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All Saints' Anglican Church

2 Chapel Street, East St Kilda.

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EXISTING CONDITION SURVEY

MANAGEMENT POLICIES FOR THE CONSERVATION OF THE FABRIC

All Saint's Church
The Gregory Hall
The Old Vicarage

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PART A INTRODUCTION

A.1.0 The Purpose for the Report

The purpose of this document is to:

* Identify problems in the fabric of All Saints Church, East St. Kilda, The Gregory Hall, and the Old Vicarage.

* Examine strategies for the conservation of the fabric.

* Recommend fabric management policies

* Prioritise the level of physical intervention

* Provide opinions of probable costs.

Survey work has been completed. The survey of the condition of masonry and roof plumbing was undertaken from the ground, and inspection of the upper level masonry, roof and roof plumbing was made from some roofs. Windows were inspected externally from the ground with binoculars and from ladders. Inspection of internal wall and ceiling surfaces and the leaded and stain glass windows internally were made from floor level.

The report has been broken down broadly into components. These include the following:

Roof and Roof Plumbing
Masonry.
Interior
Windows
Building Services
Structural

A.2.0 General Principles

General principles that have been adopted as a basis for the report include the following:

a) All work recommended be guided by good conservation practice as espoused by the 'Burra Charter' adopted by Australia ICOMOS[1].

b) The conservation approach should be such that work carried out is not immediately apparent to a lay person. This principle presumes that renewals shall be kept to a minimum so as not to damage the integrity of the building fabric. At the same time, the danger of doing too little must be avoided.

c) The repair of elements that are structural in nature or that shed water from the fabric are of primary importance. Repairs to elements that are aesthetic in nature are of secondary importance.

d) Repairs, where access is difficult, should be carried out to a higher level of intervention than those that are more easily accessible.

[1] 'Australia ICOMOS' is the Australian Chapter of the United Nations' International Committee of Monuments and of Sites (ICOMOS).

e) It is intended that the repairs to the fabric remain substantially intact for a considerable period. It also presumes that regular maintenance is on-going throughout the life of the building and that problems that appear are addressed promptly.

A.3.0 Construction Phases

A 3.1 The Church

The construction phases of All Saints Church are well documented. The church fabric in its present form was built in at least five phases between 1858 and 1891 under the consecutive supervision of Nathaniel Billing, Frederick Wyatt and Terry and Oakden.

The rear two thirds of the Church nave were built in 1858-62 to the designs of Nathaniel Billing in a triple gable form. The west Porch was added in 1869 and the interior plastered. [2]

In 1873, Wyatt extended the nave and added the apsidal transepts, chancel, chancel aisles organ chamber and vestries.

Terry & Oakden supervised the erection of Wyatt's designs from 1882 (after Wyatt's death). They designed the north Chancel Chapel that was completed in 1891.

A.3.2 The Old Vicarage

The Old Vicarage was probably the work of Nathaniel Billing[3] and was built in 1860. Frederick Wyatt extensively altered it in 1873. The extent of the changes is not fully understood.

A.3.3 The Gregory Hall

The Parish Hall , known as The Gregory Hall, was designed in 1907 by the architect P.G. Fick and was built in 1910[4].

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2 Hubbard T (1989) p5. All Saints' Church of England Church, Vicarage and Parish Hall, Chapel Street, East St. Kilda. Commissioned by the City of St. Kilda. Submission to the Classifications Committee of the Historic Buildings Council. ISBN 1 875224 34 3

3 Ibid p.14

4 Ibid. p.13

PART B – EXISTING FABRIC OF THE CHURCH BUILDING

B.1.0 THE CHURCH ROOF AND ROOF PLUMBING

The roof of All Saints Church consists of three gables along the nave up to and including the transepts. The form of the roof is rather complex: a triple gable over the nave and aisles, apsidal hips to the transepts back to the triple roof form over the Chancel, chapel and vestries / choir rooms. The recently repaired roofs were not accessed as it was assumed that these would be in good condition.

B.1.1 Slates.

Generally the Welsh slate roofs of the church of All Saints appear to be in good condition, though there are occasional broken slates which require replacement. Decorative slate banding is also evident across all roofs. Delamination of the top surfaces of the slates is common place, however does not usually pose a concern. Some slates over the southern vestry roofs are delaminating excessively and require replacement.

Slates are generally fixed with mechanically-made galvanised clouts, which suggests that much of the roof slates have been re-nailed at some stage in the past. Minor corrosion of the nails is evident but this is of little consequence. There is also evidence of copper clouts of more recent repairs. These are in good condition.

B.1.2 Roof Vents

The Roof vents along the aisle roofs are clad in sheetmetal. Rust is evident however the degree of the corrosion is not clear, as they could not be accessed. Water ingress stains are evident, but extent of damage to timber substrate, if any, is not known. Bird noises can be heard through a couple of the vents, and some nesting materials were evident. The vents ought be cleaned out, birdproofed and painted to ensure their serviceability.

The roof access hatches are similarly corroded and in one or two cases the framing is imminent of collapse. These generally require at a minimum to be painted to reduce their rate of corrosion, if not the repair of the timber work framing.

B.1.3 Cappings & Flashings

Lead cappings and flashings generally appear to be in fair condition. Some minor crystallization is present due to inadequate allowances for thermal movement along the cappings. The mild steel clips fitted over the width of the lead cappings are covered in rust. These are also restricting movement of the cappings but are also required to support the cappings. Ideally, these should be removed, treated with rust inhibitors and painted.

Some ridge cappings are of rusty sheet metal and require treatment for rust and painting to extend their life. Alternatively these could be replaced, a more expensive option. Please note that the recent works to the apsidal hip roofs have replaced the previous cappings with colorbond steel. This in our opinion is inappropriate for this building.

Valleys to main roof over nave, transepts and Chancel are generally of lead, but other metals have also been installed as later repairs and are showing some signs of decay. There are two alternatives for addressing this problem. The first alternative would be to replace these valleys. This would require the lifting of a considerable number of slates abutting the valley irons. The second alternative would be to slip new Galvanised iron sheets under existing valley joints, and to paint valleys with a bituminous paint to inhibit further corrosion. The latter option would be the less expensive alternative.

The copper soakers to the front gables under the coping stones (these appear recent) are not flashed and possibly allowing water ingress to the top of the gable walls internally.

B.1.4 Gutters & Sumps

Existing copper eaves gutters along aisle roofs are too small to cope with any heavy rainfall, but at least the water appears to overflow outside the building. Further they have inadequate allowance for thermal movement and the gutter supports appear weak given the amount of buckling and deflection that is evident. Some of the joints in the guttering have failed allowing water to drip through in localised areas which in turn has in some places saturated the fabric. Generally, copper gutters should last a long time. The church guttering needs to be repaired, allowing for additional thermal movement and re-falling to downpipes as necessary.

Box gutters between the aisle and nave roofs have been recently replaced in colorbond steel. The have been pop-riveted and silicone sealed together in long sheets. The joints should be monitored on a regular basis as silicone deteriorates under UV light. It would be advisable to provide overflows to those rainwater heads that do not have them to ensure that water overflows away from the building if the outlets become blocked.

Perhaps the area of most concern regarding the box gutters between the nave and aisle roofs is that there is a significant water load taken up by these gutters and there is only one outlet to each gutter. In the case of a peak rainfall intensity over 5 minutes of 20 years (130 sq.mm/h), the water load in the box gutter is 1.2 cubic metres of rainfall per minute. In short, the existing sump and downpipe is not able to cope with the expected water load hence the damp to the upper wall internally. It would be greatly desirable to provide an overflow in the gable walls to minimise water entry to the walls.

The box gutters between the vestry and the chapel roofs were not inspected, and its condition is not known. It is assumed however due to the recent works in this vicinity, that these are in good working order.

The box gutter between the Lady Chapel and the north-east porch needs to be checked for leaks as there is considerable spalling and salts on the surrounding sandstone dressings.

B.1.5 Downpipes

The downpipes are of copper and are generally in good condition. There are some areas where blockages are evident and water appears to be running down the surface of the wall. There are a couple of instances where downpipes have suffered mechanical damage and connections between gutter pops and downpipes, and downpipes and rainwater heads, are not always watertight. All these areas ought to be checked on a regular basis, if they are not already.

The stormwater runoff from the downpipes generally discharged onto the asphalt paving around the perimeter of the church, in some cases via raised concrete spoon drains. Though these channels are awkward, they appear to work effectively, draining the water away from the building.

There are a couple of areas on the south side of the church building where downpipes discharge water close to the building. In these areas in particular, water appears to be accumulating at the bottom of the wall and into the sub-floor through sub-floor vents.

There are a number of downpipes coming down from the upper roofs on the southern side of the Chancel apse. Two of these are run into a very large rainwater head which in-turn is connected to a 200mm-diameter downpipe. The way in which the two downpipes enter the rainwater head constricts water flowing from the outlet of the adjacent box gutter. This recent installation ought to be further modified.

B.1.6 Stormwater Drains

The stormwater drains along the front of the church building do not have a great deal of fall, therefore are prone to blockages. These require regular checking.

The lawn adjacent the church is lower than the kerbs that trim the road going round the church. This could be holding water close to the church building, thus maintaining a rather damp soil condition immediately the building, hence the evidence of salts in the lower walls in the interior of the church at various locations.

B.1.7 Recommendations for Roofs

1. Slate Roofs - Replace or refix approximately ten per cent (10%) of slates to church roofs.

2. Roof vents and roof access hatches –should be retained and repainted to inhibit further corrosion. A non-ferrous metal insect screen should be installed throughout.

3. Roof access hatches - Repair timber framing and supports and repair.

4 Repair lead cappings and flashings where cracked

5 The mild steel clips over the lead cappings should be removed, treated with rust inhibitors and painted.

6 Some ridge cappings are of rusty sheet metal and require treatment for rust and painting to extend their life. Alternatively these could be replaced, a more expensive option.

7 Valley irons to main roof over nave, transepts and Chancel that are corroding should either be treated and painted to prolong their life; or to slip new galvanised iron sheets under existing valley joints, and to paint valleys with a bituminous paint to inhibit further corrosion.

8 Flashings over the copper soakers to the front gables required.

9 Repair existing eaves copper gutters. Reinforce gutter supports and re-align to fall towards downpipes. Provide expansion joints to allow for thermal movement. Provide overflows to rainwater heads that do not already have them.

10 Provide an overflow in the gable walls to minimise water entry to the walls from the box gutters between the nave and aisle roofs. (Front façade)

11 Check the box gutter between the Lady Chapel and the north-east porch for leaks and make good as necessary.

12 Check all downpipes and repair as necessary to ensure they are water tight. Clear blockages.

13 Modify ground falls about the immediate perimeter of the church to ensure water falls away from the building. Ensure stormwater does not pond.

14 The recently installed large rainwater head and incoming downpipes should be modified so that run-off does not constrict water flowing from the outlet of the adjacent box gutter.

15 Clear existing stormwater drains along the front of the church building.

PART B.2.0 CHURCH - MASONRY.

The masonry walls of All Saints Church are of bluestone, with sandstone dressings. The masonry walls are generally in fair condition.

B.2.1 Bluestone

Generally, the individual stone of bluestone are in excellent condition.

B.2.2 Sandstone

There are at least three different types of Sandstone evident in the fabric of All Saints. Origins of these stones are unknown, however the greener, earlier dressings are probably Tasmanian. Some of the sandstone detailing is in poor condition.

Deterioration of the sandstone has been an on-going concern at the Church. Some sill stones are cracked. Kneeler stones at the bottom of the gables and some coping stones appear loose, as are dressings on some buttresses requiring tying back. Stone replacement will be necessary in a number of areas (e.g. selected hood moulds, label stops and quoins to north facade in particular). Sandstone stringcourses, windowsills, and window hood moulds in various locations are showing early signs of deterioration. The rate of this deterioration can be slowed by protection of the weathering surfaces with lead flashing.

Salt crystallization is affecting some of the sandstone dressings around doorways in particular of the porches due to the continuing presence of moisture from rising and falling damp.

Minor areas of decay of the window dressings and traceries have occurred where ferrous fixings for metal window screens have corroded. These fixings should be replaced with non-ferrous fixings, and stone repaired as necessary.

B.2.3 Pointing

The fact that the church was built in a number of stages is reflected in the types of pointing present. There is a little tuckpointing evident on the Chancel apse. The background is grey with white stuck lime putty. It should not be assumed that the rest of the building was also tuck-pointed as the masonry here is coursed rubble whereas the aisles are built in. The front façade has been repointed in recent times (not tuck pointed) with a mortar that is too hard and is obviously cement-rich.

The main problem evident in the bluestone masonry is loose 'carbonated' pointing to the joints, which is allowing some water ingress into the fabric of the walls. It is recommended that loose pointing be removed to reduce the likelihood of moisture, insects and vegetation being trapped in joints and the joints be repointed in a simple profile. It will be necessary to rake out the joints to a depth of at least 25mm and the new pointing mortar should not be harder than the existing. Tuck-pointing is a decorative device and is expensive to carry out, as such it has not been recommended here due to cost.

B.2.4 Structural Movement

There is some evidence of structural movement in the walls of the church. The major movement relates directly to the ficus trees at the west front. They are far too close to the building. The tracery to the west front window needs to be pinned to reduce the impact of the stonework on the stained glass window. Refer also to the attached Structural Report.

B.2.5 Sub Floor

Sub-floor vents should be cleared and made vermin proof to ensure adequate airflow under the building. Some detail needs to be devised to prevent water getting into the subfloor space through these vents. Wall vents will also require new perforated metal grilles to replace those damaged.

B.2.6 Recommendations for Masonry

1 Repoint masonry to entire church fabric as required. Tuck-pointing is not recommended.

2 Pin traceries of west front window.

3 Piece-in or indent into failed sandstone dressings as necessary. Plastic stone repairs are may be acceptable alternatives where damage is minimal to sandstone. Ensure the traceries are structurally secure.

4 Caulk up long term and or seasonal cracks with flexible sealant. Monitor movement cracks if recommended by Structural Consultant.

5 Lead flashing should be provided over selected areas, including sandstone string courses, copings, windowsills and hood moulds.

PART B.3.0 CHURCH INTERIOR

B.3.1 Interior Walls

Internal plaster was inspected from floor level only. Despite considerable drumminess in localised areas, the majority of the internal plaster is in good condition. Spalling or efflorescent plaster is evident in areas such as:

- the lower parts of the aisle walls;
- the walls of south transept;
- the lower walls of the north transept;
- parts of the Chancel;
- the top of the wall between the Lady Chapel and the Chancel;
- small areas of the lower walls of the porches;
- the top of the west wall;
- along the upper walls of the nave.
- along north aisle wall, west of porch;

It is recommended that intervention into the plasterwork be kept to a bare minimum. Nonetheless, failed plaster should be repaired prior to any redecoration of the interior.

In some areas, the plaster has high levels of salt efflorescence due to dampness within the wall. In these cases, it is important to ensure that the wall has dried out sufficiently prior to remedial works being carried out, or salt efflorescence will recur.

In the locations where rising damp is evident, it will not be possible to stop the rising damp, though it is likely to be reduced if the ground level outside is relevelled to fall away from the building. It is not possible to create damp-proof courses in the church walls due to their construction; thus efflorescence will be a continuing problem.

B.3.2 Ceilings

The ceilings through out the church are the soffits of the timber roof boards articulated by the primary and secondary trusses, and under-purlins. The alternating diagonal boarding offers a rich contrast to the simplicity of the wall treatment in the main body of the church. The slightly scissored / groined treatment of the ceiling in the crossing is interesting due to the changing levels and pitches of the various roofs.

The ceiling boards and trusses appear to be in good condition with the exception of a small number of locations where water entry has been a problem in the past. In at least two locations it is possible to see daylight between the ceiling boards. The ceiling's general appearance is somewhat thirsty (in a visual sense) and could do with a coat of appropriate varnish. Please note that the roof spaces were not inspected due to inaccessibility.

B.3.3 Interior Decoration

Please note that a full analysis of the interior decoration has not been carried out at this stage. It is however evident that the colour scheme to the church interior has change at least twice. Certainly, the stenciled decoration, at the chancel apse , but elsewhere also, has been painted over at least once before. The evidence of such decorative treatments as painted dados, painted motifs, and linework, are visible under much of the existing paint treatment. It is possible to 'excavate' the previous decorative schemes and salvage them or re-apply them as a whole or in part. It is highly recommended that damp and movement problems be addressed prior to any re-decoration of the interior be undertaken.

The following observations about the interior have been made:

1 Cracking to arch apex of west wall. Minor cracking through western most aisle windows north and south elevations.

2 Staining and peeling paint from 'John Herbert Gregory' Memorial Plaque;

3 Original doors to side porches have been replaced;

4 Efflorescence of sandstone reveals to porches, due to rising damp. Musty smell;

5 Clarification of role of porches. Are they emergency egress points?

6 Electrical conduit through window at transept should be removed;

7 Repair of timber floors is required in a number of locations, including the south aisle, the passage, by the chancel railings, etc. ;

8 Pulpit should either be repainted in a more 'natural' treatment of have existing paint removed;

9 The ironwork to the Lady Chapel Grill is too glossy and 'plastic'.

10 The 'gold' paint to the chancel rails is inappropriate and detracts from the brass gasoliers;

11 Discoloration of tesselated tiles under the choir stalls

12 Spalling and efflorescence of walls at floor level of the chancel.

13 Considerable efflorescence and paint failure to upper wall of chancel apse over wall safe, (therefore the musty smell in safe).

14 The stone bosses at the upper walls of the nave have not been completed but remain as amorphous egg shapes. These were intended to be carved stiff leaf or such like ornamentation, but were never executed;

15 The stone hood moulds of the arches in the chancel apse were never completed as originally intended.

Please note that not all observations have been recorded here.

B.4.0 DAMP PROBLEMS

Damp problems are evident in the fabric of All Saints Church, resulting in crazed, drummy and crumbling plaster, peeling of paint and salt crystallisation in the form of efflorescence and/or spalling of masonry surfaces. It is clearly evident that moisture has entered the walls through the box gutters above.

Before any interior decoration is considered the walls should be allowed to dry out thoroughly. Then any salt-contaminated external and internal render should be cut out and repaired. The removal of the existing acrylic paints will facilitate a full assessment of the render condition. Prior to any new paint system being applied all drummy, crazed and cracked plaster should be repaired.

B.4.1 Falling Damp
Previously, the high moisture content of the walls was caused by falling damp (rain penetration), condensation and rising damp. The failures of the roofs and roof plumbing has already been discussed. Rainwater also penetrated the walls through the parapet copings which also need repointing.

B.4.2 Rising Damp.

Damage to plaster and stonework due to rising damp both internally and externally just above ground level has, in some cases, been repaired in the past, but still exists in various parts of the church fabric. Rising damp is not a serious problem, but does cause the deterioration of finishes, such as paintwork or timber linings. Eventually it will be necessary to replace damp-damaged fabric, however at the moment it is more of an aesthetic concern.

Reasons for rising damp in the walls of All Saints included:

- The exposed condition of the outside ground;
- The drainage of storm water and surface water to surface drains;

It may be necessary to take measures to locally lower ground-water levels at the perimeter of the building, to reduce access of moisture to the wall. This can be achieved by removing earth banked up against the exterior walls, and by providing agricultural drains around the building, connected through siltpits to the stormwater drains and to pump water out to street level. It is important to ensure that the moisture content of the foundation material is not affected too greatly as this may cause further seasonal instability. The removal of shrubs and trees adjacent the building fabric would also assist reduce the rising damp problem, however this may not be aesthetically desirable.

B.5.0 ENHANCEMENTS

The Burra Charter Articles 13 to 22 on restoration, reconstruction and adaptation provide a useful framework for any process considering the future of an historic place. While these principles outline the objectives of conservation ("The aim of *conservation* is to retain or recover the *cultural significance* of a *place* ...")[5] which may

> "according to circumstance include *preservation*, *restoration*, *reconstruction* and *adaptation* and will commonly be a combination of more than one of these."[6]

Ultimately any decision will be a value judgement, the result of a subjective appraisal of available information. The Charter provides a useful categorisation of works from which one can identify the nature of any proposal, and the criteria on which they should be considered. It should not be forgotten that modern uses and aesthetic criteria should be admitted to any appraisal. This is particularly important in the case of reconstructions. Historicist reconstructions are often put forward for a place without there being sufficient historical evidence for the proposal.

However, once there are clear criteria for analysis, and the treatment of areas of significance satisfactorily defined and understood, there is plenty of scope for contemporary thinking - adaptation - both in terms of aesthetics and use. It is of great importance that these designs and intentions are not confused with correct historical reasoning. For example, if it is felt that a certain wall decoration would create a desirable ambience in a place, but there is not sufficient historical evidence for it, it does not necessarily have to be avoided, provided that it is recognised as a contemporary aesthetic decision and there is no attempt at fakery.

It is generally considered that reconstructions are only relevant for the strictest archeological reasons, and that historicist proposals without evidence be avoided.

B.5.1 Building Services

It may be desirable that the services in All Saints, with respect to compliance, comfort, building performance, aesthetics and use be up-graded. Perhaps the only responsibility of the Vestry in relation to building compliance is that pathways of egress from the church be free and easily accessible and up to standard. For a thorough assessment of services, refer to the Services Consultants Report.

B.5.2 General Recommendations For Aesthetic Enhancements

The history and fabric of All Saints Church are important records of the aspirations and beliefs of the High Church in Melbourne, and forms a vital document for social and historical studies. The conservation of evidence that exists here is of paramount significance, and is of interest to the whole community.

This does not preclude aesthetic enhancements, in the tradition of years of improvements, but it is essential that they not only enhance the liturgy, but also do not destroy or cover up anything of significance.

It must be noted that new work to All Saints Church can add to the advances in aesthetic decision making, within the parameters of the historic developments.

[5] The Burra Charter Article 2

[6] The Burra Charter Definitions Article 1.4

B.5.3 Conservation of the Chancel

It is imperative to view the interior decoration of the church interior as one cohesive element with its main purpose being to enhance the focus on the presentation of the liturgy. In our opinion, the purpose of the decoration in the chancel was to draw the eye to the 'main event'. Therefore the whole of the chancel was decorated in stenciling and line work. It is almost certain that the wall treatment of the remainder of the church interior had some sort of relationship to the decoration of the chancel. This relationship has now been lost in terms of decoration.

The design of the Upper Chancel, the wall painting, stained glass and furnishings form part of an important aesthetic composition. The sense of the "whole" has been steadily undermined over time. In this light, proposals have been put forward for the complete restoration of the Upper Chancel, and particularly the paintwork.

It is imperative that conservation of the decorative scheme to the upper chancel be undertaken to ensure that this remnant not be further lost. The recent roof works were essential as a first step in the conservation of the paintwork. The rising damp however, cannot be so easily addressed and will continue to be a continuing concern in this and other parts of the Church fabric. The ornament, in its present state, does a great disservice to the original design concept and diminishes the overall harmony of the decoration considerably. The conservation approach should be as suggested by Mulholland Decorating in a letter to the previous Incumbent Rev, Potter. (Available in the church files).

The requirement to attract the eye to the altar and therefore the liturgy, suggests that the previous decoration of the cahncel proper be recovered or reconstructed. This certainly would also help recover cultural significance as is required by good conservation practice. The reconstruction of the hidden decorative paint scheme would aid in tying the decoration of the upper chancel to the main body of the church

However, should this not be desired by the Vestry and the Congregation, then the conservation requirements are satisfied if, as a first step, the existence of evidence is confirmed, recorded and is not destroyed, but is buried, in an archeological sense, under the later works. As long as the wall is not stripped or burned back to the plaster sub-strate or the top layers do not harm the earlier paint in any way, the evidence will exist, albeit hidden from view.

PART C – THE GREGORY HALL

C.1.0 ROOF AND ROOF PLUMBING

The roof of the Gregory Hall is in fair to good condition. Recent repairs were observed and generally these were satisfactory though there is some concern about the compatibility of materials.

C.1.1 Slates.

Generally the Welsh slate roofs of the Hall appear to be in good condition, though there are occasional broken slates which require replacement. Delamination of the top surfaces of the slates is common place though not of great concern. Fixing of slates is by galvanised clouts. Minor corrosion of the nails is evident but this is of little consequence. There is also evidence of copper clouts of more recent repairs in good condition. Slates may require attention in very few areas except for regular maintenance.

C.1.2 Cappings & Flashings

Cappings and flashings generally appear to be in fair condition. Most ridge cappings and valley irons are of sheet metal and require treatment for rust and painting to extend their life. Many have already been thus treated. Recent works to these roofs have replaced the previous cappings with colorbond steel. This in our opinion is inappropriate for this building. It will accelerate corrosion to galvanised steel below.

C.1.3 Gutters & Sumps

Existing eaves gutters to perimeter roofs are in fair condition but some require to be adjusted to falls. A few joints in the guttering have failed allowing water to drip. Water spillage on to the facades is visible at many locations where pointing in the brickwork has been washed out, however it is not known whether this spillage action is still active. Only on the north façade are there problems with the guttering and downpipes that need urgent attention.

Box gutters appear to be in fair to good condition of different metals some recently repaired or replaced. Ongoing regular maintenance will ensure longevity and minimal repair in the near future.

Capacity of box and eaves gutters is questionable. However, short of total replacement of the guttering at a considerable expense.

C.1.4 Downpipes

The downpipes are of generally of copper and are in good condition. Galvanised gutters to the north east wings (St. Michael's storage) require replacement. There are some areas where blockages are evident and water appears to be running down the surface of the wall. Some downpipes have suffered mechanical damage and connections between gutter pops and downpipes are not always watertight. All these areas ought to be checked on a regular basis, if they are not already.

The stormwater runoff from the downpipes generally discharged into stormwater drains. The drains should be thoroughly cleaned to ensure they are effective.

There are a couple of areas on the north side of the church building where downpipes discharge directly on to the ground possibly causing long term problems including localised subsidence and rising damp.

C.1.5 Recommendations for Hall Roofs

1 Slate Roofs - Replace or refix approximately ten per cent (10%) of slates.

2 Treat and paint rusting ridge cappings and valley irons to extend their life.

3 Replace corroded guttering. Repair existing eaves gutters. Re-align gutters to fall towards downpipes. Provide overflows to rainwater heads that do not already have them.

4 Check all downpipes and repair as necessary to ensure they are water tight. Clear blockages.

5 Modify ground falls about the immediate hall perimeter to ensure water falls away from the building. Ensure stormwater does not pond.

6 Clear existing stormwater drains along the front of the church building.

C.2.0 GREGORY HALL - **MASONRY.**

The brick walls of the Gregory Hall are of common res pressed bricks. With the exception of areas of minor movement, window heads and areas of washed out pointing the masonry walls are generally in good condition. Refer to Structural Consultant's Report for detail on movement and window heads.

The Hall building was pointed in what appears to have been a simple struck pointing. The mortar appears to be a composite mortar. This pointing has lasted well except below areas where water has spilled from downpipes and gutters. In these areas in would be recommended to repoint the façade. However this is not a high priority.

Sub-floor vents should be cleared and made vermin proof to ensure adequate airflow under the building. Wall vents will also require new perforated metal grilles to replace those damaged.

Rising damp is clearly evident where the damp-proof course has been breached by later works, such as the provision of toilet and shower facilities under the front north stairs. It would be desirable to remove the concrete slab and renew the timber floor in this area to reverse the breach. Further, at the front of the building the flower bed has been built up higher than the damp-proof course, which also is allowing rising damp to pervade the masonry causing efflorescence to the interior. The damp-proof course is again breached on the southern side where the asphalt paving finishes flush with the floor level. Short of creating anbuffer between the ground level and the brick wall, there is little that can be done in this circumstance.

C.2.1 Recommendations for Masonry

1 Repoint masonry to areas where pointing has been lost (Approx 20%).

2 Repair lintols to window heads and make good render as per Structural Consultant's recommendations;

3 Address the breaches of the damp-proof course wherever possible, in order to reduce damage due to rising damp to the interior.

4 Remove aluminium flashing to central west window to Hall proper. It could be replaced, if necessary, with more sympathetic material.

PART C.3.0 HALL INTERIOR

Internal plaster was inspected from floor level only. Despite considerable drumminess in localised areas, the majority of the internal plaster is in good condition. Spalling or efflorescent plaster is evident in areas such as:

- the lower parts of external walls;
- the top of the walls between the Hall proper and the upstairs gallery;
- along north aisle wall, west of porch;

It is recommended that intervention into the plasterwork be kept to a bare minimum. Nonetheless, failed plaster should be repaired prior to any redecoration of the interior.

In the locations where rising damp is evident, it may not be possible to stop the rising damp.

Please note that a full analysis of the interior decoration has not been carried out at this stage.

The following observations about the interior have been made:

1 Minor cracking through large west window. Plaster to be repaired.

2 West copper light window leaks. Needs re-cementing.

3 Repair plaster damaged due to rising damp in space adjacent kitchen.

4 Efflorescence due to rising damp in space under stairs north stairwell. Musty smell;

5 Back stairs to northern offices blocked and inaccessible as means of egress – Must be cleared of all obstructions to designated pathway. Panic bolts to be eased. (Imperative)

6 Repair of timber floors is required in a number of locations, including the upper gallery access to south offices

7 The ceilings through out the Hall are the soffits of the timber roof boards articulated by the trusses, and under-purlins. The ceiling boards and trusses appear to be in good condition with the exception of a small number of locations where water entry has been a problem in the past.

8 Repainting highly desirable.

PART D – THE OLD VICARAGE

D.1.0 Roof And Roof Plumbing

The roof of Old Vicarage is in relatively poor condition. This roof requires urgent repair if this building is to survive into the future.

D.1.1 Slates.

Generally the Welsh slate roofs require renailing with as musch as 50% of the slates requiring replacement, due to delamination of the top and bottom surfaces of the slates. Fixings of slates are heavily corroded. Some areas have had corrugated steel roofing at well below recommended pitch for this material, almost guaranteeing water ingress into the building during heavy rainfall.

D.1.2 Rainwater Goods

Lead flashings appear to have come to the end of their life. Metal cappings, flashings, and guttering are showing signs of corrosion and also require replacement. Some of the weatherings, particularly to the gables, are in render. These have become drummy and loose and rather than shedding water., they are allowing water to pour into the top of the walls. Downpipes are in varying degrees of deterioration, many requiring immediate attention.

D.1.3 Recommendations for the roofs of the Old Vicarage

The whole of the roof and roof plumbing system should be renewed.

D.2.0 The Old Vicarage - Masonry.

The walls of the Old Vicarage is constructed of soft hand made bricks of unknown origin. Given the age of the building it is highly unlikely to have a damp-proof course. The church building was erected in two building phases. The bricks to the second phase appear to be harder.

The majority of the building is left in exposed polychrome brickwork. The south façade, however, is rendered, probably at a later date.

The fabric of the Old Vicarage appears in remarkable condition given its age and the considerable damp problem that is evident. Only the gables are showing signs of strain. It also has some efflorescence, indicating the retention of water within the wall. Certainly the bottom part of the external walls have significant exfoliation due to the exposure to dampness.

There appears to be a coating of an unknown substance over the front facade which gives the impression that the facade building a wet look. This coating does not appear to be causing any problems to the brickwork.

The north facade is covered in a creeper. Though the creeper adds to the picturesque qualities of this quaint house, it is probably causing irreperable damage to the brickwork on which it is supported. It is also making it very easy for possums to access the house.

The pointing is a lime-based mortar which, though soft, has performed very well to date.

The chimneys have very badly cracked weatherings. Further there is some loosening of the brickwork at the top which requires some minor rebuilding. It is not known whether these chimneys are active or not. If they are, they would need to have their parging checked and they should be swept to minimise the possibility of ignition within the chimneys themselves.

A trench covered with slates has been formed in the ground around the front façade of the house across the former verandah pavement. Presumably this is so that the ground level is lowered, thereby reducing the exposure to the rising damp. There is no evidence that this trench is drained in any way. In fact the opposite seems to be happening, in that the trench is very damp and there is some evidence of ponding thus there is an increase exposure to the damp. It would be recommended to either the trench should be effectively drained or that the trench be removed.

Perhaps a more effective method of minimising the rising damp problem in this circumstance, is to provide a chemical damp proof course. The interior brickwalls would also need to be addressed similarly. Chemical damp-proof courses however leave holes in the brickwork through which the chemical is injected, but also do not offer guarantees that it will be totally effective.

In the areas where exfoliation has occurred (upto 1500mm above ground in some places), it is recommended to replace the exfoliated bricks if at all possible in matching salvaged bricks from another site if these are available. Alternatively, the existing bricks can be retained as they are. It would not be recommended to fill the exfoliated parts in a mortar as this is likely to accelerate the deterioration of the bricks further.

Sub-floor vents should be cleared and made vermin proof to ensure adequate airflow under the building. Wall vents will also require new perforated metal grilles to replace those damaged.

The window joinery and doors need to be repaired and repainted. to ensure their longevity.

The render on the south wall appears to be drummy and is badly cracked. Further, it is very hard render which is likely to be causing more problems to the brickwork than solving. It is unlikely that the brickwork under the render is in good condition which suggests that this wall should remain rendered. Nonetheless, it is recommended to remove the existing render and re-render this facade in a softer render. In the long term, it is better to lose the render than to lose the brickwork, which is a structural element.

There are a number of metal elements including lintols which are corroding and as such are jacking the brickwork. It is recommended that these be removed and replaced if necessary in galvanised metal to suit.

D.3.0 Recommendations for Masonry

1 Remove Virginia Creeper. Repoint masonry to areas where pointing has been lost.

2 Remove corroding metal lintols to window heads and make good to brickwork.

3 Remove trench to front of building. Provide new chemical damp-proof course to all brick walls externally and internally. Repair the timber floor as necessary.

4 Remove render to south elevation and re-render in a soft mix.

5 Repair chimney tops, weatherings etc. Sweep chimneys and reparge.

6 Replace badly exfoliated bricks as necessary to match existing.

7 Allow to paint all exterior joinery and previously painted surfaces

PART D.3.0 Old Vicarage Interior

the majority of the internal plaster is in fair condition despite considerable drumminess in localised areas,. Much of this has been repaired in recent times. Spalling or efflorescent plaster is evident in areas such as:

- the lower parts of external walls;
- the top of the walls in the second storey in some rooms only.

The plaster ceilings to at least five rooms have been replastered in plasterboard. The remainder are showing signs of water damage to a greater or lesser extent. It is recommended that intervention into the plasterwork be kept to a bare minimum. Nonetheless, failed plaster should be repaired prior to any redecoration of the interior. It would be possible to re-scrim the remaining original ceilings (and not replace them in plaster board) which would be a better approach to the conservation of these interiors. In the locations where rising damp is evident, it may not be possible to stop the rising damp.

It may be necessary to repair the floor where the stumps and bearers appear to be bouncing, probably indicating the presence of rot. (The lifting of the floor would facilitate the provision of a chemical damp-proof course should this be the agreed direction.)

Please note that a full analysis of the interior decoration has not been carried out at this stage.

The following observations about the interior have been made:

1 Minor cracking to plaster throughout interior walls to be repaired and painted.

2 Repair plaster damaged due to rising damp in ground floor.

3 Repair of timber floors is required in a number of locations. Allow to replace 60%

4 Scrim water-damaged original ceilings rather than replace.

5 Repainting highly desirable all previously painted surfaces internally and externally.

ALL SAINTS

ASSESSMENT OF ENGINEERING SYSTEMS

- **THE HALL**
- **THE OLD VICARAGE**
- **THE CHURCH**

GENERAL

In general, the engineering systems installed in the three buildings, which we have been retained to assess, are well beyond their useful life. The exception is a part of the Hall in which the electrical reticulation system has been partially replaced and of the fire extinguishers, many of which have been recently (within the last few years) replaced. It was reported by Mr Mark Stevens, that FES regularly visited the site in order to inspect the fire extinguishers.

Our recommendations regarding the engineering systems within these buildings is that they are replaced and upgraded in order to provide the level of services which would reflect the utilisation of the areas as they are presently utilised. This recommendation is made on the assumption that the current utilisation of the Hall and Old Vicarage will continue.

The Church systems are similarly well beyond their useful life, with the exception of the public address system which, whilst of limited extent, is in reasonable condition.

In each of the buildings, there are no life safety emergency and exit lighting systems or fire detection or protection systems, other than the fire extinguishers.

This report excludes review of the systems and equipment Year 2000 compliance. Date related functionality of systems or equipment has not been reviewed in preparation of this report.

DESCRIPTION OF EXISTING SERVICES

1. THE HALL

1.1 MECHANICAL SERVICES

Two gas services are installed on the exterior of the north west corner of the building.

It is understood that one gas supply is for the "St Michael's tenancy" and the second is for the upright wall heater in the Meeting room/Kitchen area on the south side of the Hall.

Gas reticulation piping is a mixture of galvanised iron and copper piping and is reticulated along the north side of the building against the wall and underground. There is evidence of an intensive reticulation system inside the Hall, with old capped piping in many areas of the Hall.

In the two tenancies on the north side, the upper area is provided with a reverse cycle air conditioning unit through the window in one of the rooms. There does not appear to be any fixed heating system installed in the lower unit. Natural ventilation is provided via louvre grills in the windows and ceiling ventilation.

In the central hall area, the tenant utilises several bottled gas fuelled radiant heaters. The tenancy areas on the upper south side were not accessible, however, it is understood that local portable electric heater units as there is no fixed central heating system in place.

1.2 ELECTRICAL SERVICES

A three phase overhead supply drop to the Chapel Street facade of the building supplies a meter panel located in the main entry area. There are 4 No. electricity meters supplying the St Michael's tenancy, the central Hall and Meeting room/Kitchen area, the north tenancy areas and the south upper floor tenancy areas. Several tenancies share the metered electricity supplies.

A modern style circuit breaker distribution board (DB) is installed within the handicapped toilet at the Ground Floor level for the electrical supply to the Meeting room/Kitchen area. Very old electrical DBs were sighted in the northern tenancy areas. It was noted that the electrical earth cable on one of these switchboards appeared to have been disconnected. This should be reconnected as soon as possible.

DBs for the St Michaels area and for the upper south tenancies were not sighted.

It was reported by Mark Stevens that some areas of the building had been recently revised.

In general, the illuminance levels throughout the Hall are inadequate.

There is no emergency or exit lighting system.

The exterior lighting installation is limited in extent and provided little security lighting for the Hall or site.

The telephone block wiring system comprises a considerable amount of "ad hoc" cabling 'strung up' around the walls and ceilings in a hap-hazard manner. It appeared to be barely functional, and to have been installed in an unplanned, as required, manner.

A recently installed state of the art intruder detection system is installed in the building. Mark Stevens indicated that the tenants were responsible for the installation of the system.

1.3 FIRE PROTECTION SERVICES

Fire extinguishers are located throughout the Hall building. Mark Stevens reported they are maintained by FES.

Hydrant valves are located at Ground and the eastern upper level. These valves are an obsolete design and are reported to not be suitable for use by the Fire Brigade. A rising pipe exists on the northern side but the outlets are capped.

There is no fire detection system or fire sprinkler system in the building.

1.4 HYDRAULICS

The existing sanitary fixtures and faucets with the exception of the refurbished toilets at the south west corner of the building serving the Meeting/Kitchen area, do not provide for modern, hygienic and aesthetic conditions.

The meeting/kitchen room toilets are in good condition.

2. THE OLD VICARAGE

2.1 MECHANICAL SERVICES

Two gas services are installed on the exterior north side of the building at Ground Floor. It is understood that the services supply the "front" offices tenancy and the "rear" residential area heaters, two older type hot water services and the gas stove in the residence. The visible gas piping is reticulated in copper piping on the exterior of the building. The gas supply to the "rear" tenancy Ground Floor is reported by Mark Stevens to be run underground around the building to provide the service.

2.2 ELECTRICAL SERVICES

The electrical supply to the Old Vicarage is by aerial "drop" to an exterior mounted meter panel which is located on the north side.

Mark Stevens expressed concern regarding the visibly changing lighting output levels in some of the incandescent lamps in the rear area of the Old Vicarage. We attribute this operation to poor connections in the wiring system or old and/or dirty electrical contacts in the circuit breakers or light switches in the system. We recommend the installation is examine by a licensed electrician to rectify this problem as soon as possible

The electrical cabling installations and accessories whilst operating are generally very old and should be considered to be at the end of their useful service life.

In general, the illumination levels in the building are adequate for the residential occupancy, but inadequate for office type occupancy. The light fittings are typically pendant with bare bulb GLS type lamps of low voltage.

The telephone cabling system is installed in an "ad hoc" manner similar to the Hall building.

2.3 FIRE PROTECTION

Fire extinguishers are located at a number of locations in the Old Vicarage. They are reported by Mark Stevens to be maintained by FES.

Smoke alarm units are installed in several locations. They appear to be stand alone type, self contained, battery powered units which are not interconnected. As a minimum the smoke alarms need to be serviced regularly and should be replaced with mains supplied smoke alarm units which are interconnected to provide a common alarm signal in the event that any one unit detects smoke.

2.4 HYDRAULICS

The existing sanitary fixtures and faucets, whilst functional, do not provide modern hygienic and aesthetic conditions or provide for water conservation.

3. THE CHURCH

3.1 MECHANICAL SERVICES

The gas services metering is located on the south side of the Church, opposite the Old Vicarage, to serve the 2 No. gasoliers in the Church. The gas service is of recent installation with the gas supply reticulated via the Sanctuary area. The gasoliers are controlled by manually operated valves and ignited utilising a manually ignited brass gas wand with a flexible connection to a quick connection point adjacent to one of the gasoliers.

Ventilation in the Church is by natural convection and roof vents. Low level ducts through the windows in the side aisles and high level roof vents are provided.

An electric foot rail heater system is provided on the Choir area and in the first 10 rows of pews in the Nave. The heating is controlled from the main switchboard.

3.2 ELECTRICAL SERVICES

A three phase overhead supply drop to the south west corner of the Chapel Street facade of the building reticulates on insulators to the south transept, where it is teed off to the Old Vicarage and feeds into the main switchboard located in the Vestry. Separate meters are provided for the lighting and power (heating) reticulation systems.

The overcurrent protection and the lighting controls for the Church are provided on the main switchboard.

The whole of the electrical installation in the Church is old and is considered to be beyond its useful life.

The audio sound reinforcement system in the Church is of the order of 10 years old. Microphones were noted at the Pulpit and at the Lectern. Cabling for the microphones was reticulated on the surface and lay loose on the floor in the "corners".

A roof mounted lightning protection finial Is located at the Chapel Street end of the Church roof with a copper earth conductor to the ground level near the entry. An earth pit was not visible.

3.3 FIRE PROTECTION

Fire extinguishers are located throughout the Church building. Mark Stevens reported they are maintained by FES. There is no fire detection or fire sprinkler system in the building.

3.4 HYDRAULICS

The existing faucets in the two small rooms at the rear of the Church do not provide hygienic and aesthetic conditions.

4. UPGRADING THE SERVICES

The present state of of the services installation, in general, is that significant upgrading of the should be undertaken if the current utilisation of the spaces is contemplated for the future. The following is a schedule of the services upgrading works that is considered to be required in order to ensure the continued satisfactory operation and use of the buildings.

The Site services reticulation considered for upgrade are the Electrical supply and the Site lighting. Installation of the electrical supply to a underground arrangement would improve the aesthetic nature of the installation, whilst an exterior lighting system would provide both improved personal security for the users of the church and the tenants and would create interesting effects and enhance the appearance of the Site.

To provide hydrant and hose reels throughout the site, a new water supply tapping would be required.

5. THE HALL

The approximate area of the Hall is:

Ground floor $876m^2$ including the ground floor Hall

First floor $403m^2$

6.1 MECHANICAL SERVICES

- Heating and ventilation
- Toilet exhaust
- Kitchen exhaust
- Gas reticulation
- Hot water services

6.2 ELECTRICAL SERVICES

- Main electrical supply main switchboard, distribution boards and reticulation system
- Electrical sub-circuits
- Lighting and lighting controls
- Emergency and exit lighting
- Voice communications block cabling system
- Smoke alarm system

6.3 FIRE PROTECTION SYSTEM

- Hose reels
- Fire Extinguishers

6.4 HYDRAULICS

- New sanitary fixtures, basins and faucets
- Cold water reticulation

7. THE CHURCH

The approximate area of the Church is 476m^2.

7.1 MECHANICAL

- Heating and ventilation
- Hot water services

7.2 ELECTRICAL

- Main electrical supply, main switchboard and reticulation system
- Distribution boards
- Lighting and lighting controls
- Emergency and exit lighting

7.3 FIRE PROTECTION SYSTEMS

- Hose reels
- Fire Extinguishers
- Fire detection

7.4 HYDRAULICS

- New basins and faucets
- Cold water reticulation

8. SITE

- Gas reticulation
- Electrical reticulation
- Telephone cabling reticulation
- Site lighting
- Hydraulics

9. ORDER OF INDICATIVE COSTS

9.1 THE HALL

Mechanical Services - Excluding the central Hall	$40,000
Electrical Services	$90,000
Fire Protection Services	$50,000
Hydraulics Services	$15,000

9.2 THE OLD VICARAGE

Mechanical Services	$20,000
Electrical Services	$40,000
Fire Protection Services	$5,000
Hydraulics Services	$15,000

9.3 THE CHURCH

Mechanical Services	$100,000
Electrical Services	$250,000
Fire Protection Services	$75,000
Hydraulics Services	$5,000

9.4 SITE

Electrical Services	$25,000
Fire Protection Services	$35,000

Estimated cost do not include builder's type mark-ups, attendance, supply authority type fees or fees for professional services which may be applicable for the works.

BEAUCHAMP CONSULTING ENGINEERS

Our Ref:4858
Mon, 21 Dec 1998

Falkinger Andronas Pty Ltd
496 Victoria Pde
EAST MELBOURNE VIC 3002

Attention Mr A. Andronas

Dear Sir,

RE ALL SAINTS CHURCH & HALL 2 CHAPEL ST, EAST ST. KILDA

1.0 Introduction

At your request and inspection of All Saints Church and Hall was made on Monday the 14th of December to ascertain the structural condition of both buildings and to check the load capacity of the first floor floor of the Hall.

2.0 Existing conditions

The church is in reasonable structural condition. It is suffering from falling damp where box gutters have caused problems and some of the white sandstone used as a fillet around the building and as capping to buttresses is decaying and has split in a number of locations. There has been some minor movement at the north-west corner of the church and some of the joints between the basalt blocks of the east wall have opened up.

The lintels over the windows to the hall are in a poor state of repair. The concrete lintels to The single storey section of the hall on the south-east side of the building have all cracked because of rusting of the reinforcing steel in the lintels, photo 1. The steel arch bars over many of the windows on the south, west and north side of the hall are rusting, this has caused the render above the lintels to spall and has caused cracking at the ends of the lintel where the bars are embedded in the brickwork. Photos 2-5 show typical examples of the problem. The render to the concrete lintels over the large windows on the north side of the hall is spalling and there are cracks in the lintels, photo 6.

The first floor joists in the hall were checked and were found to be 280 mm deep by 40 mm wide, seasoned oregon, at 450 mm centres, In the passageway the joists had been notched on the top to allow for the installation of conduits. The joists span 5.03 metres.

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DIRECTOR

Some floor boards in the passage were loose and needed to be screwed done and there are some gaps between boards.

The load capacity of the ground floor was not checked as access was not available to to inspect the condition and size of the floor joists and bearers.

3.0 Cause of defects

The cracking in the mortar joints to the east wall of the church has been caused by foundation movement and possible weathering of the mortar from the joint. There are two very large trees growing close to the west wall of the church, the roots from these trees may have caused some soil movement by drying out any clay soil that is present under the foundations of the church. When clay soils dry out they shrink and this shrinkage can cause foundation movement. As stated the cracking is very minor, this is most probably because the soil in this area of East St Kilda consists of a thin capping of Tertiary sands over Silurian clay. The sand would not be affected by loss of moisture and foundation movement would only occur if the deeper clay was dried out.

The cracking to the concrete lintels on the north and south sides of the hall is due to the rusting of the reinforcing bars in the lintels, as these rust the volume of rust produced causes an expansion that cracks the concrete. Normally the reinforcing bars are protected from rusting by the alkaline nature of the concrete that surrounds them, but as the concrete ages carbon dioxide in the air converts the alkaline calcium hydroxide in the concrete into non-alkaline calcium carbonate. When the alkalinity of the concrete drops below a pH of 11.5 rusting of the reinforcing bars can occur if water and oxygen is present. Because the rust occupies three times the volume of the steel splitting of the concrete occurs.

Similarly the expansion of the rust to the arch bar lintels has caused the render to spall and the brickwork at each end of the arch bars to crack.

4.0 Capacity of first floor joists.

The 280 mm by 40 mm oregon joists have sufficient strength to carry the normal office floor loading of 3 kPa, provided the top of the joists are not notched by more than 40 mm. If any joists are notched on the underside then their capacity would need to be checked, as notching on the underside of a joist has a greater effect than notching on the top.

The deflection of the joists under live load is calculated to be more than the allowable 9 mm but when tested on site the floor did not appear to have an excessive amount of bounce in it. This is probably due to the presence of partition walls etc. which damp out floor vibration.

5.0 Remedial action

The cracks in the mortar joints to the external stonework should be raked out and re-pointed with a mortar made of 1 part Brightonlite, off-white, low alkali cement, two parts slaked lime and 9 parts washed sand. If further movement occurs then consideration may have to be given to removing the trees close to the building or installing a root barrier.

It was noticed that some of the underfloor vents to the church were below ground level. To avoid water getting under the floor of the church, small walls should be built near the vents to prevent water getting into the vents but sufficiently far from the wall to allow air flow under the floor.

The small concrete lintels to the hall, that have spalled, should be replaced. This will involve needling and tomming the brickwork above the window openings to support it while the old lintels are removed and new concrete lintels are installed. An alternative to the concrete lintels would be to install galvanised steel angle lintels with four courses of new brickwork above the steel lintels to fill the space occupied by the concrete lintels. If the external face of the new brickwork was set back 20 mm it could then be rendered to replicate the appearance of the rendered concrete lintels. The cost of replacing the concrete lintels would be approximately $1500.00 per lintel. There are 11 lintels that need to be replaced.

The rusting steel arch bars should be replaced with galvanised steel bars. Needling and tomming of the window openings is probably not required as the brickwork can arch over the openings. All loose render needs to be removed and the render repaired.

The large concrete lintels to the windows in the north wall should be investigated by a firm who specializes in concrete repair, such as Remedial Engineering, to see if these lintels are capable of being repaired or whether they should be replaced.

All loose floor boards to the first floor of the hall should be screwed down and where necessary replaced. If during this work it is discovered that the top of the floor joists are notched more than 40 mm then strengthening work will be required to the notched joists.

6.0 Summary

There is very little structural damage to All Saints Church. All of the lintels to the windows to the hall need to be replaced or repaired. The first floor joists to the hall are adequate to take a live load of 3 kPa provided the top of the joists are not notched more than 40 mm.

Yours faithfully,

DAVID BEAUCHAMP

APPENDIX ONE

1. Photographs


1


2


3


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6

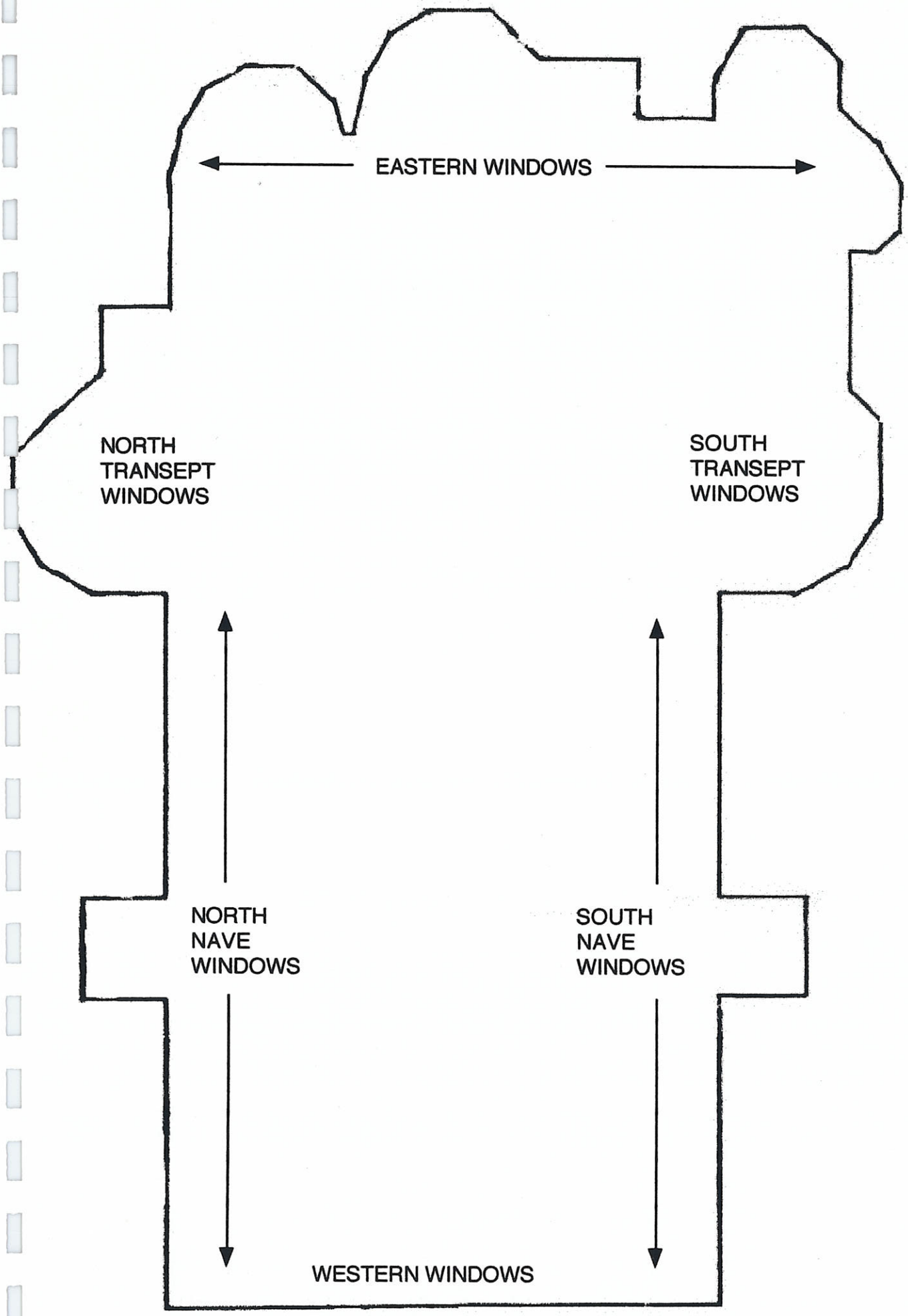
ALL SAINTS CHURCH, ST. KILDA

REPORT ON THE CONDITION OF STAINED GLASS WINDOWS

CONTENTS

Prepared by Geoffrey Wallace

February 1999


EASTERN WINDOWS
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WESTERN WINDOWS

REPORT ON THE CONDITION OF STAINED GLASS WINDOWS

1. INSPECTION

The windows were inspected on 3 February 1999 to ascertain the degree of structural and glass deterioration that has occurred over time and to make recommendations for their conservation and to note any urgent works that may be required. All aspects of the church were inspected from ground level but only a sampling of lancets from each aspect was inspected at close hand from a ladder. The close hand inspection included both the interior and exterior of the windows.

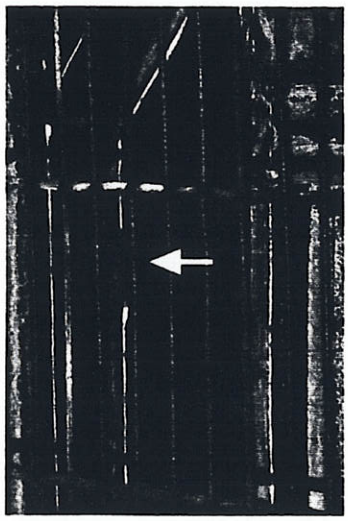
2. GENERAL CONDITION OF STAINED GLASS WINDOWS

To the credit of the parish administration and the original glaziers, the windows are in a surprisingly stable state for their age and any minor deterioration or damage appears to have been repaired quickly as it became obvious. The level of understanding of the repairers has been variable and unsuitable materials such as silicone and even coarse aggregate concrete have been used to affect repairs in some places.

2.1 Lead Structure:

Nearly all of the windows are still housed in their original lead cames which are now approaching the end of their serviceable life. The leadlight cement has dried out and cracking and in some windows beginning to dislodge.

A stained glass window gains it's inherent strength, rigidity and waterproofing from the leadlight cement that is worked under the flanges and around the heart of the lead came forming a tight bond between glass and lead. This cement/lead structure supports the downward weight of the window with the lead providing the elasticity to cope with expansion and contraction and the cement providing rigidity.



Cement loss, north transept

Leadlight cement, like all oil based putties will eventually dry out and progressively lose bonding strength. To combat this a normal 25 year cyclic maintenance program includes re-cementing of the lead cames. As this has not occurred at All Saints, the external leadlight cement is breaking down which means the the downward weight of the windows will need to be supported more and more by the fragile lead came structure alone.

2. GENERAL CONDITION OF STAINED GLASS WINDOWS [Cont'd]

2.1 Lead Structure [Cont'd]:

On the northern and western aspects in particular, the lead has crystallised in many windows and fine hairline cracks in the lead cames are beginning to appear. At a few localised points these cracks have opened up due to settling of the window or stone movement and raw edges of glass are now exposed.

If left unattended, over the next ten years the number and severity of these cracks will increase to a degree where windows begin leaking and daylight becomes visible at various points in individual windows.

Exposed edges of glass, north nave

Thanks to the original, high quality installation and reinforcing, buckling and distortion of windows is minimal and seems to occur only at points where there has been stress caused through stone movement, however, as the leadlight cement continues to dislodge and the soft lead cames are required to bear the weight of the window on their own distortion will become more widespread leading to splitting of the windows and eventual structural collapse.

Re-cementing of the windows at this stage would probably prolong the life of the lead structure for another 25 years but after that period re-leading of the windows will be required.

2.2 Glass:

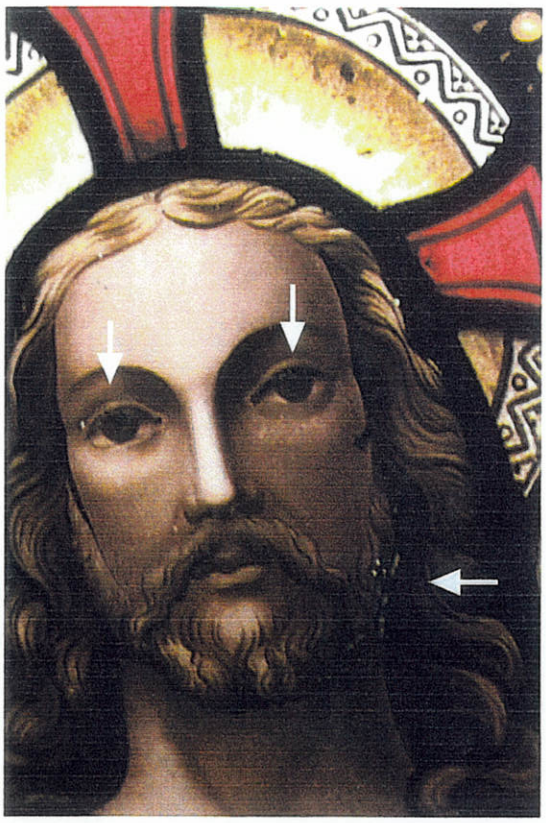
The glass in most windows is very dirty with a build up of water soluble grime over the interior surfaces and non-soluble deposits over the exterior surfaces. These deposits are considerably reducing the amount of light that enters the building and cleaning of the windows would make a marked difference to the brightness of the church interior.

There are broken panes of glass in most windows ranging in severity from simple cracks to complex star fractures and holes caused by impact. Most of these broken panes appear to be still firmly embedded in the lead structure and pose no immediate threat of dislodgement.

Of greatest concern for the conservation of the windows is the unstable glass paint and enamel that have been applied to the glass by the original artists and which is now falling off.

2. GENERAL CONDITION OF STAINED GLASS WINDOWS [Cont'd]

2.2 Glass [Cont'd]:



Paint loss, sanctuary

Vitreous glass paint is a compound of ferrous oxide and fluxes applied to the interior surface of the glass and fired in a kiln to bond it to the glass surface. Opaque black or brown in colour, glass paint is the traditional material of stained glass artists and provides all the detail we observe in a window: faces, drapery, decorative borders, etc. Vitreous glass paint should be permanent, as was the glass paint of the 12th and 13th centuries, but for various reasons some glass paint of the 19th century has proven to lack durability.

Enamel is coloured glass that has been ground into a fine powder and applied to the exterior of the glass then kiln fired to melt it on to the glass' surface. Available in virtually any colour, it is not a traditional material of the glass artist as it lacks durability, depth of colour and is susceptible to fading. It was used, particularly in the 17th and 18th centuries, as a cheap alternative to pot colour glass as it enables colour to be applied to clear glass.

Enamelling has been used extensively on the window cycles in the north and south transepts, both of which now show evidence of enamel loss. Paint loss is apparent not only on the transept windows but also on other windows throughout the church. This instability of the enamel and glass paint will hamper normal maintenance procedures such as re-cementing and cleaning which, if performed *in situ* , would pose the risk of dislodging unstable enamel and paint.

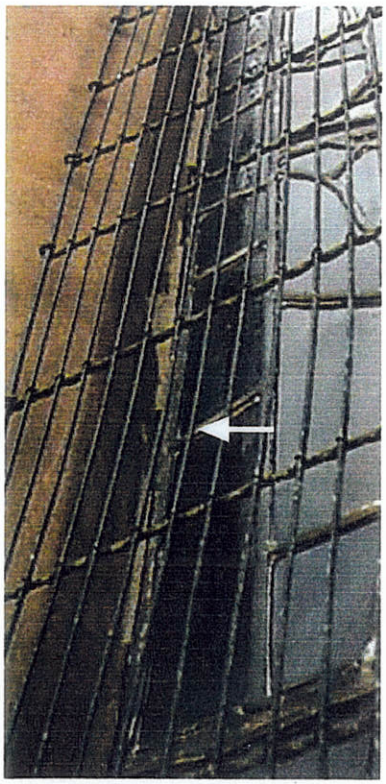
Enamel loss, south transept external

3. RECOMMENDATIONS:

A survey, including full documentation, of every window should be undertaken in order to prepare a plan of action for each window in the church. As the lead in most windows is approaching the end of its serviceable life, priorities need to be formulated for a conservation programme which could be undertaken over a 10 to 15 year period.

3.1 Urgent Works:

Remedial action is urgently required to the west window, the north transept windows and the St. John window in the sanctuary.



Exposed edge of stained glass panel, west window

West Window: There has been considerable movement in the masonry frame of this window, particularly in the lancet containing the Jewish priests. As the masonry has spread, this lancet has split down the centre of the stained glass and daylight is now visible through the window. The border edge of the stained glass panel is exposed externally where it has pulled free from its glazing channel as the stone has moved and it is no longer secure or waterproof.

The whole lancet requires to be excavated for repairs and because of the degraded nature of the lead will require re-leading as the lead structure will fall apart upon excavation. The remaining 3 lancets and the tracery panels could have there life extended by about 25 years through recementing but as most of the lead has crystallised, re-leading of these panels should also be considered.

North Transept windows: The lead and leadlight cement in these windows is very decayed and with no intervention structural problems will become apparent in the next 5 to 10 years. Re-cementing *in situ* is not recommended for these windows due to the unstable nature of the externally applied enamel.

Enamel loss, north transept

The windows should be excavated for re-leading in the studio where the unstable enamel can be monitored with industrial magnifiers and transmitted light during repairs to keep enamel loss to a minimum.

3. RECOMMENDATIONS [Cont'd]:

3.1 Urgent Works [Cont'd]:

St. John window [sanctuary]: This window has severely buckled vertically down the LH border breaking tie wires from the saddle bars and exposing raw edges of glass. It has also developed a convex bulge in the upper section. The window needs to be excavated for straightening and partial re-leading.

Vertical buckling and broken tie wire, St. John window

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Part H - OPINIONS OF PROBABLE COST - (Shopping List)

CHURCH

1	ROOF AND ROOF PLUMBING		55,000	
	Access		3,600	
2	MASONRY			
	Priority 1	Repoint West, Porch and Sanctuary gables	6,000	
		Access	1,200	
	Priority 2	Replace stones to West Copings, hoods, tracery	29,200	
		Access	2,500	
	Priority 3	North Elevation -		
		Replace stones, mortar repairs, Repoint	55,000	
		Access	15,000	
	Priority 4	East and South Elevations General repairs	14,000	
		Access	1,200	
	Priority 5	West gable new overflows to box gutters	15,000	
		Access	1,200	
3	INTERIOR PAINTING AND PLASTER REPAIR			
	Upper Chancel Conservation		20,000	
	Remainder of Church Interior		150,000	
	Reconstruction of Chancel Decoration		40,000	
	Floor Refinish		14,000	
4	WINDOWS			
	West Window - Total Relead		32,000	
	North Transept windows - Relead 5 lancets		20,000	
	St. John Window - Repair		2,200	477,100
5	MECHANICAL SERVICES		100,000	
	Heating & Hot Water Services			
6	ELECTRICAL AND LIGHTING UPGRADE		250,000	
	incl Emergency & Exit Lighting			
7	FIRE PROTECTION SERVICES		75,000	
	Hose Reels, Fire Extinguishers, Fire Detection			
8	HYDRAULICS		5,000	430,000
	New basins and taps, Cold water reticulation			
	PROBABLE COST FOR FULL CHURCH RESTORATION			**907,100**
	Builder's Preliminaries & Profit (say 10%)			90,710
	Contingency (5% of Sub Total)			45,355
	TOTAL PROBABLE COST FOR FULL CHURCH RESTORATION			**1,043,165**

ARCHITECTS, HERITAGE CONSULTANTS
Director: Arthur Andronas ARAIA M..A. Conservation Studies (York UK)
Consultant: Richard Falkinger FRAIA G. Dip Conservation Studies (York UK)

THE GREGORY HALL

1	ROOF AND ROOF PLUMBING (Repairs)	18,000	
	Access	2,500	
2	MASONRY (incl. Lintol repairs)	25,000	
	Access	2,500	
3	EXTERIOR PAINTING	14,000	
	Access	5,000	
4	INTERIOR PAINTING AND PLASTER REPAIR		
	Up to three colours	34,000	
	Access (included)	Nil	
5	WINDOWS (east and west)	5,000	
6	FLOORS (Repair of)	2,500	108,500
7	MECHANICAL SERVICES		
	Heating & Hot Water Services excl. (heating to Main Hall)	40,000	
8	ELECTRICAL AND LIGHTING UPGRADE (incl Emergency & Exit Lighting)	90,000	
9	FIRE PROTECTION SERVICES (Hose Reels, Extinguishers, Fire Detection)	50,000	
10	HYDRAULICS (New basins and taps, Cold water reticulation)	15,000	195,000
	PROBABLE COST FOR WORKS TO THE GREGORY HALL		303,500
	Builder's Preliminaries & Profit (say 10%)		30,350
	Contingency (5% of Sub Total)		15,175
	TOTAL PROBABLE COST FOR WORKS TO THE GREGORY HALL		**349,025**

OLD VICARAGE

1	ROOF AND ROOF PLUMBING	75,000	
	Access	10,000	
2	MASONRY		
	Brick repairs	5,000	
	Renew render to south wall	5,000	
	Access	1,200	
3	CHEMICAL DAMP-PROOF COURSE incl. removal of trench	21,000	
	Lift and repair timber floor	11,000	
4	EXTERIOR PAINTING	8,000	
	Access (included)	Nil	
5	INTERIOR PAINTING AND PLASTER REPAIRS		
	All previously painted surfaces	29,700	
	Repair of Ceilings (Scrimming)	6,400	172,300
6	MECHANICAL SERVICES	20,000	
	Heating & Hot Water Services		
	Excluding heating to Main Hall		
7	ELECTRICAL AND LIGHTING UPGRADE	40,000	
	incl Emergency & Exit Lighting		
8	FIRE PROTECTION SERVICES	5,000	
	Hose Reels, Extinguishers, Fire Detection		
9	HYDRAULICS	15,000	80,000
	New basins and taps, Cold water reticulation		
	PROBABLE COST FOR WORKS TO THE OLD VICARAGE		252,300
	Builder's Preliminaries & Profit (say 10%)		25,230
	Contingency (5% of Sub Total)		12,615
	TOTAL PROBABLE COST FOR WORKS TO THE GREGORY HALL		**290,145**

TOTALS

For Church	**1,043,165**
For The Gregory Hall	349,025
The Old Vicarage	290,145
TOTAL PROBABLE COST FOR WORKS	**$1,682,335**

Please note that these probable costs do not include Ancilliary Costs (Insurances, Fund-raising costs, etc) and Consultants' Fees.