to be considered would include other opportunities for potential enabling development both on site and in other potential location/s (if any) within the Archdiocese's ownership. Any such schemes would of course need to be considered in relation to their potential impact on the heritage asset having full regard to the various heritage values identified. It could also be noted here that consideration of such development should also ideally include types that might complement a scheme for re-use of the seminary complex, providing for functions that might be difficult to assimilate within the listed buildings themselves.

In other words Enabling Development, if appropriately and imaginatively conceived, may offer positive benefits to the conservation of the historic asset.

# Section 12
## Appendices

Blaeu Atlas, based on Pont's map, 1654

Herman Mill's map, 1745

Charles Ross's map, 1777

John Thompson's map, 1820

John Ainslie's map, 1821

1st Edition OS, 1854-8

## 12.1 Site History

12.1.1 ***Early History***

The name "Kilmahew" is derived from the chapel of St Mahew (or Mochta), shown on a piece of land called the "Kirkton of Kilmahew" on early maps close to the Clyde estuary. The chapel is said to have existed since earliest Christian times[1].

12.1.2 The first documented reference to a Napier in Scotland is in two charters of Malcolm, Earl of Lennox, who lived at the end of the 13th century. This was John Napier, granted by one of the charters, -"all that quarter of lands called Kylmethew lying between Muydugwen and Archerreran." The full extent of the lands can not be determined exactly at this time, but a "quarter-land" was usually a quarter of the area which could be tilled by eight-oxen plough in a year, usually taken to be 104 Scots acres, thus a "quarter land" was about 26 Scots acres (32.5 Imperial acres or 13.26 hectares).[2]

12.1.3 In the 14th century William Napier added lands to his estate, which included the chapel. By the mid-15th century the chapel must have been in ruins because it is recorded that it was rebuilt in 1467 by the then Laird of Kilmahew, Duncan Napier.[3]

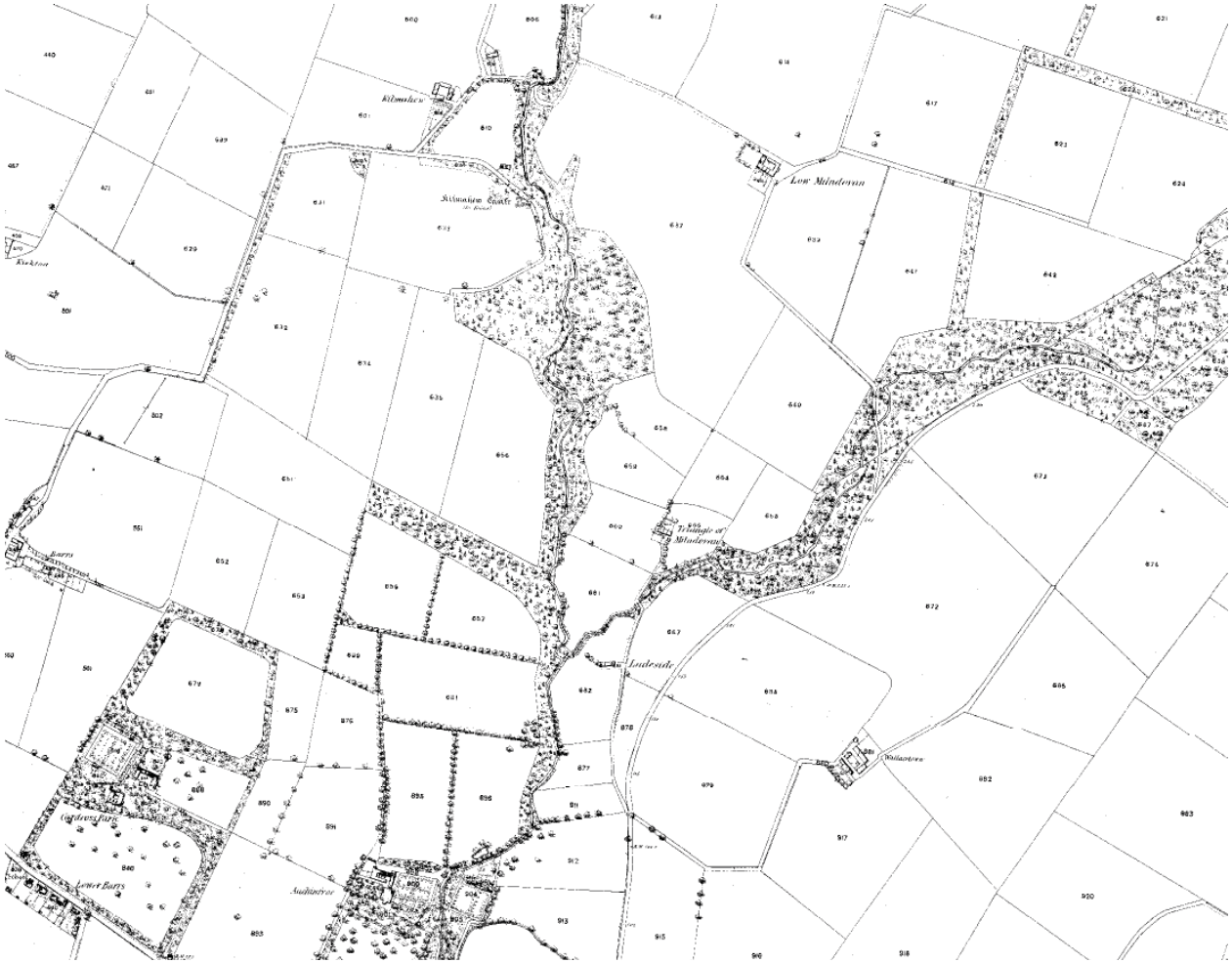
12.1.4 Some modern-day accounts suggest the tower house or keep known as "Kilmahew Castle"was built in the 15th century and some the 15th and the 17th century. An Archaeological Assessment prepared for the purpose of this report concluded that the first development phase probably dates from the 16th century, with subsequent major phases taking place in the mid-late 18th century and late 18th – early 19th century. Refer to Archaeological Assessment for more detail.

12.1.5 Kilmahew Castle does not appear on early county maps nor is it recorded in any early accounts. Modern-day descriptions seem to be based on visual surveys. However, it seems a natural location for a "lookout". A large and rather grand settlement surrounded by parkland and befitting a castle is clearly shown situated between Kilmahew and Wallacetown burns[4] as early as the Blaeu map, 1654. This could either refer to the above castle, or rather the large 'emparked' settlement that is shown on the Roy's map, c.1750s, see below.

12.1.6 ***Eighteenth Century***

George Maxwell Napier[5] inherited Kilmahew in 1694 and it is his


General Roy's map showing 'indication of emparked' landscape c.1750's

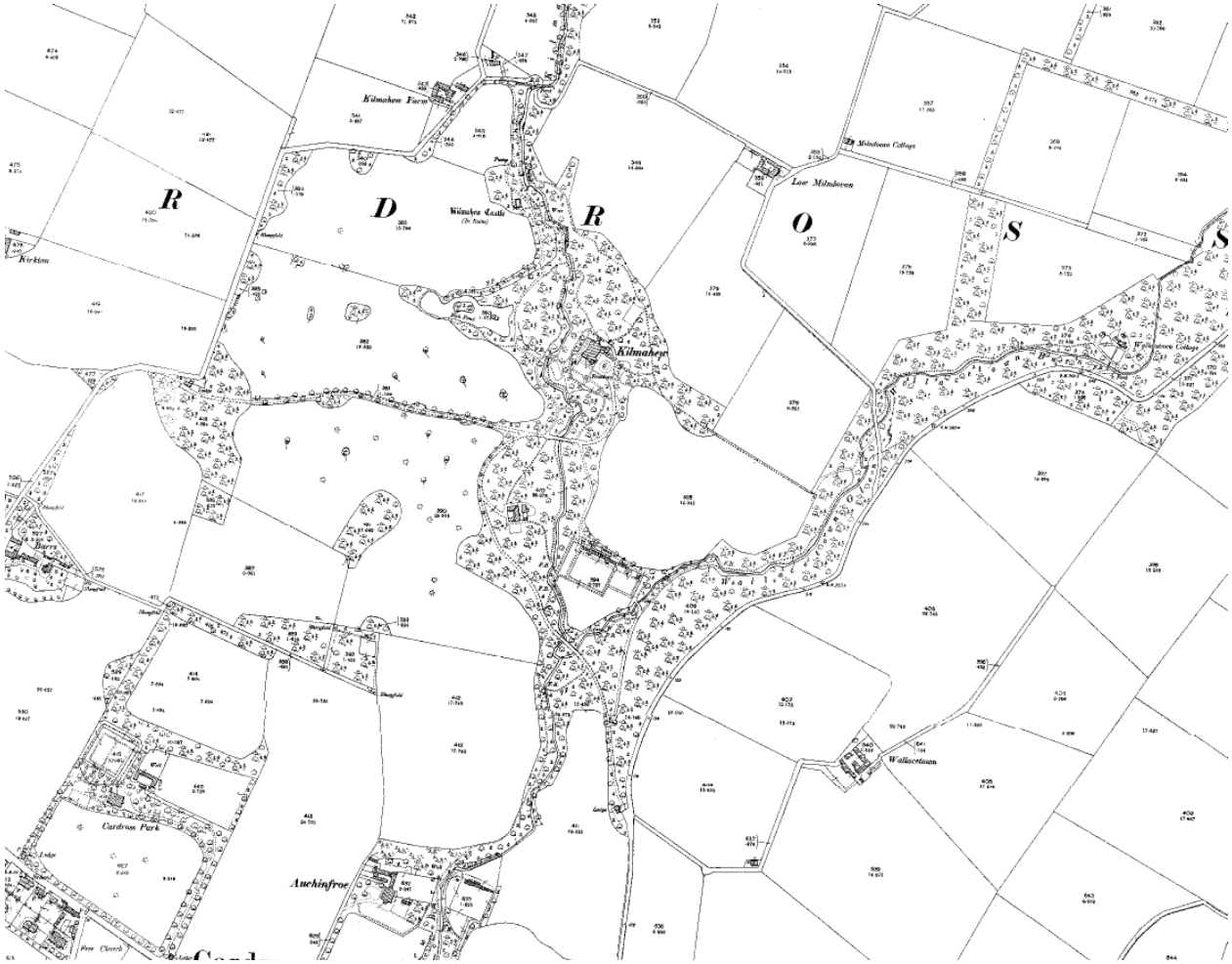



1st Edition Ordnance Survey 1854-8

name that is associated with the decline of the Napiers of Kilmahew. He was unusually extravagant and started to sell off lands to settle his debts as early as 1705, and again in 1721 and 1735. His favourite horse is supposedly buried near a waterfall in the glen of Kilmahew. The Archaeological Assessment states that although is it tempting to think that he was responsible for the aggrandisement of Kilmahew Castle, there is no evidence for this at present.

12.1.7 In Roy's map, c.1750s,the location of the two burns is clearly recognisable, as they join before flowing south to the Clyde estuary. A rectilinear 'emparked' area, ie. enclosed by park paling, is shown to the north of the 'triangle' created by their union. A house or "castle" occupies a central position within the enclosure surrounded by formal landscape. North of the paling lies an informal settlement called "Milldovan". (Exact spelling is difficult to read – could be Milldivan?) In later maps this house is referred to as the "Triangle of Milndovan".[6] The relationship between the "Triangle of Milndovan" and the formal 'emparked' area in Roy's map, c.1750s suggests that the location of a second Napier residence lies just to the north of the existing 19th century kitchen garden, at the southern end of the east park. This would seem quite likely, given that the area appears to have been levelled out to form a terrace and its relatively defensive witha magnificent panorama of the Clyde estuary, now difficult to appreciate due to the vegetation. Also, in the 1880, David Murray describes some old stones inscribed with the date 1732 found in this vicinity. Once again the Archaeological Assessment concludes that without intrusive investigation it is difficult to confirm the location of this settlement.
When George Napier died in 1744 all of his children had predeceased him, so that which he did not squander passed, after some contestation to Jean Smith (Napier), a distant relative via the line of John Maxwell (George's second brother).

12.1.8 ***Nineteenth Century***
Two generations later, the eighteenth Laird of Kilmahew William Napier, an American citizen,[7] decided to make up and sell the titles to what little remained of the estate in 1820. Mr Sharp[8] bought the estate, and promptly sold it to his brother Alexander Sharp. Arthur Jones[9] records that Alexander Sharp had the "castle" altered to make it habitable,however the Archaeological Assessment suggests that the last major work to Kilmahew Castle was probably earlier than this. Although all of his children are recorded as born here, the family's principal residence was elsewhere.




2nd Edition Ordnance Survey, 1896-1900

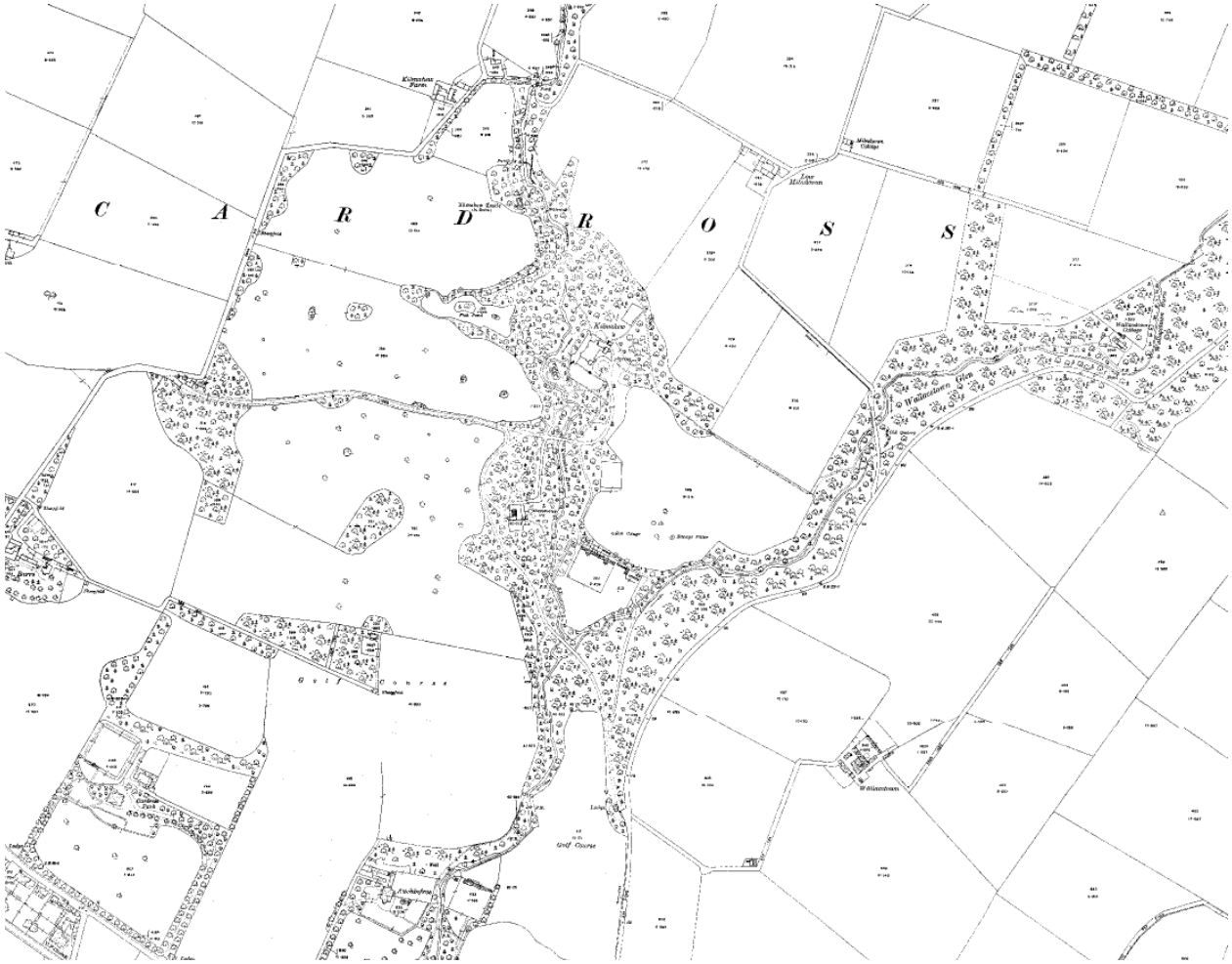
12.1.9 In John Thompson's map, 1820 Kilmahew is referred to as "Kilmahu Cas. Ruins". In 1845 the Statistical Account refers to a "mansion-house" at Kilmahew, "now abandoned". Once again it is tempting to suggest that the latter might be a reference to the settlement visible in the Roy map.

12.1.10 In 1848 James Burns acquired Bloomhill, which lies due south of Kilmahew. He was drawn to the area for his wife's personal reasons. The Statistical Account states that the recently built Bloomhill House was "perhaps the most beautiful villa on the Clyde". Over the next decade or so, Burns gradually bought up what is believed to be original estate of Kilmahew in no less than eight portions. Burns had made his money in steam navigation and in conjunction with his brother George, was one of the founders of the Cunard[10] shipping line, a company of international repute. However, in 1860 Burns lost his wife and from that date till the time of his death he lived with his only son, Mr John William Burns.

12.1.11 Between 1865-1868 Burn's son, John William Burns commissioned John Burnet to design and build a new mansion house at Kilmahew. It was thought to be a fine example of the Scots Baronial style at a time it was merging with the Jacobean type. It is not considered to be Burnet's best[11].

12.1.12 The mansion house is first shown on the 2nd Edition OS map, 1896-1900 surrounded by a broad terrace and formal garden. The house was sited in a sheltered situation to the east of Kilmahew burn. The chief entrance was from the east where a turning circle opened on to sloping parkland further east. Built from greenish grey stone hewn from a local quarry, its peaked gables and lofty turrets, with panoramic views from the upper storeys, could be seen from the Clyde rising above the wooded glens. The house had three reception rooms, 21 bedrooms and dressing rooms, a billiard room and a library, famed for a fine collection of family portraits and rare books.

12.1.13 After his father's death Burns began an extensive scheme of improvements including road building, fencing and draining. He also continued to add land to the estate, including the land that surrounded the old chapel. Boundaries were removed and the surrounding farmland was planted as parkland. There were two lodges, West Lodge and South Lodge, a stable complex with coach house and a large kitchen garden with glasshouses, bothies etc. The main




3rd Edition Ordnance Survey, 1918-1922

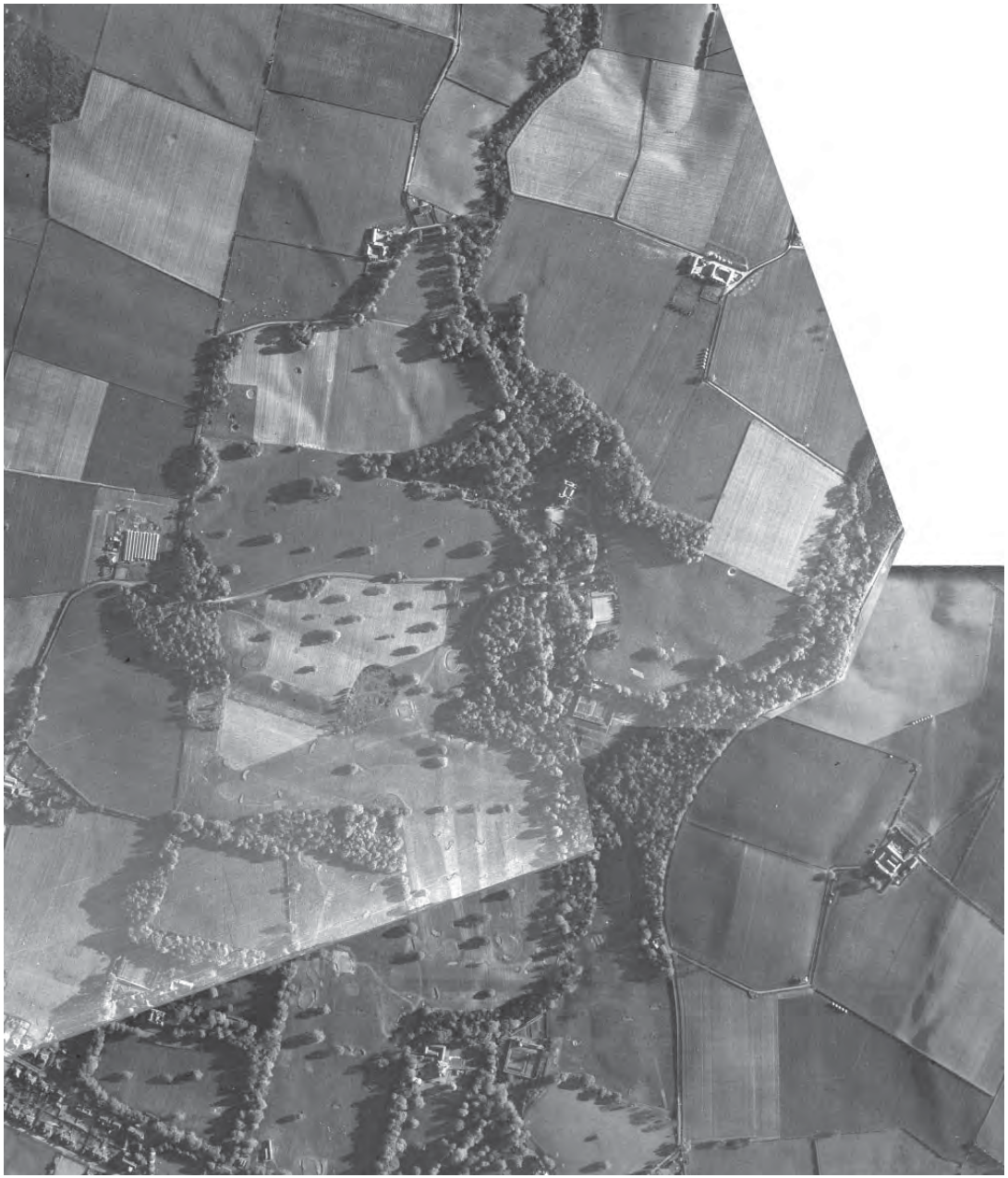
approach was via a new drive from the west over a new stone Gothic bridge. The south approach drive crossed a double stone bridge spanning the two burns. An intricate network of paths, including at least 11 foot bridges enabled the visitor to explore the two glens. Features included a new artificial lake, curling pond, and of course the ruins of Kilmahew Castle or keep, by this time serving as an architectural curiosity or folly that must have held huge attraction to Victorians. The glen was left in its natural state, its banks embellished with ornamental trees and shrubs that accentuated its picturesque qualities, some of which were said to have been collected by Burns thanks to his Cunard connections[12]. In places, the existing wooded areas were expanded to screen new developments such as the lake and stables so that from most open areas everything appeared swathed in woodland. The family opened the grounds regularly to visitors and the gardens were much admired. John Fleming was gardener throughout much of the Victorian period, David Morris, gardener from towards the end of the last century.

12.1.14 Between 1871-2 Cardross Free Church, commissioned by Burns and his late father, was built to designs by John Burnet. In 1875 Burns acquired the estate of Cumbernauld.

12.1.15 ***Twentieth Century***

In 1900 John William Burns' son, John William Burns inherited the estate but eight years later leased it to Claud Allan. In 1919 the estate was advertised for sale. At this time it amounted to 1,552 acres which was to be sold in lots and included the old castle or keep, the mansion house and grounds, Asker Farm with Asker Hill rough pasture and plantation, Kilmahew Farm, Kilmahew Cottages, Low Milndovan Farm, Auchenfroe House and grounds with about an acre of woodland and a cottage, and Bloomhill House and grounds. Allan bought the estate[13].

12.1.16 3rd Edition Ordnance Survey 1918-22 shows the modernisation of Kilmahew, probably by Allan following his purchase. This included a sewage plant, in the vicinity of the 'Triangle of Milndovan' with a sun gauge shown to the west of it; stables, that appear to be partially glazed and a gasometer which replaced the coach house; and a new, more direct road linking the stables to the house. Views were opened up to east of house whilst the woodland was extended eastwards into east to screen new tennis courts. The map also shows the farmland in the south west laid out as a golf course in 1895.



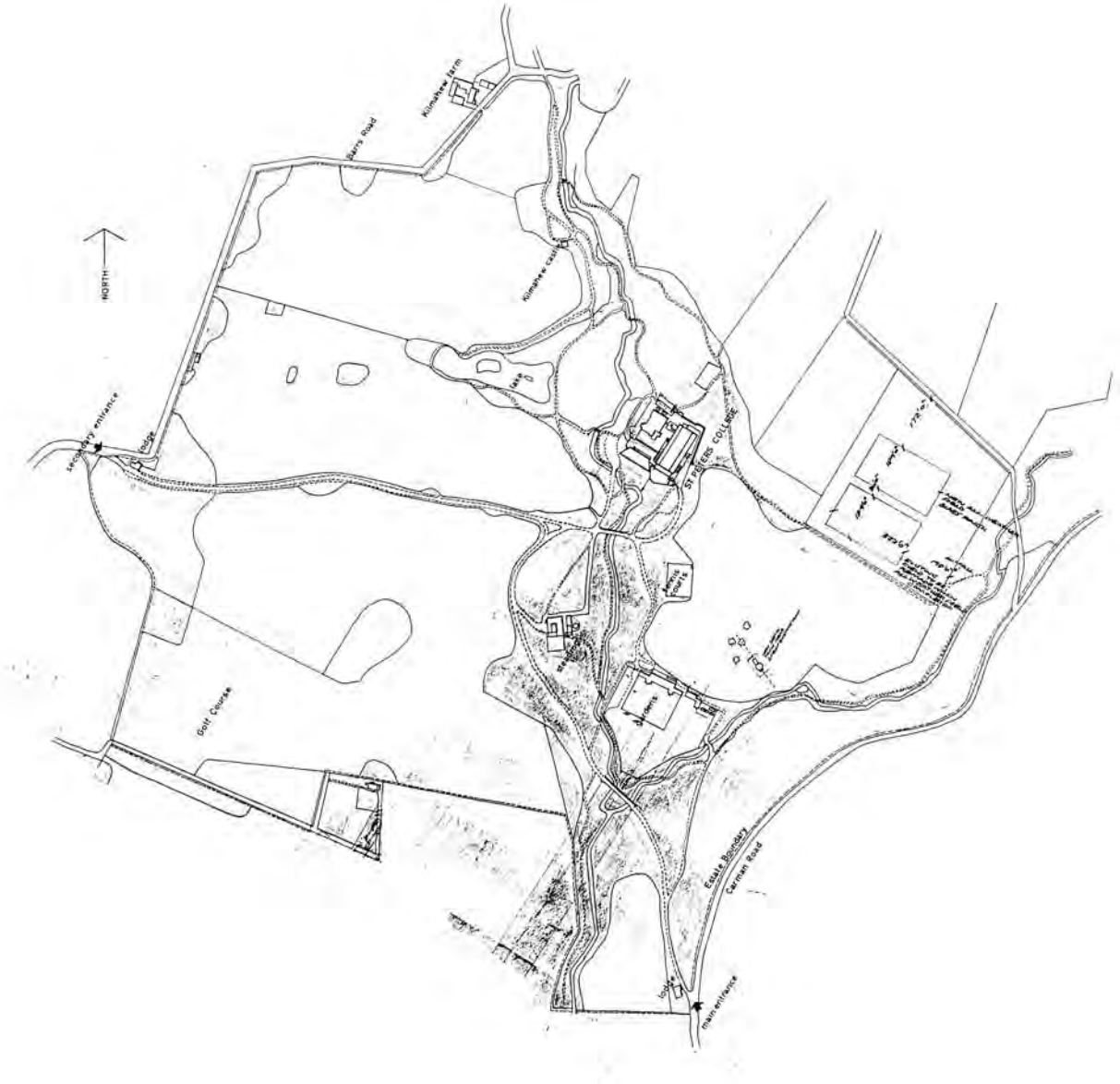
Aerial photograph, 15 May 1940

12.1.17 The gardeners continued to be well maintained and appreciated. At this time, the head gardener was Mr Frank G. Dunbar, relatively well know for his contributions in *The Gardeners' Chronicle*. In 1938, there is an account of a visit to the gardens in this same publication, which describes the gardens in some detail noting that:
'An interesting feature of the garden is that the natural effect has been closely adhered to, even to the extent of planting, for the most part, only shrubs and trees as are in true keeping with the whole conception.'

12.1.18 World War II inflicted considerable damage. An Aerial Photograph of 1946 shows the parkland and surrounding area pockmarked with bomb sites. It was always going to vulnerable given its proximity to the Clyde. Much of the west park is under agricultural production.
It is possible to see the original track that led to the tower house. Shading suggests a western spur of Kilmahew burn visible on some of the early Kilmanew maps.
The Archdiocese of Glasgow acquired the estate in 1948. An article in an in-house magazine[14] confirms that there were still magnificent views across the whole stretch of the Clyde from Dumbarton to Dunoon at this time, and suggests that both glens were planted with ornamental trees and shrubs. In spring, the glens were covered in a carpet of snowdrop and daffodil, narcissus, primrose and bluebell.

12.1.9 St. Peter's College came from the neighbouring property of Darleith, and having settled down there looked around for means of expansion and for increasing accommodations. The house at Darleith was given over to the students of philosophy and Kilmahew was reserved for the theological students. The compact, vertical plan of Kilmahew house was not so easily adapted to the requirements of college life as the much rambling, horizontal plan of Darleith.

12.1.10 In 1953, the Archdiocese approached Gillespie Kidd and Coia with whom they already had a professional relationship, to consider an extension to Kilmahew. The diocese required accommodation for 115 students; classroom; library; dining area; chapel; convent block; and swimming pool. The swimming pool was later deleted form the brief, and the accommodation reduced to 100 trainee priests. The diocese introduced Father David McRoberts to Coia, who had developed a scheme to extend the existing house. McRoberts proposal included a new sister's wing to the north, a library and dining room to the north west and a students block to the south west. Coia and McRoberts




Gillespie Kidd & Coia Site Plan, 1961

worked together under direct orders from the diocese to develop McRoberst's scheme. This scheme was eventually shelved due to financial commitments of the diocese. When the diocese came to review the scheme again, Gillespie Kidd and Coia had evolved and Isi Metzstein and Andy Macmillan had joined the practice. In 1959 a completely new design was accepted developed in 'close and exclusive collaboration with the Archbishop-not with anyone else, just the Archbishop himself.' Gillespie Kidd and Coia provided drawings to the structural engineer in 1959. The proposals were further developed with certain changes made and it was anticipated that construction would commence in 1961 and would be completed in the Spring of 1963. Enabling works of the construction of a massive new retaining wall were undertaken by Hunter & Clark and begun in April 1961 and in June 1962 the firm of James Laidlaw & Sons, accepted the main contract for the project and agreed to complete in two years. After significant delay, due to weather, poor ground conditions requiring redesign and additional work, the students and staff finally took possession of the new college on October 1st 1966. The inauguration ceremony and solemn opening was held on St Andrew's Day 1966. The last internal finishing works were completed in 1968.
The college was only occupied for 14 years, as the diocese took the decision to close St Peter's Seminary in 1979 and it finally closed in 1980. The reasons attributed to the closure of the seminary are; changes to the curriculum as a result of the Second Vatican Council, decreasing numbers of ordination, financial difficulties of the church and the perceived defects of the building.

12.1.11 In 1983 the church decided to use the buildings as a drug rehabilitation and detoxification centre, which was run by the Church social services department and run for five years. The centre was then closed in 1987, due to ongoing problems with the deterioration of the building fabric.

12.1.12 The diocese submitted several application for demolition all of which were refused. Since then a series of planning and listed building application have been submitted and refused. See detailed chronology.

12.1.13 Despite attempts to secure the buildings effectively, extensive vandalism and theft have occurred. Kilmahew House having suffered two fires left the house in a dangerous condition and was subsequently demolished in 1995.


Current ordnance survey map

In 1993 the Secretary of State listed the Coia Buildings as of special architectural importance, Category "A".

(Endnotes)

1. 'Kil' suggests its of Celtic origin.
2. *www.napier.ac.uk/depts/clan_napier*
3. The chapel was not used after the Reformation and again fell into disuse. It was repaired and refurbished in 1955 and reopened and rededicated by Archbishop Donald Campbell of Glasgow. *www.napier.ac.uk/depts/clan_napier*
4. Early maps are confusing, as the two burns, Kilmahew and Wallacetown, appear independent of each other.
5. George's mother Margaret Napier married Patrick Maxwell of Newark and George was their first son. Under the conditions of 'entail', assumed the name and arms of Napier of Kilmahew.
6. 1st Edition Ordnance Survey, 1864-5 and visible but not labelled in the 1st Edition Ordnance Survey, 1854-8 (small scale)
7. His father, Alexander emigrated and settled in Virginia c.1800. However, there were Napiers still living in Cardross in the latter half of the 20th century.
8. Mr Sharp was married to William Napier's sister
9. *Cardross, The Village in Days Gone by,* p.82
10. It is interesting to note that he would have been connected with Robert Napier (1791-1876) one of the most eminent, and probably the most successful of the Kilmahew Napiers who developed a new steam engine for ships which was so successful that between the years 1840-65, his firm furnished the entire Cunard fleet with engines. He was partnered in his business by this cousin, David Napier, also an eminent marine

# Kilmahew Castle and Estate

*Cardross, near Helensburgh, Argyll and Bute*

## Analytical notes (June-July 2007)

### *1. Introduction*

The following assessment was undertaken as part of a wider appraisal of the Kilmahew Estate and the ruined remains of the A-Listed modernist St Peter's Seminary, Cardross. The present assessment was undertaken on site by Tom Addyman between 20 June and 4 July. The work was organised in close association with Charlotte Maclean, landscape consultant to the project.

### *2. Analytical Assessment of Kilmahew Castle*

#### *i. Introduction*

Kilmahew Castle, the ancient seat of the Napiers of Kilmahew, occupies a localised area of level ground on the W side of the Kilmahew Burn, which at this point forms a substantial ravine (NGR NS 3516 7866). The castle overlooks gently downwards-sloping ground to the S and SW; a slight gully, a probable former burn course runs from NW to SE skirting the W side of the castle site. This, seen as a prominent crop-mark feature on wartime aerial photographic coverage, may have contributed to the past defensibility of the site. At least in its later period of use it seems that the castle may have been accessed by an approach from the N, running along the upper side of the Kilmahew Burn.

*MacGibbon and Ross : view from the NW (1889)*

As it stands today the major portion of Kilmahew Castle consists of a rectangular tower house that is of four full stories rising to a parapet. All four walls are almost entire to their wall heads. In plan the tower is aligned N/S, measuring 14.00m by 7.63m. The building however comprises a number of individual phases that, in addition to the early fabric, also include a substantial rebuilding at the end of the 18th century, the majority of the S and W walls being of this period.

#### *ii. Early castle remains*

The surviving early walling of the castle, to the E, N and NW, is for the most part of sandstone rubblework construction, the sandstone employed generally being of deep pinkish to purple-brown hue; there is also occasional occurrence of a much blonder sandstone. Generally there is relatively little dressing of the rubblework. However the dressings themselves – quoins and dressings around openings - are well detailed and regularly cut with relatively fine joints. The quoining to SE, NE, and NW is all very regularly cut, long tails extending back.

In contrast to the masonry elsewhere the lower E part of the S wall and the lower southern part of the E wall there are areas of walling that are largely composed of small whin boulders. In both areas this masonry fabric rises up to between 1.0m and 1.5m in height. It is possible that this is a remnant of an earlier construction.

Midway along the foot of the E wall, slightly offset to the N, are three or four small projecting boulders that seem to have formed part of a footing course. These also appear to be of whin or some metamorphic rock.

The walls rise up to a wall head that is detailed with a continuous corbel table supporting in turn continuous lintelling. The individual corbels are rounded below with a small fillet above, the lintel above is similarly detailed but less substantial. The parapet detailing survives best to the NE with further fragments remaining at the very NW. A further well-preserved section occurs at the S end of the E wall. This runs to a bartizan turret at the SE corner that extends up from the storey below. This has a corbelled base and although it has seen some reconstruction on the S side higher up, the lower S side and the majority of the E side of the bartizan appear to be original.

At the S end of the E wall the early masonry returns along the S wall for a short distance (about 2m), beyond which the tower has been substantially rebuilt.

Externally two main moulding details are employed for window and other openings. Larger window openings on the E wall and the N wall are both detailed with a rounded aris, whereas two garderobe windows on the E wall are detailed with a substantial quirked angle roll. Window openings on the W wall are similarly detailed with a rounded arras as are the dressings of the principal entrance. The quirked roll is also seen in a number of reused stones throughout the later parts of the castle.

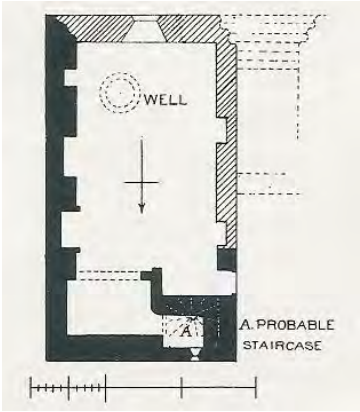
*Ground floor*

The principal entrance to Kilmahew Castle lies at the N end of the W wall. Its dressed jambs are surmounted by a substantial lintel with small relieving arch over. According to some accounts this lintel had been detailed with a motto or biblical quotation; MacGibbon and Ross note that it *bore the motto - "The peace of God be herein."* The entrance jambs have a double rebate that perhaps suggests that there had been both door and a *yett*. The jambs also retain the sockets for a substantial draw-bar that retracted into the wall to the N.

Internally the lower floor of the tower is quite substantially clogged by debris and the wall bases cannot be seen. At the extreme SE corner there is a springing that represents remaining evidence for a vault, most likely a long barrel vault. It is probable that the majority of the lower level was vaulted throughout. However to the N, offset to the E, there remains the rear side of a substantial kitchen chimneybreast and, towards the N end of the E wall, there is a further springing that may in fact represent the beginning of the arched opening for the chimney fireplace (or, possibly the point at which the vaulting met the chimneybreast, immediately adjacent to the fireplace arch). In their plan

MacGibbon and Ross indeed suggest an archway springing from this point and apparently still surviving at that time.

*The N interior wall showing the kitchen flue, off-set to the E*




*MacGibbon and Ross : ground floor plan (1889)*

As one enters the castle immediately to the N there is a small chamber that appears to have been intramural – a possible guard chamber, but, as suggested by the MacGibbon and Ross plan, actually accessed from within the kitchen fireplace (with increased collapse this arrangement can no longer be confirmed). The chamber had been lit by a small light in the N wall, later blocked.


*Kilmahew Castle : survey at ground floor level with suggested phasing (T Addyman, July 2007)*

It is not clear where the original stair had been from the lower level to the first floor. A main stair was commonly placed close to the principal entrance; at Kilmahew the stair may have risen up on the S side of the entrance vestibule area before returning clockwise above the entrance itself and up to the NW corner of the tower. The physical evidence presently visible does not seem to support MacGibbon and Ross' suggestion of a turnpike stair at the NW corner, although this may have been the case of the upper floors.

Within the interior to the SE there is a circular stone lined mouth of what appears to have been a well and is marked as such by McGibbon and Ross. This has a wrought iron grill over.

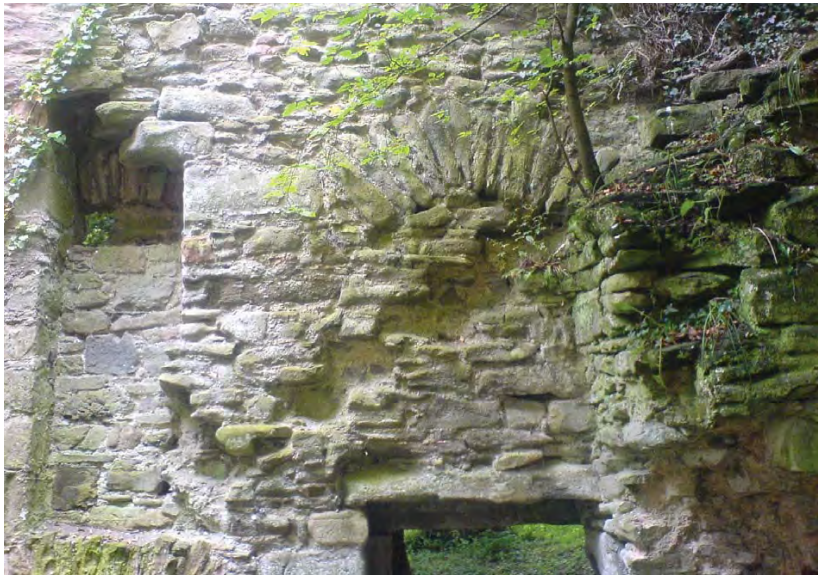
*First floor*

At first floor level there is evidence for the E jamb of a window at the E end of the S wall. In the E wall there is a relatively well preserved fireplace, its lintel broken, immediately to the N of which there is a blocked window opening. Like others elsewhere this is arch-headed. Further E there is a blocked opening with a small relieving arch over. Perhaps this had been some form of *aumbry* (though corresponding patching of the exterior wall face may suggest an opening).

Towards the N end of the E wall there survives the southern jamb of a small entrance that seems to have led to a small chamber, presumably a gardrobe. The entrance has an exterior rebate for an outwards-opening door. The chamber within is small with a single light in the E wall. Of this entrance both the lintel and an over-lintel stone constitute re-used dressed stones, both of which are detailed with roll-mouldings, the upper one containing sockets for vertical ferrimenta - this is clearly a window sill turned upside down. These resued stones suggest the entrance might be secondary to the general construction of the surrounding tower.

Most of the E part of the N wall is occupied by the substantial kitchen chimneybreast. On the W side of the chimneybreast there is a recessed area containing a window that is now blocked. It is somewhat difficult to understand how this window had functioned; though awkwardly sited it may have been intended to light the entrance area.

On the W side of this window recess there is, in turn, an inward-projecting bulk of masonry that seems to have supported the upper part of a straight flight of stairs. At least latterly this stair had risen up from S to N and seems to have given access from first floor to second floor levels. The silhouette of the stair-tread stones, is preserved in the W wall where the individual stones had been cut in, fragments of one or two of the upper ones and the lowermost stair tread still survive, the latter apparently detailed with a rounded *bottle nosing*. It is possible that this stair may be in part a secondary insertion, the bottle nosing, if it can be believed, at least suggesting a 17$^{th}$ century date. Just to the S of this on the W wall there is surviving N jamb of a small window opening that had perhaps lit the stairwell area from that side. At the head of the stairs there is a further window within the N wall, now blocked.



*Evidence for a stair above the principal entrance*

*Second floor level*

The second floor level of the early tower had a similar arrangement to the first floor. At the E end of the S wall there is a surviving window jamb with part of an arch head over. At the S end of the E wall there is a well preserved fireplace, blocked, on the N side of which a large window recess with arched head over. Continuing N there is a further arched headed window recess. Towards the N end of the E wall there exists a further possible guard robe chamber with an entrance perhaps set on the diagonal into it this is light by a small light. This small chamber appears to have been squeezed in along side of the substantial kitchen chimneybreast.

There survives the N jamb of a further small window towards the N end of the W wall.

*Third floor level*

Vegetation growth and ruination obscure many details that may have survived of the third floor level. However, remaining features include the opening into the bartizan to the SE, a substantial arch headed window opening midway along the E wall, and a further possibly similar opening at the N end of the E wall.

At the E end of the N wall there is a further substantial window opening. Set at a lower level in the N wall towards the centre W of the N wall there is a tall further window opening, quite narrow, this is blocked.

Immediately above the entrance at the wall head (N end of E wall) there are two substantially projecting matriculations; these relating to a box matriculation protecting over the entrance area.

*iii. The Gothick mansion*

The remains of the earlier Kilmahew Castle may have become ruinous by the 18th century. Certainly at this stage there was a very substantial rebuilding, an attempt to create a gothick mansion that appears never to have been completed. As MacGibbon and Ross note,

> *… the owner of the castle for the period carried out considerable alterations upon it, and rebuilt the south and west walls with the view of rendering it a modern mansion in the Gothic style, with a large entrance staircase and doorway at the south-west angle. This work, however, was never completed.*
>
> *The fireplace in the east wall and various wall recesses also seem to owe their origin to the operations of this period…*

The new mansion was clearly intended to have its principal elevation frontage facing S and from its remains in the S wall it seems likely this had been intended to be a tri-partite composition detailed with gothic arched window openings and entrance, with openings on three levels.

*Early postcard showing the incomplete S frontage of the gothick mansion from the SW*

In the event, only the eastern third of this scheme was completed, incorporating the remains of the pre-existing tower. If there had still been any standing remains of the W wall and the S wall, these were removed and wholly rebuilt.

In general the rubblework of the 18th century extensions is more neatly constructed than the original, containing a higher proportion of more regular slab-like smaller pieces of sandstone. Throughout this work individual carved stones that evidently derive from lost parts of the earlier tower have been incorporated. A number of jamb stones with prominent angle rolls being particularly notable.

The new work seems to have involved removing the pre-existing cellar vaulting and the substantial re-facing of the inner side of the E wall. A series of new openings were let into the E wall at the lower level. From S to N these include a small fireplace with flue track cut in above, a large deeply-splayed recess within which there was an exterior entrance, and then a substantial kitchen fireplace. This latter is well preserved with single monolith jambs and lintel above, both lintel and jambs are neatly drove-tooled. Brick and masonry infill within contain a fireplace, etc.

Within the area of the former chimneybreast at the N end of the E wall a new opening was broken through to the exterior that appears to have been a window.

In the new W wall two entrances were formed, each with a relieving arch over. At third floor level there is a blocked possible entrance in the centre of the W wall, slightly offset to the S. This appears to have been intentionally located directly opposite an original window in the E wall. Internally at first floor ceiling level, there are a series of sockets in the wall face that may have been scaffolding related.

*S frontage*

In the centre of the new S wall there is a gothick window. This had clearly had tracery within though curiously detailed, a central mullion appears to have risen to the apex of the arch and there are sockets for what appear to be a transom and two further sockets at higher level relating to further tracery. The remaining dressings of this window are well preserved, crisply cut and drove-tooled.

*Interior of the S frontage and the S part of the W wall*

It seems that the second and first floor levels of the pre-existing tower were amalgamated into a single chamber. With the possible exception of the first floor fireplace, all of the pre-existing window and fireplace openings were blocked off with rubblework. A massive new full height window opening dominates the S wall, this now containing a rubblework blocking. From the evidence of the sill stone however, there are two upstands. It appears that this window had been intended to contain stone tracery, however the jams and soffit of the arch show no such corresponding detailing. In the centre of the W wall, intended as an internal wall evidently, is a solitary arch headed opening formed of rubble stone. At third floor level the S W bartizan was provided with a tall lancet window, inserted, and in the centre of the bay a further arch headed window. This still retaining some tracery, a transom and mullion running down below, it is not clear how the upper part of the window was appointed (obscuring vegetation). Both this window and the double height window immediately below are detailed with hollow hood-mouldings with lapel stops. There is a moulded stringcourse between the two levels.

*S frontage – gothic windows at ground and first floor*

At the wall head the parapet walling is mostly complete, apparently re-using pre-existing stones, the parapet top is detail with flat coped crenellations.

*Remains to the W*

It is clear that the gothic mansion had been intended to extend further to the W; the masonry of the S frontage at ground floor level includes a remnant of a western extension. At the lower level this contains a plainly detailed central entrance with arched head above. This arching over extended further internally in order to support the projecting masonry jamb of a deeply set first floor entrance (see below). At the W end of this western extension of the S frontage there is a section of walling that returns to the N for a short distance (approximately 3m); this terminates at a jamb. It seems that the area enclosed by these walls was intended to have had a low vaulted ceiling, the vault spring having been pre-prepared in the W wall of the existing tower.

*The unfinished western extension to the S frontage*

The principal entrance to the mansion appears to have been at first floor level within the central bay; of this the E side still remains, integral to the SW corner of the existing tower. The entrance was all formed of tightly jointed ashlarwork of a polished or very lightly tooled fine-grained sandstone. The entrance was deeply set and very broadly splayed, its outer angle defined by a triple quarter-engaged clustered column, with capital and base of early English character. Above this the capital are the first three vousoirs of an arch; this is in turn flanked by the remains of a hood mould with label stop.

Behind this corner-piece there is an angled section of ashlarwork that contains a projecting seat below and paired niches above. Further N there survives the return of the E jamb of the entrance itself, this plainly detailed.

*The completed E side of the 1st floor entrance and detail of base of clustered column*

*Detail of the upper part of the E side of the first floor entrance*

It is clear that at ground floor level the existing western extension of the S frontage was what was required structurally to support the existing masonry of the first floor entrance. However construction seems to have been abandoned at this point in the project, the structure left incomplete.

It is evident there must have been some form of stair intended in the centre of the S frontage. If completed, this elevation would doubtless have been a very fine if whimsical composition. However, in its abandoned state it now perfectly fulfils another 18th century ideal, that of the sublime gothic folly-ruin.

At the third floor level at the SW corner a tusking has been left for the continuation of frontage further W.

It seems possible that the eastern part of the intended gothic mansion had actually been largely completed perhaps even roofed before the project was abandoned. Internally there are sockets for floor structures, at first floor and third floor levels.

Additional notes:

The secondary entrance in the centre of the E wall is detailed with inserted dressings that are neatly drove tooled with a 10 cm margin and more coarsely tooled beyond. Of similar detailing had been the former window at the N end of the E wall (the high sill here indicates that this had been intended as a window).

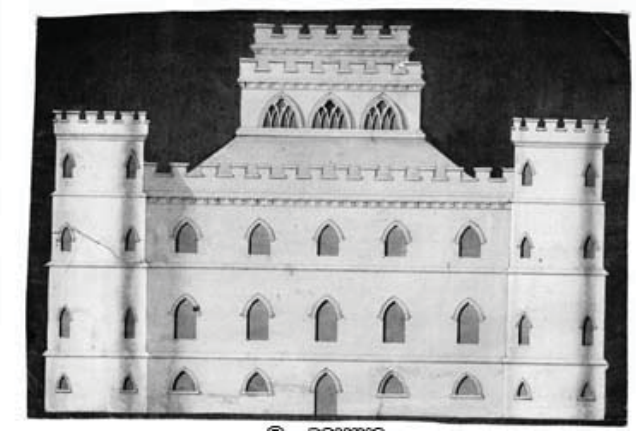
*Dating and inspiration*

It is tempting to associate the abortive rebuilding of Kilmahew Castle with George Maxwell Napier[1] who inherited Kilmahew in 1694 and died, childless, in 1744. He was unusually extravagant and started to sell off lands to settle his debts as early as 1705, and again in 1721 and 1735. Did his extravagance extend to a scheme for the old castle? If dating to before 1744 this would make the Kilmahew building project an exceptionally early example of the *Gothick*. The flamboyance of the building may well have been in accord with Maxwell Napier's tastes.

In architectural terms, if this remodelling had occurred before 1744 it would be an exceptionally early example of a major structure built in the *Gothic*. The two principal early proponents of the style, William Kent and Batty Langley both began to experiment with the *Gothic Mode* in the 1730s, Langley publishing his influential treatise in 1741-2.[2] The character of the incomplete Kilmahew frontage is very reminiscent of Langley's style, described by Colvin as *engaging but unscholarly designs*. Equally applicable to the architecture of Kilmahew is Colvin's further observation on William Kent,

> *his pioneer Gothic designs … show him exercising a fancy uncontrolled by Palladian constraints and establish him as the creator of an English rococo Gothick happily free from antiquarian preoccupations.*

Gothic revival detailing had been employed in Scotland from the 1740s, Roger Morris' Inverary Castle being the pre-eminent example. Indeed close comparison of the detailing of the windows and external facades of Inverary bring up many similarities and common nuances, as well as clustered columns flanking the principal entrance. A drawing of Inveraray by John Douglas bears a particular similarity, as does one of his for Archerfield House in East Lothian, also in the gothick style (John Douglas Collection, NMRS)[3].



*Inveraray Castle, Argyll, by John Douglas (©RCAHMS)*

[1] George's mother Margaret Napier married Patrick Maxwell of Newark and George was their first son. Under the conditions of 'entail', assumed the name and arms of Napier of Kilmahew.
[2] Batty and Thomas Langley *Ancient Architecture Restored, and Improved, by A Great Variety of Grand and usefull Designs, Entirely New In the Gothick Mode For the Ornamenting of Buildings and Gardens*
[3] I am indebted to Simon Green of the RCAHMS for his suggestion of a John Douglas connection.

According to Colvin in 1743 John Douglas stated *since the year 1730 he has built several Houses … for private Gentlemen*. It is possible that this may have been one of those.

Without firm historical documentation it would be unwise to assign the Kilmahew frontage such an early date. This form of gothick continued in use throughout the latter half of the 18th century and, although it is tempting to assign an eccentric and incomplete design to the whim of an extravagant and impecunious individual it is possible that one of his successors was responsible for the work. Whatever the case may be the building is an important and very rare Scottish example of an 18th century gothick composition in the spirit of Batty Langley and truly, as he termed it, a *rural building of pleasure*.

### *iv. Subsequent works*

At a relatively early stage, perhaps relatively shortly after termination of the building works, a number of the openings of the 18th century phase were blocked in. These include the two ground floor entrances to the W, and the ground floor entrance and window to the E (following a pareing-back of their jambs). It is possible that a number of the earlier window openings were perhaps only blocked off at this stage.

At first floor level the arched opening in the W wall was blocked off, part of the blocking still remaining, and the very large S window was also blocked in. In each case rubblework was used that was of fairly similar character of the 18th century masonry elsewhere, but generally employing smallish slab like stones.

After removal of floor structures and the general abandonment, the lower eastern part of the interior was occupied by a lean-to shed whose lime mortar fillet survives to silhouette the former roof line.

### *v. Condition notes*

The remains of Kilmahew Castle are relatively well preserved and generally stable.

Subsequent to abandonment, and apparently after the MacGibbon and Ross visit of c1889, the chimneybreast of the early castle (N wall) had collapsed internally.

There is a major structural crack on the line of the windows towards the W end of the N wall, however subsequent movement seems to have been relatively limited in this area.

The upper parts of the N wall are in poor condition. An adjacent lime tree is now growing right onto the wall top in this area, clearly not helping the situation. In this area there has been extensive erosion of mortar from between stones and there has been localized collapse in the centre-western part of the wall head, a rubble pile evident to the exterior. It is possible that this partly came down when the chimney breast collapsed internally.

Generally the wall head masonry is in fairly precarious state, very little mortar now remaining and gaps between stones very obviously evident.

Generally the E wall is well preserved. There is very slight bowing towards the N end of the E wall and the beginnings of a structural crack on the line of the windows towards the N end of the E wall, though generally stable. In the centre part of the E wall the wall head appears to be particularly unstable and generally the wall head would require consolidation to make safe.

At the SE corner a major growth of ivy obscures much of the fabric; this has been killed off by cutting lower down.

Generally the S elevation appears stable although there is slight structural cracking on the centre line of the arch headed windows and some particular distortion of the head of the uppermost window, with the crack running up through the parapet. A number of the parapet stones (in particular the copings) are clearly loose.

At the W end of the S frontage the ground floor remains appear relatively stable, the arching still performing its structural function supporting the first floor projecting masonry of the intended mansion entrance. Of the ashlarwork of the entrance itself some individual stones are loose and it appears that one or two have fallen, perhaps still recoverable on the ground below, otherwise generally in good condition.

At its W end the ground floor masonry though in stable condition, has been impacted by a tree that has grown out of the rubblework, this now appears to be dead.

The W wall of the tower proper appears to be generally stable although there is some individual cracking around the entrance area and spalling of the entrance stones, particularly on the N side where one stone that is still *in situ* is hanging rather precariously. Limited consolidation might be advised in this area.

The wall head masonry in the upper level along much of the W wall appears to be in fairly acute need of consolidation, particularly the area above the entrance offset to the N.

### *vi. Significance*

The significance of Kilmahew Castle lies upon a number of levels and is partly recognised by its status as a Scheduled Ancient Monument and its Category B listing as an historic building.

Kilmahew Castle and nearby St Mahew's chapel together constitute the only tangible reminders of the presence of an extraordinarily long-lived local family, the Napiers of Kilmahew, who held the lands from the 13th to the early 19th century.

The earlier parts of the structure, though incomplete, nevertheless constitute a good example of tower house architecture of its period.

The earlier parts of the tower are of considerable archaeological interest as they appear to incorporate remains of what may have been an even earlier fortified structure and also retain possible evidence of a later remodelling, perhaps in the 17th century.

The immediate surroundings self-evidently have considerable archaeological potential. Such structures did not exist in isolation and an accompanying complex of ancillary building would be expected, these perhaps protected by further defences or an enclosure wall.

Kilmahew Castle has very considerable significance as a mansion recast in the gothick manner, albeit never completed. The architecture of the principal façade is of unusual quality, well proportioned and of sophisticated detail. Though no clear historical dating evidence has so far been identified it is possible that the design dates to the mid-late 18th century rather than to the early 19th century as some commentators have suggested. This whimsical gothick was popularised by Batty Langley in the mid 18th century in his 1742 treatise, and exemplified by Horace Walpole's Strawberry Hill House. The style remained popular throughout the later 18th century and into the early 19th. In the Scottish context such an architectural composition is a great rarity and the Kilmahew frontage is an accomplished example of its type – the recasting of an ancient family seat into a modish country villa. If the structure can be attributed to the likes of John Douglas and dated to the second quarter of the 18th century (1740s?) then the significance of the structure is self-evidently on a national level.

Kilmahew Castle also has considerable inherent fascination as an incomplete 18th century building project, whereby many of the construction processes are laid bare.

### *vii. Policies*

The condition of Kilmahew Castle should be properly assessed by an historic buildings architect and a conservation-trained structural engineer, from which a scheme for stabilisation should be evolved.

The ruin, though generally stable, has localised areas of instability, particularly at the wall heads. This will constitute an increasing liability and risk to the public – a popular footpath runs along the E side of the tower and the tower itself is generally accessible.

Any proposed works to the tower will necessarily be subject to the normal Scheduled Monument Consent process, all proposals to be agreed in consultation with Historic Scotland

Works to the castle, whether clearance or consolidation will necessarily require associated archaeological involvement, whether monitoring, excavation or recording of the upstanding fabric.

### *2. Stone bridge over the Wallacetown Burn*

A stone bridge that crosses the Wallacetown Burn and presently giving access to the 1860s walled garden also appears on the 1st Edition Ordnance Survey where the track that crosses it angles N to a settlement marked as *Triangle of Mildovan*. This bridge marks the crossing point of the Wallacetown Burn of the original farm track that led off Carman Road at the area of the existing South Lodge. The track ran westwards, crossing the burn, and then angled to the N, running up along the side of the burn and then into the triangle itself and the farm steading.

At the time of the construction of Kilmahew House the track was re-routed; from this time on it accessed the eastern entrance to the walled garden and part of its old northwards-angling route reused as an access to the potting sheds behind the walled garden N wall.

Though the bridge is now very overgrown it is neatly built of large slab like pieces of reddish purple sandstone, a simple single arch springing from vertical abutments on either side that are built against outcropping bedrock. After crossing the burn and where it angles up to the N the parapet is partly corbelled out over the arch of the bridge itself. The parapets are just less than 1m in height and are capped off with roughly dressed rounded red sandstone coping stone.

It appears the bridge is of two phases. The arch and abutments and lower part of the bridge itself are generally formed of more elongate slab-like, often roughly squared pieces of standstone, whereas the parapets themselves are generally made of much larger stones that are less slab-like and often roughly dressed but nevertheless fairly coarse. This suggestion is further supported by the evidence of the parapet and abutments. Where the parapet angles around to the NW the side of the burn has been built up with an additional thickening of masonry against the pre-existing W abutment. This secondary work has been partly washed away to reveal the original face of the bridge continuing behind. This additional thickening is of similar masonry character to the upper part of the bridge parapet.

*Upstream side of the bridge*

Abutting the S (downstream) side of the eastern abutment is a secondary buttressing, this again relates to the secondary angling and smoothing off of the curve of the drive back that lead here, this appears to be a secondary alteration and may date to the 1860s.

*Condition notes*

While the arch of the bridge is intact and structurally undistorted it is clear that the lower part of the western abutment has been considerably eroded by water action and the masonry beginning to become loose.

As the bridge and the abutments cross over the burn itself, both parapets have been pushed in.

The upstream (northern) side of the eastern abutment, the facing of the abutment is beginning to collapse.

The extension to the N side of the western abutment has substantially collapsed and fallen away. Relating to this area on the road surface inside the parapet there is now a substantial hole running down within the parapet, the latter now hanging in mid-air.

The entire bridge is very heavily overgrown with vegetation and the down stream side of the bridge is barely visible beneath the existing growth.

The down-stream side of the bridge appears to be in somewhat better condition than the upstream side.

This bridge, though in poor general condition now, seems to be wholly repairable.

*Significance*

The Wallacetown Burn bridge is a significant survivor of the pre-Kilmahew House landscape. The original bridge largely survives, a structure that may date to the 18th century.

It was remodelled at the time of the construction of Kilmahew House from which time on it accessed the eastern entrance to the walled garden and part of its old northwards-angling route reused as an access to the potting sheds behind the walled garden N wall. As such it forms one of the major built elements of the Victorian designed landscape, part of a principal circulation route.

*Policy*

It is important for a number of reasons, not least in terms of practical circulation and public safety, that this bridge be assessed by a conservation-trained structural engineer, be cleared of vegetation and made safe in the short term, and a suitable repair programme planned for to fully reinstate it as a functioning structure, employing appropriate materials (including lime-based mortars) and techniques of construction, detailing, etc. to match the original.

### *3. Triangle of Mildovan (East Park)*

This is an area of higher ground forming a promontory defined to the SE by the Kilmahew Burn and to the SW by the Wallacetown Burn and the ravines that they occupy. It seems to have favourable land within, set on two levels. At the lower level is the area of ground occupied by the present walled garden of the 1860s; above this is a further terrace of level land and this seems to have been the site of the Triangle of Mildovan steading or cottage; it also appears to fit the topography expressed on William Roy's map of c1747-55, which also shows a settlement and associated enclosures (see below).

Within the upper terrace area little can be now seen at the surface, though there is a small copse of four oak trees offset to the NE within this area of land, and this appears to be approximately the location of the farm steading. The steading appears to have been removed at the time of the erection of the Kilmahew House in the 1860s and does not appear on the 2nd Edition Ordnance Survey map. It seems that this area of land was opened out and enclosures removed to create a more park-like setting for the southeastern aspect of Kilmahew House.

An oblique aerial photograph taken before the increased growth of marsh grasses on the rising ground immediately above the upper terrace shows there were field systems in this area consisting of ridge and furrow running up and down slope. These can no longer be readily seen on the ground.

The nature of the settlement shown on the Roy Map is unclear, although it appears to be the principal domain under the name of Kilmahew. The old castle does not appear to be shown and may have been abandoned at that stage. Roy shows a central house or steading, surrounded by a series of rectangular enclosures that form a T-shape; these neatly occupy what appears to be the Triangle of Mildovan area of land. Without archaeological investigation little more can be said of the possible nature of this site.

Before the growth of mature trees along the S side in the area of the walled garden it is evident that this site had panoramic views over the Clyde from its elevated position and this area being fairly well drained, with these views, access to water, some defensive capabilities may long have been the focus of human settlement. The possibility of first pre-historic occupation should not be discounted.

Wartime aerial photography shows crop-marking suggestive of prehistoric settlement features within this area – these include a series of circular 'structures' (RCAHMS : 106G-SCOT-UK92-RS2-4269). Without ground investigation it is not possible to further elucidate the nature of these remains – whether relatively recent farming-related or whether of a more archaeological nature – perhaps prehistoric hut circles. The wartime image also shows what appears to be a bomb crater at the top of the Triangle of Mildovan field, the extreme NE limit of the present property area.

A little to the E of the group of oak trees as the ground begins to slope down, there is an abandoned water treatment plant of concrete construction. It is not clear how extensive the works associated with this had been and how much of the surrounding area had been disturbed during its construction.

*Significance*

From the 1860s the East Park area had particular significance as part of a parkland vista extending SE from Kilmahew House. The significance of the site – principally the upper terrace (the southern part the present field above the walled garden) – in earlier periods is less certain.

The Triangle of Mildovan steading or cottage that is shown on the 1st Edition Ordnance Survey is of unknown origin but may be relatively late in date as a settlement. The earlier parts of the Wallacetown Burn bridge, which provided access to the site, seem likely to date little earlier than the later 18th or even early 19th century. However much depends upon the unreliable Roy map. If this does indeed show a principal dwelling and formal enclosures on the Triangle of Mildovan site then any surviving archaeological remains may have considerable significance.

The possibility that much earlier archaeological remains may survive within this favourable location, perhaps suggested by crop-mark evidence, should not be dismissed.

*Policy*

With the distinct possibility of the survival of significant archaeological remains on the upper terrace within the Triangle of Mildovan it is imperative that the archaeological potential of the site is investigated in advance of development proposals if they were to involve this area of land (and preferably well in advance).

An archaeological evaluation will be required as part of the planning process as a matter of course, given the general sensitivity if the wider site and the particular potential of this location.

### *4. West Park*

Much of the area of West Park is laid out as a golf course and it is now only the northern field (bounding the W side of Kilmahew Castle) that has not seen extensive golf-related landscaping.

The wartime aerial photography shows what appear to be a cluster of 4 or 5 bomb craters within the western part of the field to the W of Kilmahew Castle (RCAHMS : 106G-SCOT-UK92-RS2-4269). Cardross was bombed during the war, enemy action that also resulted in the destruction of the parish church and incendiary damage to Geilston House.

This photograph of the West Park also shows a substantial SE/NW aligned linear feature that may have been an early burn course; this feature extends beyond the site boundary to the NW, along the W side of Kilmahew Farm. Little that is certainly of an archaeological nature can be seen in the way of crop marks upon this image.

*Significance*

Part of the significance of the West Park relates to it as an integral part of the 1860s designed landscape, where it formed part of the parkland setting for Kilmahew House on its western approach.

Other significance may be archaeological although the potential for surviving remains in the area is presently unknown. It is probable that damage relating to the golf course will have been limited and localised; it is likely that areas out-with teeing-off areas, formally-constructed greens and bunkers will have escaped major landscaping activity.

The eastern part of the field on the W side of Kilmahew Castle is an obvious potential location for associated archaeological remains.

*Policies*

If contemplated, proposed development in the West Park area will be subject to the normal planning process whereby there may be a requirement to undertake prior archaeological evaluation to assess the area for archaeological potential.

Though Kilmahew Castle is itself a Scheduled Ancient Monument the scheduled area boundary lies close to the upstanding remains. It can be confidently predicted that the area that might contain significant related archaeology would be considerably more extensive.

It is recommended that any potential proposal for development should not affect the field on the W side of the castle. This area of land is the setting for the castle site – it will likely contain archaeological remains of part of the associated complex of castle-related structures and

### *5. South Lodge (Carman Road lodge) and gate piers*

This lodge building is a handsomely-built building that forms an integral part of the 1860s layout of the Kilmahew designed landscape. Long abandoned and its windows bricked up, recent vandalism has involved breaking into and causing extensive damage within the interiors.

The building is now at extreme risk of further vandalism and arson.

*Significance*

An integral part of the 1860s estate designed landscape associated with Kilmahew House. Important as the first 'incident' on the main approach to the estate. Its individual importance is recognised in its Category B listing as an historic building, including the gate piers.

*Policy*

Ensure the immediate protection of the structure from further destruction.

Repair and identify options for reuse.

Reinstate gates and repair piers; re-connect and repair adjacent policies wall.

### *6. West Lodge*

Though sadly ruined the walls of this small lodge house still stand in large part. Before very recent vandalism this derelict structure was still a building of considerable quality, picturesque.

*Significance*

An integral part of the 1860s estate designed landscape associated with Kilmahew House.

*Policy*

Make ruin safe and secure from vandalism.

Options appraisal.

Ideally – reinstate as a cottage.

### *7. Walled garden*

The existing walled garden, occupying the lower Triangle of Mildovan terrace immediately above the confluence of burns, forms an integral part of the development of the Kilmahew policies in the 1860s (the arched opening to the garden bears the date *1868*).

In spite of its dilapidated state the Kilmahew walled garden remains a very good set-pet piece example of its type, a principal adjunct to the typical Victorian country house.

The complex seems to be of a single period, including a central walled area with flanking garden areas surrounding to the S and E.

The main compound is bounded to the N by what had been a particularly impressive range of glasshouses, these with paired major gabled projections, all built of a high quality hard-wood. The glasshouses intercommunicated with a range of brick-built, slate-roofed potting sheds, boiler-houses, etc against the rear of the garden wall. Both the glasshouses and the sheds are now in a state of collapse.

*Policy*

General vegetation clearance and control.

Consolidate, stabilise and protect from vandalism in the short term.

Options appraisal for reuse/a future use.

Ideally - Reinstate as an operational garden, with proper, appropriate repair of structures, path systems and access routes.

### *8. Designed Landscape*

The Victorian designed landscape of Kilmahew House, though missing some of its major built elements not least of which are Kilmahew House itself and its associated stable block, must nonetheless be considered to be of considerable inherent significance.

- natural landscape of high quality.
- artfully designed high Victorian estate and policies.
- high quality and extensive estate buildings and infrastructure

### *9. Archaeological Policies*

*General*

In general terms proposed development will be subject to the normal planning processes, applications will be vetted by the West of Scotland Archaeology Service at which stage the current document will inform the decision-making process in determining what archaeological conditions are applied.

Works affecting a Scheduled Ancient Monument should properly be subject to the Scheduled Monument Consent process. Proposals should be developed in close consultation with Historic Scotland.

Similarly works that might be undertaken within the setting of the Scheduled Ancient Monument should ideally be developed in consultation of Historic Scotland.

### *10. Roy map (1748-55) – general discussion*

By a cartographic error Roy's map for this area shows the lower reaches of the Kilmahew Burn to be merged with those of the Geilston Burn before flowing into the Firth of Clyde; in reality they are independent systems that enter the Clyde at different points. This confuses the immediate geography of Kilmahew and may have significant implications for understanding the nature of possible archaeological remains at the site.

The Roy depiction of a T-shaped rectilinear enclosure with a house at its centre between a confluence of burns seems most likely to be confirmed as occupying the triangle of land between Kilmahew Burn and Wallacetown Burn – the area known as Triangle of Mildovan. The enclosure shown is tree-lined and clearly intended to represent formal policies associated with a principal residence. However Roy specifically names this site *Killmahoe* – it may therefore be possible that he is indicating Kilmahew Castle though Roy's topographical representation fits the existing castle site far less well.

Whether the castle site was superseded as the principal residence, at least for a period in the 18th century, was not determined by the historical research.

**12.3 Chronology**

*(Read in conjunction with Appendix 12.2 :Archaeological Assessment.)*

13th Century

Pre 1294

Kilmahew passed into the possession of John Napier. *Old Cardross* p. 10 During c13th lands in Cardross were being split up, and were passing from the hands of the Earls of Lennox into those of others.

John Napier, who was later to distinguish himself in the War of Independence, received from Malcolm, Earl of Lennox a charter of "the quarter of land called Kylmethew.' *The History of Dumbartonshire*., 1860 p.459

14th Century

**William Napier**, added to the estate when he received charter from King David II of the half lands of Kilmahew "where the chapel is situated." *The History of Dumbartonshire*, 1860 p. 459

'... The chapel of St. Mahew, which gave its name to the surrounding territory, was situated at the Kirkton of Kilmahew and was under the special patronage of the Napier family.' *St Peter's College Magazine*, p. 5

15th Century

**Duncan Napier** (son of John Napier)

**Dugald Napier** (son of William Napier)

**John Napier**

**Duncan Napier** (son of John)

1476 By the mid-15th century the chapel must have been in ruins because it is recorded that it was rebuilt in 1467 by the then Laird of Kilmahew, Duncan Napier. *www.napier.ac.uk/depts/clan_napier*

1478 **James Napier** (son of James)

1496 **Robert Napier**

C15th Kilmahew Castle 'It is perched in a strong position above a steep ravine and forms an oblong block, now ruinous but surviving to the wallhead. The southern end has been much altered and 'gothicised', but to the north and east it remains authentic. It has been a tall keep of five storeys and a garret, probably dating from the 15th century, the walls crowned by the usual parapet and walk, of which only the course of individual corbels survives. Most of the windows, which have been small, have been built up, while more modern ones have been opened.

The entrance lies to the north end of the west front, away from the ravine, and is surmounted by a wide lintel which formerly bore the inscription THE PEACE OF GOD BE HEREIN. This door is provided with deep protective bar-holes, and high above, at parapet-level, are great corbels for a machicolated projection from which missiles could be hurled down upon unwelcome visitors.
Access is given to an unvaulted basement, with a great fireplace in the north gable, There is a well in the floor of the southern altered part of this ground floor, which was no doubt subdivided. The turnpike stair rose in the north-west angle, beside the door, but this has fallen in, and the upper floors are now in accessible. The kitchen would be in the basement, with the large fireplace, the Hall on the first floor, and the sleeping accommodation above, in the usual arrangement.' *The Fortified House in Scotland* p.100-101

C15th Kilmahew Castle: 'C15 and c17. Ruinous, overgrown tower house, the seat of the Napier family who held lands here from the c13 to the c19. Rubble with ashlar margins. The castle stood five storeys high to a corbelled parapet. Early c19 alterations reduced the height and introduced some pointed-arch windows but the attempt to create a Gothick mansion was abandoned.' *The Buildings of Scotland* p.168

C15th Kilmahew Castle described as 15th and 17th century. 'Thereafter much rebuilt in an attempt to turn it into a Gothick mansion.' *North Clyde Estuary* p.68

16th Century
**John Napier**

1542-1700
Kilmahew Castle 'comprises the remains of a keep of the period 1542-1700.' *Scottish Heritage Inspector's Report*.

1548 **Robert Napier**
'When John Naper of Kilmahew died in 1548, he had 35 acres of oats and 7 in barley, and likewise twenty-four cows; fourteen draught oxen; eleven two-year-old quays; seven horses; ten stirks; fifty sheep; ewes, hogs, and dymmonts; forty-two calves; twenty-five stones of iron; two boats, nets, and other fishing gear.' *Old Cardross* p. 58

1553 'Milndovan was acquired in 1553 by John Wood of Geilston. After being in possession of his descendents for several generations, it was held for some time by a family Fallisdaills, the last of whom sold it to a cadet of the family of Bontine of Ardoch. It was held as an independent subject till 1746, when it was untied to the Ardoch estate, but disjoined in 1814, and added to Drumhead, property of which it now forms a part.' *The History of Dumbartonshire*, 1860 p.429

1569 **Patrick Napier** (grandson of John)

17th Century
1603 **John Napier** (son of Patrick)

1644 **Robert Napier** (son of John)

1646 Pont's map (not shown in this report)

1649 **John Napier** (son of Robert)

1653 John Napier acquires Walton and Wallaceton from his father-in-law, the Laird of Luss. *History of Dumbartonshire*, 1860. John dies without male issue and so the estate passes by 'entail' to his eldest daughter.

1654 Blaeu Atlas, based on Pont's map: The name Kilmahew is given to the area north of the Clyde between what is probably Geilston Burn and Wallacetown Burn (shown to the east of "Wellacetoun"). Above the name "Kilmahew" is a large symbol for a settlement surrounded by relatively dense woodland. To the east lies "Drumsaddoch", to the south lies the Kirk of Kilmahew and to the east of the kirk lies "Achinchro C." (Auchenfro castle?). The name Cardross appears further west on the east bank of the mouth of the River Leven.

1689 **Margaret Napier** (da of Robert) m.(1) Patrick Maxwell of Newark

1694 **George Maxwell Napier** (son of Margaret and Patrick)
m. (1) Christian, da. John Sinclair of Ulbster (2) Ann Dewar, his housekeeper, da. Innkeeper in Leith

'…he was unusually extravagant and careless, and latterly contracted liabilities which led to the breaking up of his once valuable and compact estate. He alientated the following properties:-the Barony of Newark, to William Cochrane of Ilmaronock; Tealing, in Angus, to Provost Scrymgeour of Dundee, in 1705; Napierstonand Auchendonarie to James Smollett of Bonhill in 1735.' The History of Dumbartonshire, 1860 p.463

'The ruins of the castle, built partly, it is believed by George Napier, … His character is indicated by the fact he erected a stable for a favourite horse, the walls of which were hung with mirrors, and the stalls and manger formed of the most costly woods. … when this animal died, … buried his favourite near a waterfall in the glen of Kilmahew, still known as "Spottie's Linn." … All his five children had predeceased him, … so that the fragment of the estates which he had not alienated passed to distant relatives, who wasted most of the little that was left in litigation.' *The History of Dumbartonshire*, 1860 p.463

18th Century

1721 '…the estate of Kilmahew proper, ie. the two Auchensails, Kirkton, Kilmahew Mill, and Mill Lands of Kilmahew, Drumsaddoch, the Barrs, Auchenfroe, and the Spittal of Auchenfroe-was adjudged from George Napier by Sir James Smollett for two debts of £12,896, is.4d. Scots and £1,295, 12s. Scots.' *Old Cardross* p. 47

1732 Date inscribed on a few stones 'a little above the garden … near the site of the former house of Triangle', alongside initials of Robert Bontine of Mildovan and of Margaret Bontine his wife. This area belonged to a branch of the Bontine family at this time. At this time the Kilmahew lands lay between Auchenfroe Burn and Geilston Burn. *Old Cardross* p. 19

1735 'To redeem a portion of the ancestral domain, George Napier … sold to James Smollett, Sir James' son, the Auchensails, Barrs, and Drumsaddoch, with Wallacetown and Walton at the price of £33,152 Scots or £2,762 Stg., being 261/2 or 28 years purchase of the then rental of about £1,200 Scots, or £100 Stg.' *Old Cardross* p. 47

1744 **Jean Smith** (Napier)
'For the successor to George Napier, it is now necessary to return to John Maxwell, the second son of Margaret, the heiress of Kilmahew. He appears to have had an only daughter, Elizabeth, who married Robert Smith, portioner of Inveresk, and had one child'– *History of Dumbartonshire,* 1860

On the death of George Napier 'The estate passed into a collateral branch of the family, which never recovered the prosperity of influence of the earlier family.' *St Peter's College Magazine*, p. 7

1745 Herman Moll's map: Shows a similar arrangement to the Blaeu Atlas but in less detail.

1750 General Roy's map : Wallacetown and Kilmahew burns appear to merge creating a triangular shaped plot between the burns. A rectangle lies in the middle of the triangle labelled "Kilmahoe". The detail suggests a formal garden with a building in the centre enclosed by park palings and trees. The northern area has been further compartmentalised by a line of trees. On the north eastern flank of the area lies a cluster of buildings also surrounded by trees but not 'emparked', labelled "Mildovan". There is an additional spur to the west of the Kilmahew Burn. Further south, on the east side of the burn lie "Wallacetown", "Spittle", "Walltown" and "Cardross Kirk". On the west bank lie "Geilstone" and "Achinfroa".

1777 Charles Ross's map: The burns appear as two separate burns once again. The name "Killmachew" appears between two burns and north of "Spitle" but does not appear to be attached to any particular settlement, although it could refer to the Keep, which lies to the north west of the triangle. Between the two a large unlabelled house is indicated, similar in stature to the one indicated for "Gilstowne", with a smaller unlabelled settlement further the south. Cardross Kirk shown further east. The area is relatively well wooded with a triangular open area in the location of the Triangle of Mildovan..

19th Century

1809 **William Brydie Napier** (son of Jean Smith)

**Alexander Brydie Napier** (brother of William) settled in Virginia about 1800

**William Napier of Kilmahew**, (son of Alexander)
'… a citizen of American, made up titles to Kilmahew and Wallaceton, as heir of his uncle, and in 1820 conveyed these lands to Alexander Sharp, brother of the husband of his sister Elizabeth. During the possession of Kilmahew by Alexander Sharp, an attempt was made to enlarge and restore the ancient residence of the Napiers; but it was not carried out; and the tower, now in ruins, is no in appropriate memorial to the fate of the family who erected it and kept high festival within its walls.' *The History of Dumbartonshire*, 1860 p.465

1820 John Thompson's map: Kilmahew and Wallacetown burns appear as separate entities, uniting beneath a triangular area. The label "Kilmahu Cas. ruins" appears over the triangle, and probably refers to a blurred symbol which may indicate the Keep to the west of Kilmahew Burn. Cardross Kirk appears in the location of Kilmahew Kirk shown on earlier maps and the Carman Road is shown for the first time connecting Cardross with Renton via a settlement labelled Carman on Carman Hill, and running parallel to the east of Wallacetown Burn. A settlement labelled "Milldovan" appears to the north of the castle ruins. "Geilstoun burn appears to the west. This map appears more accurate than preceding county maps, and suggests that the layout of burns in Roy's map is quite accurate.

1820 **Alexander Sharp**
'In 1820 the estate was sold by William Napier (heir of his uncle) whose sister Elizabeth had married a Mr Sharp. This man's brother, Alexander Sharp, bought the estate.*' Cardross, The Village in Days Gone by*, p.82

'The lands of Kilmahew proper were sold by the last of the Napiers to his cousin Alexander Sharpe, from whom they passed to John Barr, esq., railway contractor;' *The History of Dumbartonshire*, 1860 p.465

1820-8 Sharp's children are recorded as having been born at Kilmahew between these dates. 'Sharp had the castle altered somewhat to make it habitable –eg., some new windows were built together with a new south-west entrance with niches for columns. The number of storeys reduced to three. However, the family resided latterly at Seabank, a house on the shore a few hundred yards west of Murrays Farm.' *Cardross, The Village in Days Gone by*, p.82

1821 John Ainslie's map: Not a particularly helpful map and more confusing than the preceding one. Wallacetown Burn and Kilmahew Burn simplified as a single burn, and Geilston Burn is also shown. Settlements vaguely indicated to the west of Wallacetown Burn at "Middleton", "Curlyhill", "Milldeven", "Tryangle", "Wallacetown", "Leadside". "Killhahew" is indicated to the east of the burn, possibly in the location of the Keep? "Auchenfro" lies on the west bank further south. Perhaps of most interest is a large house labelled "Bloom" in the location of Bloomhill and the fact

that Cardross is indicated as a major settlement.

1844 John Burnet set up in business *Dictionary of Scottish Artists*

1845 'The mansion-house in the parish of Cardross do not present any remarkable features; those of Ardoch and Kilmahew, now abandoned, are indifferent specimens of the old Scottish country house. ... Bloomhill House, recently built, the seat of Alexander Ferrier, Esq. is perhaps the most beautiful villa on the Clyde.' *Statistical Account* 1845 p.87

1848 **James Burns** acquires the small Cardross estate of Bloomhill. St Peter's College Magazine, p. 8
'…drawn hither by the attractive force of a domestic motive ... James Burns, ... had married a lady, Margaret Shortridge, whose father was one of the owners of Levenfield, the oldest printwork in the Vale of Leven; and it was to gratify her natural desire to be near the lovely scenes where her youthful years had been spent that Mr Burns acquired and came to reside at Bloomhill, a small mansion lying on the ascent between the shore and Kilmahew. Gradually he added to this property the larger adjoining estate which had been owned by the Napiers ... and we believe that Kilmahew was bought by Mr Burns in no fewer than eight different portions, into which it had been broken up.' *Dumbaton Herald,* 1879

1854-8 1st Edition OS map, small scale: The well-wooded spurs of Wallacetown and Kilmahew Burns are shown. The tower house or keep, labelled Kilmahew Castle is in the correct location, and is approached by the lane that now forms the west boundary of the parkland. The settlement shown as "Triangle of Milndovan" on the larger scale 1st Edition OS map is approached by a lane off Carman Road. The smaller estates of Auchenfroe House and Bloomhill House are shown in some detail but are not labelled. Further south is settlement labelled "Ladeside" approached by a lane that leads to Triangle of Mildovan.

1859 **James Burns** acquires the whole estate of Kilmahew
b.1789 Barony, d.1871, m.1)Margaret Smith, dau. William Smith of Muirbank, Lanarkshire, m.1835 2) Margaret Shortridge (1794-1860), dau. William Shortridge, Merchant of Levenfield, Alexandria & Elizabeth Yuille (1794-1857) dau. Of George Yuille of Darleith
JP & DL of Dumbarton
1824, set up a steam navigation business with his younger brother George. Shortly afterward they founded the Cunard Company of worldwide reputation.

1859 James Burns made the last of the purchase of Kilmahew estate in 1859. *Dumbaton Herald*, 1879

1860 Mr Burns lost his wife, '…and from that date till the time of his death, … he had his home with his only son, Mr John William Burns,…' *Dumbaton Herald*, 1879

1860 **John William Burns** of Kilmahew and Cumbernauld
b. Barony 1837, d.1900, m.1861 Helen Sherer (1842-1926), da.Gen. George Moyle Sherer ? & Jane Bagly O'Ha? (1837-1857)
JP & DL co. Dumbarton, JP Lanark, BA Cantab., advocate, Dep Lieut. of Dumbarton, had Cardross Free Church built (with father).

1865-8 Kilmahew House built to designs by John Burnet (1814-1901)

'"After a good night's repose ... we rose very early in the morning and went to see the old castle of Kilmahew. Before reaching it we had to pass through a long romantic glen; the scenery here was very beautiful. The walk which we chose for out path had on the left side a rich mossy bank overhung with shady trees; while on the other side lay a steep rugged bank at the foot of which a rivulet with various cascades ran rippling through the shade, thus lending to the scenery a wild and picturesque appearance. Over a very rocky part of this bank, a large substantial Stonebridge was built, this we crossed and came upon numerous workmen who were building a very extensive mansion for Mr. Burns the proprietor of the estate of Kilmahew. Going up the glen a little father we came to the old castle. There, as we stood and gazed upon its now dilapidated walls, many a thought of past days rushed through our minds and filled us with awe."' From the Lennox Herald, and quoted in *St Peter's College Magazine*, p. 8

'Built for John William Burns, son of the founder of the Cunard Line, it is thoroughly Baronial, though not Burnet's best. All the usual Scottish elements are employed, plus some unexpected Star of David tracery in two tall staircase windows.' *North Clyde Estuary*, p.60

'…the new laird has erected a mansion house which, for beauty of situation and design, quite excels any other in the parish.
In many ways John William Burns has greatly improved his various estates since they came into his hands. He has lavished money upon them to good purpose.' *Historic Families*, p.67

'The castle, ... is a fine example of the Scotch Baronial style at the time when it was merging into the Jacobean type; and nothing could be more in unison with the surrounding scenery. Seen close at hand, it as an aspect of great dignity, united with a pleasing absence of heaviness or undue solemnity; while its peaked gables and lofty turrets, rising from the densely wooded-glen, as seen from the Clyde, or from the South-Western Railway on the opposite shore, blend most harmoniously into the natural features of the hillside. The rock used in building, a bastard freestone of greenish grey tone found in the ravine near the castle ... The chief entrance is the the east, and as is common in this style, is on the lower or servants floor ...' *Dumbaton Herald*, 1879

'Altogether the house was built with three reception rooms, twenty-one bed and dressing rooms, a billiard room and a library. ... the house was famed for its collection of family portraits by some of the finest artists of the day. In the library there was a collection of some 5,000 rare books.' *Cardross, the Village in Days Gone by* p.83

1865-95

1st Edition Ordnance Survey /County Series 21

This shows two burns, Kilmahew and Wallacetown with densely wooded banks, surrounded by farmland. Farmsteads are scattered roundabout, and include Kilmahew, Wallacetown, Low and High Milndovan.

The lane that will form west boundary of designed parkland has a spur leading directly to the Keep. There are narrow shelterbelts lying parallel to the lanes in some places.

A spur off Carman Road leads a settlement labelled "Triangle of Milndovan" via a property called Ladeside further south. Neither settlement is shown as a courtyard which suggests that they are not farmsteads. There is a triangular area between the two burns shown as open field and a noticeably small field network surrounding the Triangle of Milndovan settlement to elsewhere.

There is a path suggested on the west bank of Kilmanew burn leading north to the Keep, but could be shading to suggest embankment.

The boundaries, be they fields or roads of the designed landscape already exist.

1871 John William Burns, began, on his accession to the property in 1871, an extensive scheme of improvements to the estate. He acquired several of the neighbouring properties (including the old Chapel of St. Mahew) which had formed part of the ancient property of the Napiers. Among the lands thus incorporated in the estate was the ancient property of Milndovan …, which in the eighteenth century was owned by a family named Bontine. A somewhat pathetic memorial of this family and their house remains in a group of a few stones, near the tennis courts, one of which bears the inscription: "R.B., M.B., 1732" (Robert Bontine of Milndovan and his wife, Margaret Bontine), and, another repeats the date 1732.' *St Peter's College Magazine*, p. 8

'John William Burns undertook extensive schemes of roadmaking, fencing and draining and he laid out the lovely lawns, garden and woodland, together with the fine artificial lake. The whole complex makes the most of a magnificent situation. The able landscape architect who has laid out the grounds has made full use of the splendid back-ground provided by the broad River Clyde, the Renfrewshire coast and distant Argyllshire mountains.' *St Peter's College Magazine*, p. 8

1871-2 Cardross Free Church built to designs by John Burnet, commissioned by James Burns and son, John William. *North Clyde Estuary*, p.59

1875 John William Burns bought '… the fine estate of Cumbernauld, so long associated with the historic family of Fleeming, Earls of Wigtown and Lords Fleeming, paying for the same £160,00.' *Historic Families*, p.67

1879 'Among all the sunny slopes that swell upwards from the bosom of the Clyde, through richly cultivated fields and picturesque ravines to the heath-clad hills of the Lennox, there is surely no fairer scene than that glen of Kilmahew in which the old Napiers dwelt. Their castle, a roofless ruin, still stands embowered among the trees near the head of the ravine. A little lower down, on a nobler plateau on the oppositie bank of the burn which runs through the defile, stands the modern castle of Kilmahew. The sweet southern exposure; the magnificent look-out , in front across the Clyde to the pastoral hills of Renfrew and Ayr, on the right to the grim mountains of Argyll, in the centre, to the distant peaks of Arran; the bosky glades lying between the ancient home of the Napiers and the shore-these might well sufficed to vindicate the choice of merchant prince of our own day, who fixed his abode among the woods of Kilmahew…

When we have walked up the romantic glen we find the ancient seat of the Napiers is in the possession of a happy party of excursionists: three young men are discoursing music form the summit of a fragment of the broken wall, while their companions are dancing merrily on the green sward underneath, a few couples may be seen wandering in the woods. This picturesque spot is a favourite resort of such parties from the city: and they are always made welcome by the lord of the manor.' *Dumbaton Herald*, 1879

1879 Kilmahew, The Seat of John Burne, *The Book of Dumbartonshire,1879*

1880 "Kilmahew Tower" described as roofless by David Murray *Old Cardross* p. 20

1889 'This old castle, the ancient seat of the Napiers, stands near the top of a picturesque little ravine, about one mile north from the Frith of Clyde at Cardross. The estate remained in the possession of the Napier family from the thirteenth to the nineteenth century, when it was broken up and sold in lots, but has again to a great extent been gradually acquired and reunited by the present proprietor, John William Burns, Esq., and his father. During the interval the owner of the castle for the time carried out considerable alterations upon it, and rebuilt the south and west walls with the view of rendering it a modern mansion in the Gothic style, with a large entrance staircase and doorway a the south-west angle.

The fireplace in the east wall and various wall recesses also seem to owe their origin to the operations of this period. The general outline of the structure is undoubtedly that of the original castle, being parallelogram 46 feet long by 25 feet broad. The entrance door was near the north-west angle, and on the ground floor. The broad lintel which covers it bore at one time the motto-"The peace of God be herein." At the parapet, exactly above the doorway, may be noticed two large and boldly-projecting corbels, which no doubt carried a battlement or breteche for the protection of the entrance. …'

This fine modern mansion of Kilmahew, built by the late Mr. Burns, occupies a beautiful site at a short distance from the old castle. From its well-kept and picturesque grounds a splendid view is obtained over the Frith of Clyde and the Renfrewshire hills beyond.' *The Castellated and Domestic Architecture of Scotland* p.443-444

1891 '…the family was, of course, well established in the house and we can see from the census that present that night were four members of the family, two visitors, a retired nurse, and nine domestic servants. When we consider the number of gardeners, under-gardeners, foresters, gamekeepers, ostlers and stable boys who were also in the employ of the family, the total number must have been similar to some small-to medium sized business today. …

… The gardens of Kilmahew were at one time the horticultural glory of the area, none

by the best head gardeners being employed by the laird, and many were the visiting parties who enjoyed picnics there and pleasant walks along the wooded paths. John Fleming, gardener throughout much of the Victorian period, David Morris, gardener from towards the end of the last century, and Frank Dunbar in more recent times (under the Allan family) were very eminent in their profession.' *Cardross, The Village in Days Gone by*, p. 83

1895 Farmland laid out south of West park as a golf course. Golf club established and leased land.

1896-1900

2nd Edition Ordnance Survey / County Series 22

This shows the new Kilmahew mansion house, complete with terraces and formal garden with central fountain; west and south lodge and associated approach drives; the Gothic bridge and double bridge; a stable block; large kitchen garden; curling pond; and large fish pond or lake.

The lines of the burn running through the site remains unaltered. There is an incredibly intricate network of paths that includes 11 footbridges and the path running parallel to Kilmahew burn leading south to Bloomhill and Auchenfroe. The path with lime trees shown for first time. The lane to the Keep from the west has been removed.

A new approach leading eastwards from west lodge appears to be the main visitor approach. Boundaries are removed to create parkland on either side and framed views are controlled by tree clumps and the smooth flowing lines of shelterbelts. Iron railings are suggested by graphics.

The approach from south lodge follows the alignment of the lane to 'Triangle of Milndovan' with views looking south over parkland.

There is an open area to east of mansion with framed views to the east park, where field boundaries and the settlements at Triangle of Milndovan and Ladeside have been removed.

The north wall of the kitchen garden follows the line of an earlier field boundary and is planted alternately with deciduous and coniferous trees. The whole of the triangular area created by the junction of the burns appears to be have been walled or fenced with entrances in the north, west corner and east. The latter is positioned to the east of where the lane to 'Triangle of Milndovan' crossed Wallacetown burn. The garden includes extensive glasshouses, with bothies, potting sheds etc. on the north side of the wall. There is an inner walled area in the north east corner of the garden which suggests the main area of activity.

The stables are laid out in a u-shaped courtyard. Additional outhouses suggest accommodation for a coachman or grooms. The wooded area extends westwards to conceal the stables from views from West park.

Two islands are shown in the fishpond or lake. The lake is roughly in the location the spur shown on earlier maps, with views from terrace to lake and vice versa.

The Keep is shown as Kilmahew Castle. There is a long view from the Keep over the lake, framed by clumps in the west park to the Clyde beyond.

The field network retained to the north east of the mansion suggests this was never considered parkland and they form an important part of the setting.

1900 **John William Burns** succ.

b. Blythswood 1863, m.1903 Annie Douglas Pilkington (d.1945), da. Of Thomas Pilkington of Sandside, Caithness

JP cos. Dumbarton and Lanark, BA Cantab., Late Captain 1st Dragoons, served in South African War, in WWI in 5th Res. Cav., Member of King's Body Guard for Scotland, the Royal Co. of Archers.

1900 Kilmahew from the Swan Pond about 1900, Helensburgh Library

1900 Kilmahew Mansion House about 1900, Helensburgh Library

1908 Claud A. Allan (1871-1945) becomes tenant of Kilmahew House. Cardross, *The Village in Days Gone by*, p. 831918-1922

1917 Wartime Fete at Kilmahew (detail), Helensburgh Library

c.1917 Wartime Fete at Kilmahew, Helensburgh Library

1919 24 May 'KILMAHEW FOR SALE Major Burns has decided to sell Kilmahew, Cardross, and has instructed Messrs Knight, Frank & Rutley to offer it for sale, by auction, in the coming season. The estate is about 2000 acres in extent, and includes the mansion house of Kilmahew with the remains of the old castle, three other large residences, the Cardross Golf Course (18 holes) and club house, and numerous farms and small holdings.' *The Lennox Herald*, p.3, col.1

1919 **Claud A. Allan** purchases Kilmahew Estate

'The estate … amounted to 1,552 acres when it was sold in lots in 1919. It include, the old castle, the mansion house and grounds, Asker Farm with Asker Hill rough pasture and plantation, Kilmahew Farm, Kilmahew Cottages, Low Milndovan Farm, Auchenfroe House and grounds with about an acre of woodland and a cottage, and Bloomhill House and grounds.' *Cardross, The Village in Days Gone by*, p. 83

1918-22

3rd Edition Ordnance Survey /County series 22

This shows the modernisation of Kilmahew, and indicates a sewage plant in the location of the Triangle settlement. A sun gauge shown to the west of this.

The stables appear to be partially glazed and a coach house has made way for a gasometer. There is an additional carriage route linking the stables with drive to mansion house

Lots of parkland trees appear to have been planted in the west park, which were not visible on 2nd Edition OS map. Farmland to the south of west park is laid out as a golf course

In the east park, trees planted adjacent to the sewage plant, still exist today and are roughly in same alignment as the trees visible in the 1st Edition OS map, adjacent to the settlement of 'Triangle of Milndovan'. Open farmland to the north east of the mansion house is shown with additional field boundaries

A Sundial is shown to east area of walled area within kitchen garden

The weir adjacent to the Keep labelled as a waterfall.

The curling pond is labelled
The northern section of path running parallel to Kilmahew Burn no longer visible
All the designed views visible in 2nd Edition OS map are still in tact.
An area to east of the mansion house turning circle opened up further and the wooded area extended eastwards into east park to screen new tennis courts.

Early c19th

Kilmahew Old Castle, Cardross, postcard, Helensburgh Library

Early c19th Helensburgh Library

Kilmahew, Cardross, postcard, Helensburgh Library

1938 'We were looking forward to visiting the famous garden which has been so keenly and enthusiastically planned by its owners, Mr. And Mrs Claud Allan. We felt that we were not altogether strangers as we have enjoyed reading the Northern 'Gardeners' notes which Mr. F. G. Dunbar, who watches over Kilmahew's park and garden, so ably contributes to our Week's Work pages. …
Our expectations were more than justified …
The garden … is, in the main, a magnificent example of natural landscape effect in which the existing features have been adapted and enlarged, but care has been taken to retain and enhance the natural beauty of the grounds. The castle itself stands on rising ground, approached by the winding avenue, and is surrounded with a broad, flagged and balustraded terrace. Beyond the castle the ground falls sharply away into a deep, natural ravine which has been widened, banked and turfed in pleasant undulating levels. From the higher ground at one side a little stream finds its way gradually along the bottom of the ravine, and by its side Primula japonica in many shades of colour, and P.pulverulenta thrive happily.
The view from the terrace is truly magnificent. A long vista through beautiful trees, past banks of Rhododendron ponticum, terminates in a glimpse of the ornamental lake, far away on the higher ground. The scene, quiet … is even more entrancing as then the skilful plantings of many shrubs which deck themselves with colourful foliage and berries, come into thief full glory. Skirting one end of the old Moss-covered terrace is a winding path leading down into the ravine; a the base of the terrace a long herbaceous border, …
An interesting feature of the garden is that the natural effect has been closely adhered to, even to the extent of planting, for the most part, only shrubs and trees as are in true keeping with the whole conception. Thus it is, that the more flamboyant hybrid Rhododendrons and other decorative shrubs are not included, and the subdued tones of R. ponticum reign undisturbed and rightful dignity among Silver Birches and Scottish Rowan trees. Here and there, but not obtrusive in the general vista form the terrace, we found many plants of an obvious exotic nature. Japanese Maples, Tricuspidaria lanceolata, Pieris (Andromeda) japonica var. variegata, sheltered the sturdy growths of Lilium giganteum which were thrusting boldly through the rich dark soil. Beneath the plantings of shrubs and trees a fine collection of hardy Heaths was flourishing …' The Gardeners' Chronicle

1938 The Lake, Kilmahew Castle, *The Gardeners' Chronicle, 1938*

1938 Below the Terrace, Kilmanew Castle, *The Gardeners' Chronicle, 1938*

1945 **Commander Allan** succ. (son) Cardross, The Village in Days Gone by, p. 83
Evacuation of students and staff from St Peter's College, Bearsden to St Joseph's College, Mill Hill, England, to allow repairs to be made.

1946 15 May: Aerial photograph
23 May Destruction of St Peter's College, Bearsden, by fire during dry rot repairs.
5 October Students and staff moved to Darleith House.

1948 Archdiocese of Glasgow acquires Kilmahew house and grounds. Cardross, *The Village in Days Gone by*, p. 83

World War II caused considerable damage. 'A land mine fell near Kilmahew Castle, trees were thrown down by the blast and the mansion house suffered severely: most of the windows were blown in, the woodwork and even solid brick interior walls in the upper part of the house were dislocated and broken. No repairs could be attempted while hostilities lasted, except to make the house wind and water tight. Such was the situation when St. Peter's College came from the neighbouring property of Darleith, and having settled down there looked around for means of expansion and for increasing accommodations.
…the house at Darleith was given over to the students of philosophy and Kilmahew was reserved for the theological students.
… The compact, vertical plan of Kilmahew house was not so easily adapted to the requirements of college life as the much rambling, horizontal plan of Darleith …
To eke out accommodations, a number of students are for the present, lodged in a separate buildings, a few minutes' walk away from the main house: this building which contains garages, stable, ball-court, three dwelling houses and other offices, … in addition to a large walled garden with extensive green houses, the estate provides us with two large tennis courts, a delightful boating pond, a curling pond, putting green, since the property extends over part of the Cardross Golf Course, … since our arrival here, a football field has been made out in one of the fields above the house.
The most striking feature of the estate is the extraordinary beauty of its situation; lying halfway up the Carman Hill, though it is within twenty minutes' walk of the main Dumbarton to Helensburgh road, it contrives to be completely isolated and peaceful yet, at the same time, commanding a magnificent view of the whole stretch of the Clyde from Dumbarton to Dunoon. The estate is traversed by two picturesque burns, the Wallacetown Burn and Kilmahew Burn, this latter cascades down past the old castle through a most beautiful glen. The course of these two streams have been planted with a grand variety of trees and shrubs, which in spring and autumn, are a kaleidoscopic in their ever changing colours of leaf and flower: everywhere the ground is a carpet of flowers, changing with the course of the year, snowdrop and daffodil, narcissus, primrose and bluebell. That part of the estate which immediately surrounds the house is a delightful blend of natural and artificial beauty, framing lovely vistas of the River Clyde…
The beauty and peace of the place has attracted a delightful variety of bird and animal life;…' *St Peter's College Magazine*, p. 9-10

1948 View from West, St Peter's College, Kilmahew *St Peter's College Magazine*

1948 College from Lake, St Peter's College, Kilmahew *St Peter's College Magazine*

1948 Abortive bid, by the Archbishop MacDonald of St Andrews and Edinburgh, to buy the Royal Hotel, St Andrews, for conversion into a national seminary and training college for male Catholic teachers.

1948 16 September: Move of theology students to Kilmahew House (leaving philosophy students still at Darleith).

1948-49 Theological Staff, St. Peter's College, Kilmahew, Helensburgh Library

1953 April: Beginning of discussions between Jack Coia and the archdiocese on extension to Kilmahew House; first (unrealised) scheme by Coia and McRoberts.

1956 June. Design of St Paul's Glenrothes.

1956 April: Continuing discussion between Gillespie, Kidd & Coia (GKC) and Archbishop Campbell over the initial scheme.

1959 Preparation of GKC drawings for second design.

1958-66 St Peter's College built adjacent to the house.

1960 February: Exploration work under supervision of W V Zinn, consultant engineers.

1960 1st March: Arrival of machinery for construction of retaining wall.

1960 June: Construction of model.

1960 October: Transplantation of trees from site by students.

1960 30 November: Cutting of first sod by Archbishop Campbell.

1961 Site plan, Gillespie Kidd & Coia of proposed new St Peter's Seminary.

1961 17 April: Beginning of construction of the retaining wall, by contractor Hunter & Clark.

1961 May: official appointment of Zinn as engineers for project

1961 July: Alteration (to reduce cost) to design of sanctuary block.

1961 November: Alterations (to reduce cost) to design of main block; reduction in totals estimated cost from £486,010 to £349,800.

1961 8 November: Completion of retaining wall.

1961 25 December: Commencement of Second Vatican Council.

1962 January: Beginning of structural revisions to classroom block.

1962 29 April: Commencement of pile driving.

1962 15 June: Acceptance of main building contract by James Laidlaw & Sons

1963 January: Further alteration to sanctuary designs.

1963 **Monsignor Treanor**, Rector of St Peter's College. died 24 January,

1963 **Father Michael Connolly** appointment as Rector.

1963 April: Move of Farther McRoberts from his post at St Peter's to St Charles, Carstairs.

1963 April: Completion of main block foundations, and beginning of construction of first floor; delay to work by bad weather.

1963 **Archbishop Campbell**. died 22 July

1963 August: Alteration of convent block design.

1964 August: Beginning of alteration work to existing house.

1964 September: Completion of shell of main block.

1964 8 September: Laying of foundation stone in sanctuary by Archbishop Scanlan.

1964 late: Beginning of internal fitting out of convent block.

1965 April: Introduction of overtime working by Laidlaw to accelerate work.

1965 12 April: Progress visit by Archbishop Scanlan

1965 8 December: End of Second Vatican Council.

1966 18 March: Complaints by Laidlaw about lack of detailed drawings.

1966 April: Alterations to stable block.

1966 May: Screening of BBC Documentary, Four Modern Buildings.

1966 1 October: Beginning of use of new buildings (except classroom block) by students and staff.

1966 30 November: Inauguration ceremony and solemn opening of St Peter's College

1967 February-December: Further alteration to Kilmahew House.

1967 2 April: Opening of classroom block (with exception of the library).

1967 19 October: RIBA award to GKC for design of College.

1969 29 November: Receipt by architect of final claim from clerk of works.

1971 March: Vatican announcement that 13,450 Catholic priests had abandoned the priesthood between 1964 and 1967.

1971 22 June: Final cost from McLernan & Whyte, quantity surveyors (£609,805 5s 8d, including £574,575 due to the main contractors), along with claim for prolongation of £23,928 16s 9d.

1971 22 October: Settlement of final certificate (but not prolongation claim) by diocese.

1972 **Monsignor McMahon** appointment, as Rector (in succession to Farther Connolly).

1972 May: Conclusion of negotiations over finalisation of architects' account.

1973 7 April: Report by Monsignor McMahon on water ingress and other problems with new college.

1974 September: Collapse of roof over stairway in classroom block.

1974 14 November: Statement by GKC to Archdiocese, disclaiming 'professional liability' for problems of building.

1974 24 December: Promise by GKC to start repair work in early 1975.

1975 September: Withdrawal of Motherwell Diocese's students from Cardross, to attend Drygrange Seminary

1976 **Archbishop Scanlan**, Former archbishop dies 25 March

1976 November: Decision in principle to close Cardross Seminary; application by First Hospitality Corporation of America for change of use of the complex to a hotel.

1980 February: Official closure of St Peter's College; re-housing of Glasgow Province seminary in the former Convent of the Franciscan Nuns of the Immaculate Conception, Briar Road, Newlands.

1980 March: Planning application (later withdrawn) for change of use to conference centre.

1980 May : Withdrawal of First Hospitality Corporation of America's planning application and offer of purchase.

1981 **Jack Coia** dies in August

1983 Beginning of four year use of former Cardross seminary building buildings by the diocese as a drug rehabilitation and detoxification centre.

1983 Archdiocese submitted application to demolish St Peter's College. Application refused.

1985 November: Opening of new interdiocesan Chester College, Bearsden responsible for training priests for the whole country except St Andrews and Edinburgh, and Aberdeen.

1987 Closure of drug rehabilitation centre in former seminary, owing to deterioration of building.

1987 September: Statutory listing of St Paul's Church, Glenrothes, (the first post war GKC building to be listed).

1987 Golf club purchased golf course.

1992 Preparation of (abortive) plans by the Walker Group for marketing and restoration of Cardross complex.

1992 6 August: Elevation of St Peter's College by Historic Scotland from Category B to Category A.

1993 Classical House asked to consider a strategy for safeguarding St pPeter's College.

1993 October: Planning application by Archdiocese for part-demolition of complex; application refused.

1993 October: Alternative planning proposals for conversion of the complex to flats, or for its retention as a consolidated ruin; acceptance of the second option (not yet acted upon, by September 1996).

1993 4 October: Redesignation of Chesters College as Scotus College, national seminary for the whole of Scotland.

1994 Report for DOCOMOMO The Scottish National Group

1994 Market assessment was commissioned from EDAW CR Planning for Dunbartonshire Enterprise.

1994 Planning application submitted for the conversion of the seminary to residential use, together with the development of a further 60 houses on the site of the walled garden and stable block (Refused 16 May 2004)

Mothballing of the listed buildings (Approved) supported by enabling development of 24 houses (Refused 16 May 2004)

Listed building consent for the partial demolition of Kilmahew House and alteration to seminary for retention as a monument (Granted 30 June 1994)

Demolition of fire damaged Kilmahew House (Granted 8 November 1994)

1995 November: Kilmahew House demolished.

1996 Appeal against the refusal of the outline application for the residential development of 22 houses was dismissed.

1997 Development of Viable Strategic Masterplan for the Maintenance and Sustainability for the Kilmahew Estate Cardross, prepared by Page and Park and Ian White Associates

1998 31 August: Planning Application for the formation of 33 new house plots and a new country park. The proposals included works to the seminary to make it safe, by means or repairing and mothballing the buildings. No Listed Building Application was submitted.

1999 28 July: Planning application called in for determination by the Scottish Ministers on the grounds of the proposal's possible implications for the green belt policies contained in the development plan; and guidance contained in NPPG 17 : Transport and Planning and NPPG 18: Planning and the historic Environment.

2000 18Jan-26 Jan: Public Inquiry held at Geilston Hall Cardross on the proposed planning application for the erection of 33 new house and the formation of a new country park

2000 August Scottish Ministers refused outline planning permission.

2004 June: Planning application for the erection of 28 residential building plots and the stabilisation of the seminary buildings with the restoration of a section of the building

2005 November: Ryden issued Assessment of Development Appraisal for Outline Planning consent for Development at Kilmahew Estate, Cardross.

2005 Montagu Evens prepared report for Historic Scotland

2007 January Avanti Architects commissioned to carry out Conservation Assessment of St Peter's College.

Helensburgh Library
West King Street
Helensburgh
G84 8EB
tel:01436 674 626
http://www.argyll-bute.gov.uk/helensburghlibrary

The Mitchell Library
North Street
Glasgow G3 7DN
Phone: 0141 287 2999
Fax: 0141 287 2815
http://www.mitchelllibrary.org/virtualmitchell/

**12.4 Archival sources**

Gillespie Kidd & Coia Archives
Mackintosh School of Architecture
177 Renfrew Street
Glasgow
Scotland
Tel: 0141 353 4666
http://www.gsa.ac.uk/update_flash.html

British Architectural Library
Royal Institute of British Architects
66 Portland Place
London W1B 1AD
tel:020 7580 5533
http://www.architecture.com/go/Architecture/Reference/Library_898.html

Photographs Collection
British Architectural Library
Royal Institute of British Architects
66 Portland Place
London W1B 1AD
tel:020 7307 3627 and 020 7307 3642
http://www.architecture.com/go/Architecture/Reference/Library_887.html

The Twentieth Century Society
70 Cowcross Street
London EC1M 6EJ
tel:020 7250 3857
http://www.c20society.org.uk/

RCAHMS
John Sinclair House
16 Bernard Terrace
Edinburgh
EH8 9NX.
tel:+44 (0)131 662 1456
http://www.rcahms.gov.uk/contact.html

**12.5 Bibliography**

Project Correspondence
Supporting Financial Statement dated June 2004 Confidential Info
Cost Plan Dated June 2004 by CRGP Ltd (formed part of above)
Copies of Original Floor Plans and Section Gillespie Kidd & Coia
Copies of Original Site Plan Gillespie Kidd & Coia
Asbestos Walkover Report April 2005 by Johnson Poole & Bloomer
Summary Precognition for Public Inquiry 1999 prepared by Ian White Associates
Argyll & Bute Planning Report Dated 21 Sept 1998 On Planning Application to form 33 Building Plots and formation of a country Park
Argyll & Bute Council Closing Submission for Public Inquiry dated January 2000 for the above application.
Scottish Executive Report of Local Public Inquiry 18-26 Jan 2000
Development of Viable Strategic Master plan for the Maintenance and Sustainability of the Kilmahew Estate by Page and Park Architects and Ian White Associates
Market Assessment of St Peters by EDAW CR Planning dated Sept 1994
Historic Buildings Statement of Case dated Oct 1999
Soluis fly through on CD
Hirst Landscape CD
St Peter Preservation Building Trust All relevant correspondence and Elliot and Partners S.Eng report.

Publications/Policy Documents
**Conservation Principles Polices and Guidance for the Sustainable Management of the Historic Environment (Second Stage Consultation)**, 2007, May, Published by English Heritage
**Memorandum of Guidance on Listed Buildings and Conservation Areas**, 1998, Published by Historic Scotland
**Modified Finalized Draft Local Plan-Written Statement**, 2006, June, Published by Argyll & Bute Council
**Enabling Development and the Conservation of Heritage Assets**, 2000, Sept, Published by English Heritage
**Journal 3: The Twentieth Century Church**,1998. Published by The Twentieth Century Society

Architectural Press & Articles& Film
**Concrete Quarterly**, 1967, Jan-Mar.,p.16-23 St. Peter's College Seminary, Cardross.

**Architect and Builder**, 1967, Sept.'p.22-26. St. Peter's College Seminary, Cardross.
**Country Life**, 1967 July 27, p.212-214 St Peter's College, Cardross.
**Architect's Journal**, 1968 May 1st St. Peter's College Seminary, Cardross.
**Mac Journal**: Special Issue. Gillespie Kidd & Coia, no.1,1994 p. 4-74.
**Prospect (Scotland)** no.89,2003 Jan/Feb.' p.22-29 The seminary at Cardross, see as Scotland's best and most neglected modernist building.
**Prospect NW** no.6, 2004 Jan/Feb.'0.10-15 Fallen Angels by Penny Lewis
**Icon**, Dan Dubowitz's photos of crumbling monasteries. No. 010, 2004 Feb.,p.90-95
**Prospect (Scotland)** : no.107, 2005Jan.'p.46 My favorite building. St Peter's Seminary, Cardross, Article by Nick Barley
**Architect's Journal**, vol 224, no.9,2006 Sept.14, p.27-41 Cardross by Andrew Mead.
**St Peter's College Magazine** "Kilmahew Cardross", extracted from No. 72, June 1949
**The Gardeners' Chronicle** "Kilmahew Castle" , November 12th, 1938
**The Lennox Herald**, 24 May, 1919 p.3, col.1
**The Dumbarton Herald**, July 30, 1879
**The Architectural Review**, no.1079, Corbusier 100, January 1987
Short Film **'Space and Light'** 1972 Directed by Murragr Grigor
Documentary **'Four Modern Buildings: Cardross Seminary'** 1966. BBC , Presented by Patrick Nuttgens

Books

**Arts Council**, Le Corbusier Architect of the Century, 1987
Edited by Willy Boesiger, Le Corbusier, published by Thames and Hudson,1972
**Burke**, B., A Genealogical & Heraldic History of the Landed Gentry of Great Britain, ed.1952
**Burke**, B., A Genealogical & Heraldic History of the Landed Gentry of Great Britain 1914
**Davis**, M.C, Baronial Mansions & Castle Restorations in the West of Scotland
**Glendinning**, Miles, Rebuilding Scotland: the postwar vision 1945-1975, published East Linton Tuckwell Press, 1977
**Irving**, J. The History of Dumbartonshire, Civil, Ecclesiastical, and Territorial; with Genealogical Notices of the Principal Families in the County, 2nd Ed., Dumbarton: printed for the Author, 1860

**Irving**, J., The Book of Dumbartonshire Vol.3 Portraits and Mansions, W and AK Johnston, Edinburgh and London 1879
**Jones**, A.F., Cardross, The Village in Days Gone by, Dumbarton District Libraries, 1985
**MacLeod**, D., Historic Families, Notable People and Memorabilia of the Lennox, 1891
**MacInnes** Ranald, Glendinning Miles, MacKechnie Aonghus:Building a Nation, The Story of Scotland's Architecture, published by Canongate Books.
**MacInnes** Ranald, Glendinning Miles, MacKechnie Aonghus: A History of Scottish Architecture, published by Edinburgh University Press,1996
**Murray**, D., MA, FSA Scot. Old Cardross: A Lecture, 1880
**Ray**, Nicholas, Alvar Aalto, published byYale University Press,2005.
**Robertson**, W.K.C. robert, Jack Coia, His Life and Work, published 1986.
**Rodger**, Johnny: Gillespie Kidd & Coia 1956-1987 published by RIAS in partnership with The Lighthouse, Scotland Centre for Archtecture, Design and the City.
**Tranter**, N., The Fortified House in Scotland, vol. 5, 1970
**Walker**, F.A. with Sinclair, F. North Clyde Estuary: An illustrated Architectural Guide, 1992
**Watters**, Diane, Cardross Seminary: Gillespie Kidd & Coia and the architecture of postwar Catholicism. Published Royal Commission on the Ancient and Historical Monuments of Scotland 1997
**Webb** Michael, Architecture in Britain Today

Kilmahew Castle
Entry in the Schedule of Monuments re: Kilmahew Castle
MacGibbon, D., and Ross, T. The Castellated and Domestic Architecture of Scotland, Vol. 3, 1889
Tranter, N., The Fortified House in Scotland, vol. 5, 1970
Walker, F.A., "Argyle and Bute" The Buildings of Scotland, Penguin Books, 2000 p.168
Drawings
Cardross Bridge file PDF file on disc
ARM Architects: Proposed Site Sections, Indicative Housing Layout, Site Proposals.
Copies of Original Floor Plans and Section Gillespie Kidd & Coia
Copies of Original Site Plan Gillespie Kidd & Coia
Colour A1 copies of Hirst landscape Architects :Development Framework/Landscape Strategy, Tree Survey, Tree Retention Woodland Planting
Colour A3 Hirst Landscape Architects: Proposed Landscape Improvements around the Building, Original Layout Plan of Building, Site Survey (very basic visual survey)

HISTORIC SCOTLAND

ARGYLL AND BUTE COUNCIL — **CARDROSS PARISH**

Information Supplementary to the Statutory List — **STATUTORY LIST**
(This information has no legal significance)

HBNUM: 6464 ITEM NO: 24

Group with Items: CAT: A

**CARDROSS KILMAHEW ESTATE, ST PETER'S COLLEGE**

Map Ref.: NS 3530 Group Cat.:
7840 Date of Listing: 06-AUG-92

DESCRIPTION:

I Metzstein, J Cowell and A McMillan of Gillespie, Kidd and Coia, 1966. Seminary buildings, originally linked to Kilmahew House (now demolished) consisting of a large main block, 4-storey over a partly raised basement accommodating chapel, refectory and study bedrooms; 2-storey over raised basement, lecture theatre/library block joined at right angles to main block; single storey kitchen wing (now partly demolished) linking the main block to Kilmahew House; 2-storey convent wing formerly adjoined to Kilmahew House to N. Concrete slab and column construction, brown pebble facings to precast concrete slab cladding; interior of main block with non-structural vaulted ceiling of metal lath and plaster.

MAIN BLOCK: 184 X 84 ft. Clustered concrete columns to basement with sunken undercroft. Supporting columns running through the ground floor to support pyramid formed by 3 upper bedroom/study floors, expressed externally by a series of superimposed cantilevers in a stepped ziggurat-like elevation of precast concrete slab cladding. Chapel at S end flanked by a silo-like side chapels, top-lit form half domes. Chapel top-lit at liturgical E end. Altar with ramp descending around behind down to sacristy and lower chapels. Hall and staircase area between chapel and refectory at N end. Upper storeys vaulted and stepped-back reflecting exterior elevation, interior access balconies at each level open to central space. Pine panelled and random-spaced timber mullions to windows (now mostly gone). In-situ reinforced concrete escape stair to N end, cantilevered from a reinforced concrete chimney.

LECTURE THEATRE/LIBRARY BLOCK: 2-storey over raised basement. Basement with perimeter precast concrete columns, formerly housing library and recreational rooms. Glazed upper storey formerly housed classroom. Top storey supported on 4 large internal columns with beams carrying cantilevered projections up to 40ft at both ends with in-situ concrete wall board-marked in a diagonal herring-bone pattern. This floor originally houses top-lit lecture theatres.

SERVICE/KITCHEN WING: single storey. Harled. Small windows irregularly placed, now blocked.

CONVENT: cluster of small rooms most with curved walls, harled and pierced with small windows partly set in under cantilevered almost rectangular-plan upper storey. Harled at ground, concrete slab and column



HISTORIC SCOTLAND

ARGYLL AND BUTE COUNCIL — CARDROSS PARISH

Information Supplementary to the Statutory List — STATUTORY LIST
(This information has no legal significance)

construction with brown-pebble facings to precast concrete slab cladding to upper storey.

REFERENCES:

'Scottish Seminary? Concrete Quarterly Jan-mar 1967. ?Review of New Seminary St Peter?s College, Cardross THE CLERGY REVIEW March 1967. COUNTRY LIFE July 27th 1967. INTERIOR DESIGN August 1967. Peter Willis NEW ARCHITECTURE IN SCOTLAND (1977), pp56-59.

NOTES:

St Peter's seminary was commissioned in 1958 by the Archbishop of Glasgow. Now redundant it has been systematically vandalised and is now reduced to a ruinous skeleton. Designed by innovative architects, Metzstein and McMillan (who ran the Gillespie, Kidd and Coia architectural practice after the war (overseen by Jack Coia) it is hailed as one of the finest modern buildings of the day and was recognised as such when it was awarded the prestigious RIBA Architecture award in 1967. Influenced by the architecture of Le Corbusier and in particular his monastery of La Tourette, they took the traditional monastic plan and reshaped it to form a totally modern idiom in terms of planning, of interrelated spaces which are expressed on the exterior by the change of form and materials and with technical virtuousity they achieved a complex of buildings of amazing effects and sculptural quality. Kilmahew House was demolished in 1995 following fire damage.

WE SAFEGUARD THE NATION'S BUILT HERITAGE AND PROMOTE ITS UNDERSTANDING AND ENJOYMENT

Quick Links >>>

[Skip Navigation Bar] [Sitemap and Accessibility Information]

Buildings at Risk Register for Scotland

Home | Search the Register | Frequently Asked Questions | Contact | Funds for Restoration

# Full Record

For help in interpreting any information given in these results, please refer to Frequently Asked Questions by clicking here.

## General Details

| | |
|---|---|
| *Category:* | AT RISK |
| *SCT Ref No:* | 1483 |
| *Name of Building:* | St Peter´s College (Former) |
| *Other Name(s):* | Cardross Seminary (Former) |
| *Category of Listing:* | A |
| *Conservation Area:* | No |

## Location

| | |
|---|---|
| *Address:* | Carman Hill, Cardross |
| *Postcode:* | G82 5EY |
| *Planning Authority:* | Argyll and Bute |
| *Divisional Area:* | Helensburgh and Lomond |
| *Parish:* | Cardross |
| *OS Grid Ref:* | NS 3530 7840 |
| *Location Type:* | Rural |

## Description

*Brief Description:* Modernist seminary buildings, greatly influenced by Le Corbusier and in particular his work at the La Tourette monastery. The buildings are in concrete and column construction with brown-pebble facings to the precast concrete slab cladding.
The main block rises to 4 storeys and features clustered concrete columns to the basement with a sunken undercroft. Supporting columns run through the ground floor to support the pyramid of the 3 upper bedroom/study floors. These are externally expressed by a series of superimposed cantilevers in a stepped ziggurat-like elevation of precast concrete slab cladding.
The chapel at the south end is flanked by silo-like side chapels, top-lit by half domes. A ramp descends from behind the altar down to the sacristy and lower chapels.
The upper storeys are vaulted and stepped back, with internal access balconies opening onto a central space. An in situ escape stair in reinforced concrete sits at the north end, cantilevered out from a concrete chimney.



The lecture theatre/library block rises to 2 storeys over a raised basement with perimeter precast concrete columns. It joins the main block at right angles. The glazed upper storey formerly housed the classroom. The top storey is supported on 4 large internal columns with beams, which carry cantilevered projections up to 40ft at both ends. An in situ concrete wall is marked with a diagonal herring-bone pattern.
The service/kitchen wing rises to a single storey and is harled. It features small regularly-disposed windows and is now partly demolished, having once linked the seminary to the demolished Kilmahew House.
The convent rises to 2 storeys and comprises a cluster of small rooms, most with curved walls. It is pierced with small windows partly set under the cantilevered upper storey. The ground floor is harled, whilst the upper floor features brown-pebble facings to its precast concrete slab cladding.
The Kilmahew House Estate was bought by the Catholic Church to replace the former St Peter's Seminary at Bearsden which burnt down in 1948. Theology students studied at Kilmahew House, whilst philosophy students studied at nearby Darleith House. St Peter's Seminary was commissioned in 1958 by Archbishop Donald Campbell in order to bring all of the students under one roof. Staff were housed in Kilmahew House itself. Upon opening in 1966 the seminary was instantly hailed as one of the finest modern buildings of the day, winning the prestigious RIBA Architecture Award in 1967. In the upheaval that followed the second Vatican Council in 1967, the number of men studying for the priesthood fell sharply and St Peter's never reached its full capacity of 100 students. It closed in 1978.

| | |
|---|---|
| *Original Date of Building:* | 1966 |
| *Architect(s):* | Isi Metzstein (b.1928), John Cowell (dates unknown) and Andrew MacMillan (b.1928) of Gillespie, Kidd and Coia |

## Picture(s) of Building


Main Block, west elevation
February 1990


Main Block, north and west elevations
February 1990


Main Block, chapel interior
February 1990


Lecture Theatre/Library Block
February 1990


Lecture Theatre/Library Block
February 1990

## Category of Risk / Development History

| | |
|---|---|
| *Condition:* | Ruinous |
| *Category of Risk:* | High |
| *Exemptions to Category of Risk:* | - |
| *Site Visit History:* | February 1990 |
| *Reason for Risk / Development History:* | 1978: The college is vacated and some of the surrounding land sold to Cardross Golf Club. The seminary buildings are unsuccessfully offered to the police as a training college and then to hotel developers. Applications to sell the land for building were blocked as contrary to green belt policy. Kilmahew House subsequently reopened as a drug rehabilitation centre, but was later closed over fears of vandalism. |

February 1990: External inspection reveals the college to be vacant and is disrepair.
Winter 1990: The newsletter of the Glasgow Institute of Architects reports that the Archdiocese of Glasgow is seeking permissions to demolish the 1966 buildings. The classroom wing has suffered water ingress, whilst the copper roof has been stripped in places. The globe lights hanging in the upper lecture rooms are fillled with water and furnishings are now tarnished with mould. However, the buildings remain structurally sound. The adjacent Kilmahew House is well-maintained.
23 February 1992: Press reports note that the Archdiocese has withdrawn security from the site, which is now beset by vandalism although security gates are to be erected. Currently listed within the curtilage of Kilmahew House, Historic Scotland is considering listing the seminary separately. The Walker Group has been commissioned by the Archdiocese to access the development potential of the site.
27 March 1992: The Glasgow Herald reports note that restoration is estimated at £5 million. The Walker Group has invited all interested parties to meet and discuss the future of the site. Security gates have now been erected. The Scotsman repeats the story.
July 1992: A Repairs Notice is served.
4 September 1992: The Helensburgh Advertiser reports that the seminary building has been A-listed.
11 September 1992: The Lennox Herald repeats the story.
14 September 1992: The Glasgow Herald repeats the story.
16 September 1992: Press reports note that the buildings remain for sale. The owners are asking local residents to help counter vandalism.
28 September 1992: The Herald reports on the condition of the seminary.
23 October 1992: The press carries a letter from Docomomo, an international watchdog for the protection of outstanding 20th century buildings, decrying the current condition of the seminary.
25 June 1993: Press reports note that the Archdiocese has asked developers Classical House to join talks on the future of the site.
3 November 1993: The Dumbarton Reporter notes that the Archdiocese has submitted 2 applications for the redevelopment of the site. The first would see the seminary building converted into 6 townhouses, with the teaching block forming 1 house. 60 new houses would also be built on green belt land. The second scheme would see all the building retained and secured for future use by a public body, possibly incorporating a visitors' centre. 24 new houses would be built. Both schemes include the creation of a country park. Classical House is acting as partner.
5 November 1993: The Helensburgh Advertiser and Lennox Herald repeat the story.
3 December 1993: Press reports note that the plans are opposed by many locals. As part of the first scheme, Kilmahew House would be demolished save for the south eastern tower.
20 December 1993: The Herald reports that the plans are opposed by the Cardross Community Council. The Helensburgh and District Civic Society has lodged a formal objection.
30 March 1994: The Dumbarton Reporter notes that planning officials have recommended refusal of all applications, save for the partial demolition of Kilmahew House.
1 April 1994: The Lennox Herald notes that the applications are viewed as contrary to green belt policy and were opposed by Scottish Natural Heritage. Dunbartonshire Enterprise has expressed a willingness to fund condition surveys and marketability reports for the Scottish Historic Buildings Trust. The Helensburgh Advertiser repeats the story.
22 April 1994: The Lennox Herald reports that SHBT is interested in acquiring the seminary under conditions offered in the second scheme, whereby new owners would be given £75,000 to fund maintenace and security. It is exploring conversion into a conference centre, estimated at £3 million.
27 April 1994: The Dumbarton Reporter notes that the Planning and Development Committee has supported the partial demolition of Kilmahew House and alterations to the seminary, but has rejected housing developments on the site.
29 April 1994: The Helensburgh Advertiser repeats the story.
30 April 1994: The Herald reports that the Archdiocese may appeal the decision.
25 May 1994: The Dumbarton Reporter notes that Kilmahew House has been ravaged by fire. The seminary buildings remain largely unaffected.
July 1994: EDAW CR Planning of Glasgow is commissioned by Dunbartonshire Enterprise to undertake a market assessment of potential new uses.
2 September 1994: The Lennox Herald reports that permissions are sought for the



demolition of Kilmahew House. Local planners are recommending approval, though SCT has objected. The house is subsequently demolished in 1995.
5 November 1994: The Herald carries a feature on the seminary.
1 June 1995: The Helensburgh Advertiser notes that Classical House is seeking permission to build 22 houses at the site, with SHBT becoming custodians of the present structures and a £50,000 estate management fund. An area of land will be given over to the Council for use as a country park, whilst the remaining land will be given over to the Strathclyde Greenbelt Company, who will be responsible for maintaining the woodland. Local planners are recommending approval, although the plans are not supported by Strathclyde Reginoal Council.
2 June 1995: The Lennox Herald repeats the story.
7 June 1995: The Dumbarton Reporter notes that Councillors are minded to approval the application.
8 June 1995: The Helensburgh Advertiser repeats the story.
9 June 1995: The Lennox Herald repeats the story.
6 June 1996: The Helensbrugh Advertiser reports that the application was refused, following objections from Strathclyde Regional Council. The decision went to appeal, but has been upheld.
13 June 1996: The Helensburgh Advertiser reports that a local Councillor has criticised the decision.
January 1997: Local planners report that further discussions are taking place between the Council and the Archdiocese with a view to submitting an amended planning application.
22 May 1997: The Helensburgh Advertiser reports on the plight of the college.
10 September 1998: The Helensburgh Advertiser reports that new plans by Classical House would see the seminary stabilised and 33 houses built in the walled garden. The plans are supported by the Cardross Community Council.
4 March 1999: The Helensburgh Advertiser reports that an application has gone before Councillors. The sale of the 25th house would trigger a payment of £100,000 to the local authority for the maintenance of the proposed country park. The seminary buildinfs would be mothballed and gifted to the council, to be managed by a specifically established trust. Local planners are recommending approval.
5 March 1999: The Lennox Herald repeats the story.
7 March 1999: The Sunday Express reports that DOCOMOMO has criticised the plans and has named the seminary as one of the top ten postwar buildings in the country.
8 April 1999: The Helensburgh Advertiser reports that the plans are opposed by environmental campaigners and members of the adjacent Cardross Golf Club.
16 April 1999: The Lennox Herald reports that the plans have been approved with conditions.
24 April 1999: The Helensburgh Advertiser carries criticism of the decision.
7 October 1999: The Helensburgh Advertiser reports on the decision to go to a Public Inquiry.
11 November 1999: The Helensburgh Advertiser reports that Historic Scotland has withdrawn support for the scheme.
27 January 2000: The Helensburgh Advertiser reports on the Public Inquiry.
28 January 2000: The Lennox Herald repeats the story.
August 2000: The decision is called in for consideration by the Secretary of State and is subsequently overturned.
January 2003: Classical House reports that it is to undertake a further marketing appraisal.
13 February 2003: The Clydebank Post and the Helensburgh Advertiser report on the college's inclusion on the Buildings at Risk Register.
25 April 2003: The Lennox Herald reports that the Archdiocese is exploring the establishment of a trust to repair the roof and maintain the building.
2 May 2003: The Clyde Weekly News repeats the story.
7 February 2004: The Herald carries a feature on the seminary in its magazine. A Cardross Regeneration Trust has been established to engender debate on the building.
22 April 2004: The Helensburgh Advertiser reports on speculation that the college may feature in the second series of BBC's Restoration programme.
28 April 2004: The Dumbarton Reporter repeats the story.
12 May 2004: The Dumbarton and Vale of Leven Reporter notes the building's inclusion on the Buildings at Risk Register.
13 May 2004: The Helensburgh Advertiser repeats the story.
19 May 2004: The Dumbarton and Vale of Leven Reporter notes that the Archdiocese of Glasgow is to submit new plans to mothball the college and build 28 houses in the

grounds.
21 May 2004: The Clyde Weekly News reports that the college will not feature on BBC's Restoration programme.
6 July 2004: The Herald reports that the Archdiocese now plans to build 28 homes in the grounds and use the resulting funds to stabilise the college. The Kilmahew Estate grounds will be restored and gifted to a local management company so that they can be opened up to the local community.
8 July 2004: The Helensburgh Advertiser repeats the story.
9 July 2004: The Catholic Observer repeats the story.
19 July 2004: The Glasgow Evening Times repeats the story.
23 July 2004: The Clyde Weekly News repeats the story.
18 November 2004: The Herald reports on criticism of the planning application, which would see much of the college stripped back and mothballed. The St Peter's Building Preservation Trust has withdrawn its support for the plans.
29 November 2004: The Herald carries letters and opinions on the proposals.
4 December 2004: The Herald carries comments on the proposals.
24 December 2004: The Lennox Herald reports that the plans have been formally lodged.
October 2005: Clyde weekly News reports that the seminary has been awarded the title of Scotland's most influentuial modern building by Prospect Magazine.

## Guides to Development

| | |
|---|---|
| *Category of Listing:* | A |
| *Historic Scotland Listed Building No:* | 6464 |
| *Conservation Area:* | No |
| *Category of Conservation Area:* | N/A |
| *Town Scheme:* | No |
| *Townscape Heritage Initiative:* | No |
| *Inventory of Gardens and Designed Landscapes in Scotland:* | No |
| *World Heritage Site:* | No |
| *Planning Authority Contact:* | Jenny Carlile |
| *Telephone:* | (01546) 604277 |
| *Email:* | jenny.carlile@argyll-bute.gov.uk |

## Availability

| | |
|---|---|
| *Current Availability:* | For Sale/Lease |
| *Appointed Agents:* | Classical House Ltd, 29 Park Circus, Glasgow G3 6AP Tel: (0141) 332 6611 |
| *Price:* | Unknown |
| *Floor Area:* | Unknown |
| *Area of Surrounding Ground:* | 100 acres |
| *Marketing Notes:* | - |
| *Occupancy:* | Vacant |
| *Occupant Type:* | N/A |
| *Present Use:* | N/A<br>N/A |
| *Former Use:* | School/College/University<br>N/A |
| *Name of Owner:* | Roman Catholic Archdiocese of Glasgow |
| *Address:* | 186 Clyde Street<br>Glasgow |



G1 4JY

| | |
|---|---|
| *Type of Ownership:* | Religious |

## Information Sources

| | |
|---|---|
| *Bibliography:* | Deffenbaugh (2003); Walker and Sinclair (1992), p61; Watters (1997); Willis (1977), pp56-59; Architectural Heritage, (11) 2000, p77; Architects' Journal, 6 May 1964; Artwork, April/May 1989; Concrete Quarterly, January/March 1967; Country Life, 27 July 1967; Interior Design, August 1967; Newsletter of the Architectural Heritage Society of Scotland, Spring 1994, pp40-43; Prospect, September 1979, p15; The Clergy Review, March 1967. |
| *Additional Contacts/Information Sources:* | Archive material is held by the National Monuments Record of Scotland, the Glasgow Archdiocese Archive, the Royal Incorporation of Architects in Scotland, Scottish Catholic Archives, and Scotus College Museum. |
| *Online Resources:* | http://www.virtualrestoration.org |
| *Original Entry Date:* | 20/02/1990 |
| *Date of Last Edit:* | 11/01/2005 |
| *Authorised users may provide feedback on this record:* | Feedback |

Note: The material in Appendix 12.7 is reproduced with the kind permission of the Scottish Civic Trust, whose assistance is gratefully acknowledged.

**12.7 Risk Registers**
**World Monument Fund Watch List 2008**

**World Monuments Watch List**

Launched in 1995, the World Monuments Watch is the flagship advocacy program of the World Monuments Fund. One of the organization's most effective tools, the **World Monuments Watch List**, issued every two years, acts as a potent call to action on behalf of structures in urgent need of immediate help. So far, more than 75 percent of Watch sites—from the famous and familiar to the unexpected and remote—have been saved or are now out of danger, thanks to timely intervention.

But WMF's work is never done. Today, hundreds of fascinating, important historical structures that tell unique tales of our shared past stand under threat of imminent ruin from war, flooding, vandalism, pilfering, decay, and plain indifference. With each new Watch List, WMF is presented with the challenge and the opportunity to broaden the public's awareness of both the richness and the fragility of our shared cultural heritage. And, through the Watch, we can encourage and support local efforts to save this extraordinary legacy.

The Watch List is selected from hundreds of nominations by an independent panel of international experts convened by WMF every other year. *(See accompanying list of 2008 panel members.)* Sites can be nominated by governments, conservation professionals, site caretakers, NGOs, concerned individuals, and others working in the field. The selection is based on the significance of the sites, the urgency of the threat, and the viability of both advocacy and conservation solutions. Through this unique process, WMF gathers news about endangered sites of all types and from all time periods—from antiquity to the twentieth century—resulting in a list that presents a global picture of the state of cultural heritage.

Previous lists included sites ranging from widely known landmarks such as the Taj Mahal, the Great Wall of China, Pompeii, Teotihuacan, and the Valley of the Kings (now part of the West Bank 2006 Watch listing), to such lesser-known sites as the Larabanga Mosque, in Ghana, and the National Art Schools, in Cuba. Many endangered sites on previous lists have been rescued or are well on their way to being preserved, thanks to timely intervention. Good news from the 2006 Watch List includes the rescue of the Kidane-Mehret Church, Senafe, Eritrea; the Segovia Aqueduct in Spain; the Teatro Capitolio, Lisbon, Portugal; and the Ennis House, in Los Angeles, California, U.S.A.

Since 1996, WMF has made more than 500 grants totaling more than US $47 million to 214 Watch sites in 74 countries. These funds have leveraged more than US $124 million from other sources as a result of the momentum created by inclusion of sites on the Watch List. WMF raises funds from foundations, private donors, and corporations to support the Watch and the effort to save sites on the Watch List. WMF is committed to preventing these sites from disappearing and counts on the support of its donors and the many international and local experts in the field of preservation to carry out its work. For more information on the watch, visit www.WorldMonumentsWatch.org.

**World Monuments Fund**

Founded in 1965, the World Monuments Fund has achieved an unmatched record of successful conservation in more than 90 countries. From its headquarters in New York City—and offices and affiliates in Paris, London, Madrid, and Lisbon—WMF works with local partners and communities to identify and save important heritage through innovative programs of project planning, fieldwork, advocacy, grant-making, education, and on-site training. For additional information about WMF and its programs, please visit www.wmf.org.

# # #

# 2008 WORLD MONUMENTS WATCH LIST OF 100 MOST ENDANGERED SITES

**AFGHANISTAN**
Buddhist Remains of Bamiyan
Murad Khane, Kabul
Tepe Narenj, Kabul

**ALGERIA**
Medracen and el-Khroub
Numidian Royal Mausolea, Constantine

**ANTARCTICA**
Scott's Hut and the Explorers' Heritage of Antarctica, Ross Island

**ARGENTINA**
Brener Synagogue, Moises Ville

**ARMENIA**
Kumayri District, Alexandrapol

**AUSTRALIA**
Dampier Rock Art Complex, Burrup Peninsula

**AZERBAIJAN**
Khinalyg Village

**BANGLADESH**
Sonargaon-Panam City

**BOSNIA/HERZEGOVINA**
Sarajevo City Hall

**BRAZIL**
Porangatu Historic District

**BULGARIA**
Novae Archaeological Site, Svishtov

**BURKINA FASO**
Loropeni Ruins

**CANADA**
Herschel Island, Yukon

**CHILE**
Montemar Institute of Marine Biology, Vina del Mar

**CHINA**
Modern Shanghai
Xumishan Grottoes, Guyuan County

**CYPRUS**
Famagusta Walled City

**EGYPT**
Aqsunqur Mosque (Blue Mosque), Cairo
Shunet el-Zebib, Abydos
West Bank of the Nile, Luxor

**ERITREA**
Derbush Tomb, Massawa

**ETHIOPIA**
Mohammadali House, Addis Ababa

**FRANCE**
Epailly Chapel of the Order of the Temple, Courban

**GEORGIA**
Gelati Monastery and Academy, Kutaisi

**GHANA**
Wa Naa's Palace, Wa

**GREECE**
Lesvos Historic Churches
Pella Macedonian Tombs

**GUATEMALA**
Capitanes Generales Palace, Antigua Guatemala
Ceibal Archaeological Site, Sayaxche

**INDIA**
Amber Town, Rajasthan
Chettinad, Chennai
Jantar Mantar, Jaipur
Leh Old Town, Ladakh
Srinigar Heritage Zone

**INDONESIA**
Kotagede Heritage District

**IRAQ**
Cultural Heritage Sites of Iraq

**IRELAND**
Tara Hill
Vernon Mount, Cork

**ITALY**
Transhumance Cultural Landscape, Molise Region
Farnese Nymphaeum, Rome
Fenestrelle Fortress, Turin
Viscontian Bridge-Dam, Valleggio sul Mincio

**JAMAICA**
Falmouth Historic Town

**JORDAN**
Khirbet et-Tannur, Tafilah
Qusayr 'Amra, al-'Azraq

**JORDAN/ISRAEL**
Jordan River Cultural Landscape

**LIBYA**
Wadi Mathendous Rock Art, Fezzan

**MACEDONIA**
Mother of God Peribleptos Church, Ohrid

**MADAGASCAR**
Fianarantsoa Old City

**MALTA**
Fort St. Elmo, Valletta

**MAURITANIA**
Chinguetti Mosque

**MEXICO**
Huaca Historic Neighborhood, Veracruz
Chihuahua Missions
Monte Alban Archaeological Site, Oaxaca
Teuchtitlan-Guachimontones Archaeological Zone

**MOROCCO**
Al-Azhar Mosque, Fez

**NIGERIA**
Ikom Monoliths of Cross River State

**PAKISTAN**
Shikarpoor Historic City Center

**PALESTINIAN TERRITORIES**
Church of the Holy Nativity, Bethlehem

**PERU**
Laraos Terraces
Lima Historic City Center
Machu Picchu Historic Sanctuary
Macusani-Corani Rock Art
San Pedro Apostol de Andahuaylillas Church
Santa Catalina Monastery, Arequipa

**RUSSIA**
Icon of the Mother of God of the Sign Church, Teplovo
Mendeleev Tower, St. Petersburg
St. Petersburg Historic Skyline

**SENEGAL**
Saint Louis Island

**SIERRA LEONE**
Freetown Historic Monuments

**SLOVAKIA**
Banská Stiavnica Calvary Complex

**SOMALILAND**
Las Geel Rock Art

**SPAIN**
Joan Miró Foundation, Barcelona

**SRI LANKA**
Kandy Sacred City

**SWEDEN**
Ljungberg Hall, Borlange City

**SYRIA**
Cyrrhus (Nebi Houri), Azaz
Old Damascus

**TANZANIA**
Kilwa Historic Sites

**TURKEY**
Çukur Han, Ankara
Hasankeyf
Istanbul Historic Walls
Meryem Ana (Mother of God) Church, Göreme, Cappadocia
Red Church, Güzelyurt, Sivrihisar, Cappadocia

**UKRAINE**
Pidhirtsi Castle

**UNITED KINGDOM**
Mavisbank House, Midlothian, Scotland
Richhill House, Armagh City, Northern Ireland
St. Peter's College, Cardross, Scotland
Wilton's Music Hall, London

**UNITED STATES**
Florida Southern Historic Campus, Lakeland, FL
Historic Neighborhoods of New Orleans, LA
Historic Route 66
Main Street Modern
New York State Pavilion, Queens, NY
Salk Institute, San Diego, CA
Tutuveni Petroglyph Site, Hopi Tribal Land, AZ

**UZBEKISTAN**
Ayaz Kala, Ellikala
Madrasa Rashid, Bukhara

**ZIMBABWE**
Bumbusi National Monument, Matabeleland

## 12.8 Client Brief for Commission





**ST PETER'S SEMINARY, CARDROSS**

**BRIEF FOR THE CONSERVATION PLAN**

This is an amended version of 'Document One: Consolidation Plan Issues' re-titled 'Conservation Plan Issues', which has been amended in by HS in consultation with the Archdiocese and Argyll and Bute Council. As previously, the chart details the outstanding issues on the current application at St Peter's, the information required in relation to these issues, and how that might translate to the brief.

| ISSUES | INFORMATION REQ'D | DRAFT BRIEF |
|---|---|---|
| 1. Lack of statement of cultural significance to inform consolidation and maintenance strategy. Significance | A brief statement of cultural significance would inform the consolidation and repair options. The model will be Historic Scotland's interim statements of cultural significance carried out for all HS properties. The Statement would detail what it is that makes the seminary so very important – and why, including the method of construction, the cladding, the ziggurat form, the central heating system, the roof structure, and use of light. The statement should help identify what are the most significant elements are that should be retained, repaired and reused (if possible) or consolidated and interpreted and what may be of lesser significance. | Compile a statement of cultural significance. |
| Condition survey graded according to urgency of identified repairs or other works | This exercise would use existing information and survey the buildings to provide a reasonable assessment of the buildings' general condition. A schedule of the buildings and structures to be covered by the plan is required. In this way the current condition, the consolidation or repair solution and the significance of each element can be assessed. | Carry out a condition survey of the complex as it exists, relating condition to significance along with the action required for each building and structure within the complex. |







| | | |
|---|---|---|
| Necessary repairs to the complex | This would define the consolidation and list all repairs necessary to bring the building to an agreed level of stabilisation. | Define consolidated structure and list actions to achieve this. |
| Lack of defined consolidation plan with justifying principles and costs. | Up-to-date costs are needed on the cost of consolidating the structure on the basis of the agreed consolidated structure. We need to examine and agree a feasible consolidation plan based on culture significance and practicality. | Examine the range of consolidation options from wind, watertight and secure to stripping back to the structural shell. Prepare costs for achieving an agreed consolidated structure. |
| Actions necessary to conserve the setting of the complex | This would list the actions necessary to conserve/ preserve the setting the immediate setting of the complex, which was an important part of design aesthetic. | Prepare a scheme for conserving the 'immediate' setting of the consolidated monument, including planting and hard landscaping repairs. |
| How will the building be approached and used by visitors? | A strategy is needed which would detail the way in which the complex would function in the landscape. Would visitors enter the building in a controlled manner or be kept back behind security fencing? Would there be an interpretation scheme for the complex and what would be the scope of such a scheme? Could part of the building be used for interpretative or related purposes? | Scope and recommend a scheme for appropriate public access and enjoyment of the site. |
| Ongoing maintenance schedule | An ongoing maintenance schedule would act as a kind of 'user's manual' for the building, listing actions necessary to reasonably maintain the complex as a 'monument'. | Scope and prepare a maintenance schedule for the consolidated structure. |
| Site safety | There should be a strategy for providing site safety relative to any access intended for maintenance or for the public. | Prepare a strategy for site safety appropriate for maintenance and/or public access. |

| | | |
|---|---|---|
| Funding gap for consolidation and future maintenance | There is a need to identify at this stage if a funding gap exists between the cost of consolidation and the funds generated by the proposed development. | Compare the costs of consolidation established by this exercise with the amount of funds potentially raised by the current scheme for enabling development to quantify any funding gap. |

Ranald MacInnes
Principal Inspector
Historic Scotland
17 August 2006

## 12.9 Examples of Rescue and Re-use

12.9.1 Encouraging precedents - Ruins and rescues

12.9.2 A famous legend from the rebuilding of St Paul's Cathedral in London tells of Wren's instruction to one of his masons to find a suitable stone from the surrounding rubble with which to infill part of the new walling, and how the mason returns with a noble fragment bearing the inscription RESURGAM. This piece of stone, which may still be seen high in the pediment of the south transept, came to symbolize the defiant resilience of that moment when after the devastation of the Great Fire London rebuilt itself and moved forward to become again a leading world city.

12.9.3 The act of rebuilding or rescuing, wherever it has occurred over the centuries, has frequently acquired a particular resonance within its historical and cultural context – whether it marks a moment in the recovery of a nation, a city, a village or even a single social group. The recreated artifact generally comes to embody the shared aspiration not only of its rescuers, but also of the whole cultural community they effectively represent. Embedding itself in its historical moment it converts collective effort into a material monument to survival and continuity.

12.9.4 This section of the report has accordingly been included in order to place the current predicament of St Peter's Cardross in a wider contemporary and historical context. If for a moment one imagines the mountainous difficulties of rescuing the seminary and returning it to some sort of beneficial use as a project already completed, it is interesting to contemplate the cultural impact of such an achievement in Scotland and beyond, and the extent to which it could become an emblem of the nation's growing sense of identity.

12.9.5 The conclusion from other such initiatives suggests that whilst the initial challenge is always dominated by economic considerations, these are superseded in the result by deeper social and cultural outcomes. It is not intended to suggest that the situation currently facing St Peter's may be equated in detail with any of the selection of recent and more historic cases that is appended here. Every example is the outcome of a particular struggle. It is simply offered as a comparator to maintain awareness that positive outcomes have emerged in numerous other situations which at the outset were

characterized by a sense of hopelessness and impossibility. Indeed it may be suggested that the more daunting the rescue proposition appears at the outset the greater the eventual symbolic and cultural impact of the eventual rescue.

12.9.6 Zonestraal Sanatorium, Hilversum, The Netherlands

This iconic sanatorium built in 1928 to combat tuberculosis achieved its early objectives and became obsolete by the mid-1950s. Following several unsuitable alterations the building became ruinous and lay abandoned for many years. Its importance in the canon of modern Dutch architecture has however never been doubted, and after years of research and promotion the building has now been rescued and restored with viable new uses, helped in this process by the proceeds of enabling development.

12.9.7 Villa Savoye, Poissy, France

Le Corbusier's definitive masterpiece of the 1930s became a derelict ruin and threatened with destruction in 1959, but was saved by Government intervention and now stands as a national and international monument enjoyed by visitors from all corners of the globe.

12.9.8 The German Pavilion, Barcelona

Mies van de Rohe's temporary monument of 1929 became an icon of international modernism even before its removal after the exhibition ended. It has now been perfectly recreated on its original site as a tourist venue and definitive set piece of its period.

12.9.9 The Isokon, London

This apartment block of 1934 and one time home of Walter Gropius and Marcel Breuer became a Grade I icon but was mismanaged and neglected and gradually became uninhabitable. It has now been completely refurbished and fully occupied in a recent award-winning conservation rescue scheme.

12.9.10 Tate Modern

The former Bankside Power Station, redundant and languishing, became one of the great regeneration stories of recent times in its conversion to the new Tate Modern Gallery and is now one of the most heavily visited cultural attractions in the UK.

12.9.11 Uppark House, West Sussex

This fine house famously burnt down during the latter stages of a major restoration project and was reduced to a charred ruin. It was however completely rebuilt and now stands as one of the National Trust's most popular attractions.

12.9.12 Temple Bar, City of London

This celebrated London monument was dismantled in the period of post-war city redevelopment and for years lay in pieces in a field outside London. It has recently been fully restored in a landmark location opposite St Paul's Cathedral.

12.9.13 SS Great Britain

Brunel's great ship was for decades marooned on a reef in the Falkland Islands, until being rescued and repatriated to Bristol in England where it has been painstakingly restored and now stands as a monument to Brunel's pioneering genius and Britain's industrial achievement.

12.9.14 The Cutty Sark

This unique ship, the most famous of its type, and currently the subject of a major conservation project, has recently been substantially damaged by fire. The challenge of restoring this icon of 19th maritime commerce has thereby massively increased, but it is already certain that the will exists to overcome it and bring the restoration to fruition. Overcoming such increased adversity by becoming another part of the restoration narrative will only intensify the value and appreciation of the Cutty Sark for future visitors.

12.9.15 Tsar's Palace, Petrodvorets

This lavish 18th century palace, one of the glories of Imperial Russia, was almost totally destroyed in World War II, but has been completely restored in the post-war Soviet period as a symbol of Russian resilience and key monument of national heritage.

12.9.16 Mostar Bridge

This beautiful bridge was destroyed in the hostilities that have engulfed the former territory of Yugoslavia over recent years. But it has recently been completely rebuilt to become a symbol of national recovery.

12.9.17 Frauenkirche Church, Dresden
This church was utterly destroyed in wartime air raids and was assumed to have been lost for ever. But it has recently been faithfully rebuilt to stand as a potent symbol of recovery for Dresden and East Germany as a whole.

12.9.18 De Lichtenberg, Weert, Netherlands
This remarkable post-war extension to a Catholic school, a cultural and recreational complex including an open-air amphitheatre, fell out of use and was allowed to become derelict. But now it is a locally listed monument and is the subject of a new rescue initiative by the specially formed group Behoud de Lichtenberg (Save the Lichtenberg.)

12.9.19 Selected Analogues
It is again noted that it was not part of this assignment to 'come up with the answer' for the future of St Peter's Cardross. That must become the object of a continuing dialogue of the key stakeholders and others involved. But this report does seek to make a positive contribution to the dialogue that must continue if consideration of possibilities for re-use are to be fully explored. In the process of preparing this report we have been made aware of various suggestions and initiatives for a possible future for Cardross as an arts retreat/ cultural retreat/ conference centre.

12.9.20 It has been suggested that there is a great need for a cultural retreat and conference centre for the arts in the UK, which does not exist at present. Likewise the suggestion is that there is a growing demand for 'executive education' and in-service professional training and retreats in the arts and cultural sector, as well as the public and voluntary sector. There are a few small, scattered venues which are either without special facilities, or which are specific to a special art form (see below).

12.9.21 The setting, the space and the potential ease of access by public transport at Cardross would be important for such an enterprise to become a successful venue. The architectural status of the Gillespie Kidd and Coia work together with the unique setting of the historic gardens and woodlands could become the key to harnessing a wider public interest in saving the estate and creating a new and successful use for it.

12.9.22 A simple residential retreat would require basic accommodation with: separate bedrooms, shared bathrooms and attractive teaching spaces, along with self-catering facilities and or/ good on-site cook and restaurant service. A residential conference centre open to a wider remit would require better accommodation (en-suite bathrooms and good wi-fi communications). A cultural centre (Art powerhouse) would require specific facilities including a sprung floor for dance performance and workshops; controlled acoustics for music and theatre performance and workshops; wi-fi and digital workshops for visual arts performance; film and video projection and separate studio spaces for visual arts and designer-maker (craft) residences. Any public funding and use would require that the renovated building meet the Disability Discrimination Act and Public Health and Safety measures with disability access and the installation of lifts, etc.

12.9.23 Having said this, it is noted that it need not be ssumed that all the above facilities would be accomodated within the Listed buildings themselves. The development of purpose designed facilities for specific elements that could not be satisfactorily assimilated should be regarded as part of the larger challenge of returning the site to beneficial use.

12.9.24 In this context it is relevant to note the organisation ACAVA and its specific proposals for St Peter's.

12.9.25 ACAVA, Blechynden Street, London
The Association for Cultural Advancement through Visual Art ("ACAVA") is a registered charity and has been engaged for some 25 years in the promotion of community arts and 'art in education' projects, and the provision of studios, working spaces and exhibition facilities for artists and crafts workers. ACAVA provides strategic consultancy services to local authorities and other agencies supporting 'regeneration through art'. The charity also owns and administers three freehold and 14 leasehold buildings at which work places for over 300 artists and creative workers are provided.

12.9.26 ACAVA has very considerable experience in the conversion of existing premises to arts-employment, exhibition gallery, and arts-educational uses, and have also undertaken purpose built development. Their acclaimed headquarters building in North Kensington, with studios, digital arts suite and community arts space was the first purpose artist studios complex to the build in London for many years.

12.9.27 ACAVA has recently drawn up an outline prospectus which proposes the regeneration of St Peter's Cardross as a residential Arts Powerhouse, becoming a forum of national significance for the full range of arts including the visual arts, multi-media, video and film, music and dance, performance art, sculpture and emerging art forms. The prospectus is available to be taken forward.

12.9.28 Possible analogies albeit not identical with existing venues include the following -

12.9.29 The Commonwork Centre, Bore Place, Kent: can accommodate up to 46 residents, and up to 100 people for daytime use, in a variety of historically intriguing buildings surrounded by beautiful gardens and wild spaces. This is the current preferred venue for resident cultural retreats and conferences in England. As a result it is overstretched and booked out.

12.9.30 Cove Park, Peaton Hill, Argyll and Bute: is an international centre for the arts and creative industries based on the shore of Loch Long in Scotland. The Centre and Seminar Room can accommodate groups of up to 50 people. It also offers up to ten residencies at any one time to national and international artists, writers, and workers in the creative industries. The residencies last for a week to three months. Its success has forced it to increase its accommodation in an ad hoc manner.

12.9.31 The Creative Retreat, Banff, Aberdeenshire: this small commercial enterprise offers year-round tutored arts courses for up to 15 people. It is equipped with artist studios and has self-catering accommodation. It is based in the fishing village of Gardenstown on Scotland's Banffshire Coast.

12.9.32 Dartington Hall International Summer School, Totnes, Devon (Music only): a large residential summer school of weeklong courses that can accommodate 150 people. It is set on a 1000-acre estate near Totnes, South Devon, famous for its historic medieval hall and gardens, renovated and laid out in the 1920's by Leonard and Dorothy Elmhirst as the base for an experiment in rural reconstruction and the promotion of the arts and crafts. It is not at present open as a conference centre, but is contemplating relocating the existing Art School to Falmouth, which would free up residential and teaching space at Dartington throughout the year for cultural conferences.

12.9.33 Aldeburgh Music and Residences, Snape, Suffolk (Music only):
Based around the success of the non-residential summer music festival, founded by Benjamin Britten, Peter Pears and Eric Crozier in 1948, and centred on the main concert hall at Snape Maltings. A recent three-year funding for the arts has launched Aldeburgh Residencies, a major new professional development programme offering bespoke rehearsal, creative and performance opportunities to the most talented international and UK artists, in the inspirational setting of the Suffolk coast. Residencies can last from three days to three months, and most culminate in performances or showings of works-in-progress. It does not have any conference facilities.

Other organizations include:

12.9.34 Cockpit Arts, Holborn, London
Based in London, Cockpit Arts is the largest provider of workspace for designer-makers in the UK. Cockpit Arts is a registered charity with the sole aim of helping designer-makers to achieve commercial success. It has opened a new centre in Deptford's Creekside to accompany its long-established Holborn base.

12.9.35 The National Theatre of Scotland, 45 Hope Street, Glasgow
NTS, Scotland's first National Theatre, was launched in February 2006 to critical acclaim, working with the best Scottish actors, directors and theatre companies. It has no building of its own, and therefore tours across Scotland and elsewhere. Since the launch of the NTS, NTS Learn have created educational and outreach theatre projects involving over 30,000 participants & audience members. They have delivered over 1000 workshops and a programme of work in 25 Scottish areas, working alongside over 80 schools.

12.9.36 The Lost Gardens of Heligan, Cornwall
This nineteenth century thousand-acre estate at St.Austell, Cornwall flourished up until the First World War, when it became abandoned. Its renovation under the direction of Tim Smit caught the public imagination and it has become a leading centre for garden restoration. Its success in demonstrating the potential of an apparently irretrievable site to become again something of value contributed directly to The Eden Project in the disused clay pit quarries at Boldelva in Cornwall.

12.9.37 The Commonwork Centre, Edenbridge, Kent
This is a group of organisations based on an organic farm and

study centre, working towards sustainable solutions in farming, the environment and education. The Centre offers a peaceful, stimulating environment for professional and personal development for residential and non-residential stays and can accommodate up to 46 residents, and up to 100 people for daytime use, in a variety of historically interesting buildings surrounded by beautiful gardens and wild spaces.

12.9.38 Dance Base, Scotland's National Centre for Dance, Grassmarket, Edinburgh

As Scotland's National Centre for Dance, Dance Base offers a focal point to reach out and inspire well-being and creativity in dance for local, national and international communities.

Dance Base operates three artistic programmes: a public class programme in over 40 different forms of dance throughout the year, a support programme promoting professional dancers through classes, workshops, performance opportunities, and an outreach programme taking dance in a therapeutic capacity to those unable to come into Dance Base - including those in schools, nurseries, sheltered housing units, hospitals, adult training centres and probation centres.

12.9.39 The Eden Project, Cornwall.

The Eden project was created with an £80 million initiative to build three transparent biomes (geodesic domes designed by Nicholas Grimshaw) in an old china clay pit at Boldeva. The biomes contain different eco-climates loosely based on the different climates found throughout the world - tropical jungle, temperate, and desert.

The Eden Project is a not-for-profit charitable Trust. Its mission is to promote the understanding and responsible management of the vital relationship between plants, people and resources leading towards a sustainable future for all.

12.9.40 The Banff Centre, Alberta, Canada

The Banff Centre is a globally respected arts, cultural, and educational institution and conference facility. It is located in Banff National Park, a UNESCO World Heritage site. The spectacular beauty of the Canadian Rockies surrounds the campus which is 128 kilometres (80 miles) west of Calgary, Alberta. The Banff Centre is a leader on the local, national and international stages in the development and promotion of creative work in the arts, sciences, business, and the environment; a catalyst for creative thought, lifelong learning, the development and showcasing of new work, and

the advancement of applied research; a resource for individual and group renewal and transformation, and an enabler of innovation and creativity for participants and staff to question assumptions, explore ideas, embrace change, and exemplify excellence.

12.9.41 There are doubtless other examples of viable facilities that may provide good analogies for ways of regenerating St Peter's Cardross and also organizations or individuals with relevant experience that could offer valuable advice. The process of investigating these systematically to arrive at a relevant selection of real leads would form a useful early task in any follow-up project agenda.

(We are indebted to Charles Cooper for his assistance in the research and compilation of the above examples.)

## 12.10 Synopsis of Consultation Feedback

12.10.1 The preparation of this report was undertaken in close dialogue with the following key stakeholders:

| | |
|---|---|
| Ken Crilley | Archdiocese of Glasgow |
| Monsignor Peter Smith | Archdiocese of Glasgow |
| Ranald McInnes | Historic Scotland |
| Angus Gilmour | Argyll & Bute Council |
| Jenny Carlile | Argyll & Bute Council |
| John Sheridan | Classical House |
| Baxter Allan | Keppie Planning |

12.10.2 With the agreement of the above group the draft Conservation Assessment was circulated to the following wider group of interested parties for their comments:

| | |
|---|---|
| Professor Isi Metzstein | Architect of St Peters Seminary |
| Professor Andy MacMillan | Architect of St Peter Seminary |
| Penny Lewis | St Peter's Preservation Trust |
| John Deffenbaugh | St Peter's Preservation Trust |
| Mark Baines | Lecturer at Glasgow School of Architecture, former employee of Gillespie Kidd and Coia |
| Joseph Mirwitch | Twentieth Century Society |
| Neil Calder | Cardross Community Trust |
| Charles Strang | RIAS Conservation Committee |
| Jonathan Foyle | World Monuments Fund in Britain |
| Charles Cooper | Researcher |
| Duncan Smith | ACAVA |
| Dianne Watters | RCHAMS |
| Alex Adamson | Scottish Civic Trust |
| Adam Stanners | Docomomo Scottish Group |
| Dennis Sharp | Docomomo UK |

12.10.3 Comments were received, from World Monuments Fund in Britain, Argyll & Bute Council, Charles Strang, Twentieth Century Society, Charles Cooper, St Peter's Preservation Trust, Scottish Civic Trust and Docomomo Scottish National Group

12.10.4 The comments fall broadly into 4 categories:

1. Detailed comments on particular items in the buildings or estate grounds
2. Statements regarding the relative validity of the Options considered
3. Comments on the determination of the current Planning Application and Enabling Development
4. Comments on the reporting of recommendations and actions that should be taken in the immediate future.

12.10.5 The following summarizes the feedback received, any comments in immediate response to these, and the actions taken in respect of the final report edit.

12.10.6 **World Monuments Fund in Britain**

12.10.7 <u>Feedback</u>

St Peter's Seminary is one of Scotland most important 20th Century buildings.

WMF welcomes the extensive report as a very positive step towards giving the entire site a new future.

Notes WMF's 2006 initiative 'Modernism at Risk' and the addition of St Peter's Seminary to the World Monuments Fund Watch List following selection by an independent international jury.

Endorses Twentieth Century Society's response, and underlines four principal concerns.

1. Complex requires immediate protection from climate and vandalism
2. Site security measures to be put in place immediately to protect buildings and public
3. Whole site should be widely marketed to seek widest interest in its future
4. Further funds should made available to carry out a full Conservation Plan with positive recommendations to save the buildings and re-use them.

12.10.8 Current planning application should be shelved pending exploration of every possible solution that retains the buildings

Finds proposals by ACAVA to be worthy of further examination.

WMF supportive of efforts to plan for a good future for the site.

12.10.9 <u>Avanti Architects Response/Actions</u>

Include synopsis of WMF feedback in Appendix.

Supplement Executive Summary to summarize recommendations for immediate future action.

12.10.10 **Argyll & Bute Council**

12.10.11 Feedback

Welcomes report and recognizes the detailed, specialist work in compiling it.

Acknowledges that document is not a Conservation Management Plan but considers that the report clearly sets out the significance of the heritage asset and provides a factual baseline which all parties should sign up to.

The report will inform the local planning authority's approach to current and future applications (in particular the question of enabling development on Kilmahew site) and will guide our future actions.

Encourages all interested parties to accept the reports findings and conclusions.

Welcomes detailed indicative costs, allowing comparison of options and balanced decisions

Believes report sets the scene for the future, encouraging a positive future for this highly significant heritage asset.

Report will provide exceptionally strong basis for a full Conservation Management Plan and future appropriate action.

12.10.12 Avanti Architects Response/Actions

Include synopsis of Argyll & Bute Council's feedback in Appendix.

Supplement Executive Summary to summarize recommendations for immediate future action.

12.10.13 **Charles Strang**

12.10.14 Feedback

Notes comments are personal observations, not on behalf of the RIAS

Suggests a separate short summary document be produced for ease of consultation

A most impressive and thorough document, thoughtfully set out. Para numbers throughout might benefit consultation. Some over-technical terms.

Robust repairs required given history of vandalism and rapacious 'architectural salvage', especially repairs in advance of re-occupation.

Good to identify other members of the GKC practice who may have been involved, and evidence of other practices developing out of training with GKC.

Dates of other buildings mentioned in report would be of interest.

Agrees importance of boardmarked concrete, and that it should not be overpainted.

Agrees with dismissal of the romantic ruin argument
Considers it unacceptable to raise or impose handrails, including on entrance bridge and processional ramp.
Agrees about quality of panel finishes, and suggests that stainless steel bolts could be considered as panel fixings
Recalls acoustic ‘over-brightness, from early visit - consider rugs rather than sheet finishes
Agree with the term ‘should be incorporated within the original design intent’ and that this should be applied sympathetically, not religiously.
There should be no fire enclosures to staircases
Timber screens and windows should be replaced in timber
Failure of side chapel harl requires detailed analysis: refer to Section 4.6 ‘Brickwork’
Fire upgrade requirements should not be taken as ‘carte blanche’ to alter the interior.
If bedrooms are able to be linked, consider providing doors each side of wall for acoustics
A ‘museum bedroom’ would only be of value if its contents were real items
Solar collectors could be considered where flat roofs are not overseen.
External chapel should not be roofed
Any new uses will require storage, so sacristy could still retain timber fitments/wardrobes.
Altar treatment depends on new use – could be boxed in and displayed on demand.
New lighting should match the light temperature/colour and design of the original; light fittings in teaching block should either match originals exactly or be contemporary and different.
Floor upgradings should not be done, but waivers sought, or other means of achieving performance
Loss of toilet pod is avoidable, as wc’s will still be needed whatever the eventual use.
Kitchen block is key aid to understanding the group, particularly with a new Kilmahew House
Accretions on the convent block roof to be avoided.
Do not consider the ‘Consolidated Exhibit’ option to be realistically achievable.
Without more detailed work on individual elements 5 year period for Holding Option may be misleading.
‘Stabilized Structure’ option is unacceptable, and could be a disastrous precedent to inflict on an A –listed building
Agrees that ‘Do nothing’ is not a realistic option, but useful to know if owners carry insurance for public liability.

Demolition is unacceptable – Restoration / repair options should be pursued energetically
Any option involving standing remains would entail 24 hour security presence
Do not introduce metal reinforcing arches into rhodendron tunnel if none currently exist
Do not consider the current scheme to be 'Enabling Development', but an examination of options should include re-occupation of Kilmahew Castle and construction of new buildings on sites of Kilmahew House and the Stable Block.
A new Kilmahew House could make sense of the designed landscape and the GKC layout, but would need to be of supreme architectural quality
Evidence from the landscape and archaeological assessments suggest the estate should be added to the Inventory of Gardens and Designed Landscapes in Scotland
Proposals for 'Country Park' should reflect landscape values beyond 'mere' nature conservation and managed access.

12.10.15 Avanti Architects Response/Actions
Include synopsis of Charles Strang's feedback in Appendix, including detailed recommendations on works to the buildings and landscape. (Note – processional ramp originally had handrail to open side.)
Cross refer to new publication on GKC for further details of firm.
Recommend publication of Executive Summary as a separate short document for wide public information and consultation.
See Glossary for technical terms
Add paragraph numbers as appropriate.

12.10.16 **Twentieth Century Society**

12.10.17 Feedback
Welcome report as a necessary first step in ending neglect of this heritage asset
Endorse and applaud findings of fact relating to the importance of the heritage asset, its state and condition. Studies undertaken and information compiled are most useful.
Have serious reservations regarding deficiencies and omissions of the report.
In no way are said deficiencies attributed to any neglect or failure of Avanti or the report team.
Deficiencies are attributable to inappropriate and inadequate brief and inappropriate client instructions.

Applaud Historic Scotland for funding report, but regret that Historic Scotland chose not to participate as a ‘joint client stakeholder’.
Historic Scotland should now accept shared responsibility for a Conservation Management Plan
The draft report is not the much needed Conservation Management Plan. Such a plan, or a prescribed process for its production is now required.
Important additional matters will need to be addressed by the Conservation Management Plan.
The Plan will need to :
Consider vulnerabilities and challenges generally and provide area specific policies
Provide policies for management of specific threats
Examples of issues to be addressed include inaccessible roof drainage; introduction of modern services; how new needs might be met without damage to historic fabric and setting; how modern standards of thermal comfort and energy conservation might be met; how disabled access might be met.
A clear statement of findings of fact is essential
Report should include policy recommendations of a conservation led approach
Robust finding that the current planning application is not in accordance with the statement of significance.
Report should state that the current planning application should be withdrawn/abandoned
Report should recommend immediate measures for security and protection of the building.
No recommendation for a conservation led approach. Report makes clear that full restoration of the asset remains practicable.
Any short term scheme/ action should be compatible with eventual full restoration
Further investigations of potential possible new and sustainable use are required and should be advocated.
The plan does not prescribe ‘next steps’ to be followed in short and medium term.
Repairs and consolidation should be undertaken according to established conservation practice. Public authorities have statutory powers to serve repair notices and compulsorily purchase neglected properties.
The present condition of building is completely unacceptable and represents a failure of those responsible to discharge their proper obligations for it.
Separation of the ownership of the seminary and the estate should be rejected out of hand.

Public access should be informed by a curatorial programme.
Appropriate treatment of classroom wing is essential. Removal of the roof is not acceptable.

12.10.18 Avanti Architects Response/Actions

Include synopsis of Twentieth Century Society's feedback in Appendix.
Statement that Historic Scotland did not participate is incorrect. Historic Scotland took part in all project meetings and was author of the brief - entitled Conservation Assessment, (see Appendix 12.8).
Note that report addresses all the requirements of the appointment brief, and was not tasked to present specific scheme designs – which would have required brief for a new use brief and business case, which at present do not exist.
Supplement Executive Summary to summarize recommendations for immediate future action, including reference to management plan, immediate security requirements, elimination of non-compliant options and progression of conservation and re-use.
Vulnerability of asset is fully described and illustrated.
Key findings of fact are included in Executive Summary. Option/s considered to be non-viable are stated as such.
Separation of ownership of former seminary buildings and Kilmahew Estate is not proposed or assumed, but the question of appropriate management arrangements for the various elements of the asset is raised as an issue to be addressed.
Arrangements for public access provision are described in Sections 7 and 8.
Classroom roof is not recommended for removal, but is now so dilapidated and hazardous, that it may require deconstruction before reconstruction is feasible.

12.10.19 **Charles Cooper**

12.10.20 Feedback

Very impressive report. Very intelligent, open and detailed explication.
Architectural value and potential is immense, but dilapidations are extensive, and all that comes over in a well balanced way that is covered from all angles.
Parkland and landscape section of the report came across very strongly and added an unexpected aspect to the equation, offering a possible key to restoration.
Greatest fear is that 'the fate of St Peter's will be decided by tactics rather than debate.'

Avanti Architects Response/Actions

Record synopsis of Charles Cooper's feedback in Appendix.

None further to those noted in response to other feedback.

12.10.21 **St Peter's Building Preservation Trust**

12.10.22 Feedback

Warmly welcomes reports' findings and acknowledges comprehensive nature of the work undertaken. Nothing further to add to content of the document, but wish to clarify how we might move forward from this work.

The report's findings regarding the current proposals (Option 4 Stabilised Structure) allow Argyll and Bute Council to negatively determine the current planning application.

The Trust would then support implementation of Option 1 – the Consolidated Exhibit.

This would allow structure to be used for temporary activities to raise funding for investigating re-sue option. To facilitate this Historic Scotland should take the seminary complex into statutory care for the medium term.

St Peters Building Preservation Trust would support Historic Scotland in this scenario providing assistance in marketing and investigating re-use options.

The report together with The Lighthouse Exhibition has created a definite window of opportunity that must be harnessed.

A more radical option to progress regeneration would be for the St Peter's Building Preservation Trust to take ownership of the complex provided that considerable funding and support were available.

Believes that marketing of the buildings should coincide with the current window of opportunity resulting from the publication of the report and the current GKC Exhibition, with re-use being the ultimate objective arising from the Conservation Assessment.

Believes that current context provides unprecedented opportunity to investigate realistic and long term future for St Peter's, through increased awareness of GKC's work and funding mechanisms offered by World Monuments Fund recognition.

Key to this will be implementation of Option 1, securing the buildings while allowing them to be used as a viable marketing tool and mechanism to raise funding through temporary events.

Urges all parties to keep sight of primary objective of the Conservation Assessment, namely the conservation of the A listed structures and their retention for the benefit of future generations.

Urge appropriate parties to act promptly to determine the current planning

application and provide the necessary context in which to implement to Conservation Assessment's findings.
Would welcome opportunity to meet with all parties following publication, to discuss outcomes, recommendations and role of the Trust in taking these forward.

12.10.23 Avanti Architects Response/Actions
Record synopsis of St Peter's Building Preservation Trust's feedback in Appendix.
Supplement Executive Summary to summarize recommendations for immediate future action.
Include note in the above summary regarding Reports' findings on current planning application.

12.10.24 **Scottish Civic Trust**

12.10.25 Feedback
Trust welcomes the report and is pleased that full restoration remains a possibility.
The Trust's preferred option would to be to restore the complex with a new, sympathetic and sustainable use for the complex.
The Trust consider that the complex's long term future can only be secured by finding a suitable use for the building, and whilst they acknowledge that a holding option may be required they consider that enabling development would not be appropriate for any intermediate option and should only be used to secure the full restoration of the complex.
Trust hopes that the report and recent renewed interest in the complex will lead to a fruitful debate concerning the future of the complex and estate.

12.10.26 Avanti Architects Response/Actions
Record synopsis of Scottish Civic Trust's feedback in Appendix.
None further to those noted in response to other feedback.

12.10.27 **Docomomo Scottish National Group**

12.10.28 Feedback
Notes the three conservation options (Consolidated Exhibit, Holding and Full Restoration) and the further three options (Stabilized Structure, Do Nothing, Demolition) as not viable or inconsistent with significance of the buildings.

12.10.29 Specific comments on the report

GKC one of few Scottish practices that received international recognition.
Emphasis on this reinforces the call for conservation
Include transcripts of interviews with Metzstein & MacMillan as source for future adaptation of building in spirit of the original
Consideration of electrochemical concrete remediation is encouraging, as it highlights contrast between engineering led solution and one centred on conservation
Enabling development section should also note the positive opportunities this might provide in funding repair
Include comment on the arguments against prolonging life of Modernist buildings, which suggests that as products of consumer society their preservation disrespects the spirit of their creators.

12.10.30 Condition surveys, repair proposals and historical information not reviewed in detail, but proposals do appear to follow current conservation practice in recommending repair, like-for-like replacement and site storage.
Authors have gone back to first principles and considered St Peter's from a conservators perspective which is entirely fitting for a Category A listed building and has to be commended.

12.10.31 <u>Avanti Architects Response/Actions</u>
Record synopsis of Docomomo Scottish National Group's feedback in Appendix.
Add emphasis to GKC's international recognition
Include reference to source material on GKC. (Including further material in the already extensive document itself would make it too unwieldy.)
Add emphasis to the conservation benefits of electrochemical concrete remediation techniques
Highlight the comment in Enabling Development section on positive potential – if rightly conceived
Include note on the argument and counter argument regarding conservation of Modernist buildings

## 12.11 Glossary of Terms

**authenticity** — the characteristics that most truthfully reflect and embody the cultural heritage values of a place

**axis** — imaginary centre line of an architectural design

**cantilever** — a horizontal projection, eg a step, balcony, beam or canopy, any structure with no apparent support at the leading edge

**cladding** — an external covering or skin applied to a structure for aesthetic or protective purposes

**cloister** — an enclosed space, usually a quadrangle or open court, surrounded by roofed or vaulted passages with an open arcade or colonnade on the interior side and a plain wall on the other, it connects the monastic church with the domestic parts of the monastery.

**clerestory** — windowed wall rising above an adjoining roof

**conservation** — the process of managing change in ways that will best sustain the heritage values of a significant place in its setting, while recognizing opportunities to reveal or reinforce those values for present and future generations

**crypt** — in a church, a chamber or vault beneath the main floor, not necessarily underground, and usually containing graves or relics.

**coated** — painted or varnished finishes

**coping** — A brick, stone or concrete projection, usually overhanging for weathering the top of wall

**concrete finishes**

*fair-faced* — plain finish concrete of uniform colour with no surface applied treatment

*exposed aggregate* — plain finish concrete with surface laitence removed (by one of the various methods) to expose constituent aggregate; often aggregate of specific texture and colour is used to accentuate the effect

*pre cast* — concrete components cast in a factory or on site before being placed in position

**context** — any relationship between a place and other places, relevant to the values of that place

**curtain walling** — façade cladding with sheets of glass or other materials held in a metal frame giving a decorative and durable external skin to a building

**façade** — the front or face of a building emphasized architecturally.

**fabric** — the assembled materials of which the building shell and interiors are made

**fenestration** — the arrangement of windows in a building.

| | |
|---|---|
| **hard and soft landscape** | hard landscape – external surfaces paved or finished in material other than trees, grass or other vegetation<br><br>soft landscape – external surfaces planted with trees, grass or other vegetation |
| **harling** | wet dash roughcast |
| **hy-rib** | expanded metal sheet/lath, specifically developed for use as permanent formwork to plaster/ render coats |
| **invasive (non-invasive)** | an aggressive or potentially disruptive operation or sampling process damaging to a surface or substrate and thereby necessitating local remedial repair |
| **keep** | Strong central tower which normally forms the heart of a castle |
| **like-for-like** | the use of identical material and/ or design in any replacement work |
| **load-bearing wall** | a wall that supports the structure above it, including walls, floors, roofs and their loads |
| ***mise en scene*** | 'putting into the scene' applies to everything within an arrangement referring to *all* elements of visual style |
| ***piano nobile*** | principal floor of Renaissance or later house, usually one storey above ground level |
| **reinstatement** | the return of an original element of design |
| **refurbishment** | the process of returning something to its former state/ good condition |
| **renewal** | replacing existing fabric, fittings or installations |
| **repair** | work beyond the scope of maintenance, to remedy defects caused by decay, damage or use, but not involving restoration. |
| **replacement** | the removal of existing fabric and introduction of new fabric in its place |
| **replication** | to reproduce exactly; to make a duplicate of an original (to make copies) |
| **restoration** | to return a place to a known earlier state, without conjecture |
| **reversibility** | capable of being reversed so that the previous state is restored |
| **sacristy** | room for keeping vestments and other church furnishings, sacred vessels, and church treasures. |
| **sanctuary** | consecrated (or sacred) area of a church or temple around its tabernacle or altar |
| **secular** | state of being separate from organized religion |
| **self-finished** | uncoated expressed material |
| **soffit** | the underside of a floor, terrace or balcony |
| ***sui generis*** | literally meaning *of its own kind/genus* or unique in its characteristics |
| **sustainable** | capable of meeting present needs without compromising ability to meet future needs. |
| **upgrade** | the enhancement of technical performance through design intervention |