

# Villa Alba

## Condition Survey and Stabilization of critical surfaces

First Draft  
(Text only)

prepared for

Villa Alba Preservation Committee

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Information in the most currently dated version takes precedence over earlier versions.

## 1. INTRODUCTION

This report has been commissioned following evidence of deterioration on a number of important surfaces at Villa Alba. The report documents changes that have occurred and compares them to the situation reported on in 1986. The report then outlines treatments carried out in 1986 and recently for each of the rooms worked on in 1996. It is clear from the inspection that significant deterioration has taken place on some surfaces and this raises the need to inspect the building on a more regular basis.

As an unoccupied building Villa Alba is vulnerable to incipient decay due to high humidity and general neglect. Humidity due to non use can be considered the cause of paper detachments in the Boudoir and Lower Hall frieze which are both paintings on paper attached to the wall with starch paste.

Since the first report several losses of plaster have occurred and these may well have been avoided if the building were being monitored more closely. Notably three ceilings have collapsed. The Lower Hall ceiling above the Entrance door collapsed due to prolonged weakening of the plaster, exacerbated by flooding at the time of collapse. The upper bedroom south of the Stair Hall has also received prolonged wetting although the collapse of the ceiling was most likely related to movement in the walls.

The most recent collapses have been in the recently replastered section of the northern Upper Hall. In this case the plaster and general surrounds were found to be very wet and water ingress traced to missing or detached slates. It was noted also that the plaster had not been adequately keyed in this section.

### Condition Survey Objectives

The Condition Survey has been initiated by recent and sudden detachments of paper in the Boudoir ceiling. If this ceiling was detaching it was assumed that other papers may also be releasing themselves and that other deterioration may also be continuing. The Vestibule paint was noticed to have begun to detach in the period from 1994 to present and this raised concerns about the stability of the whole interior.

The conservator felt a strong need to propose a further Condition Survey given that this had not been done since 1986 and that in that time the building had gone from being lightly occupied to being totally empty.

If nothing else the advanced deterioration of many sections has outlined two things.

### Occupation

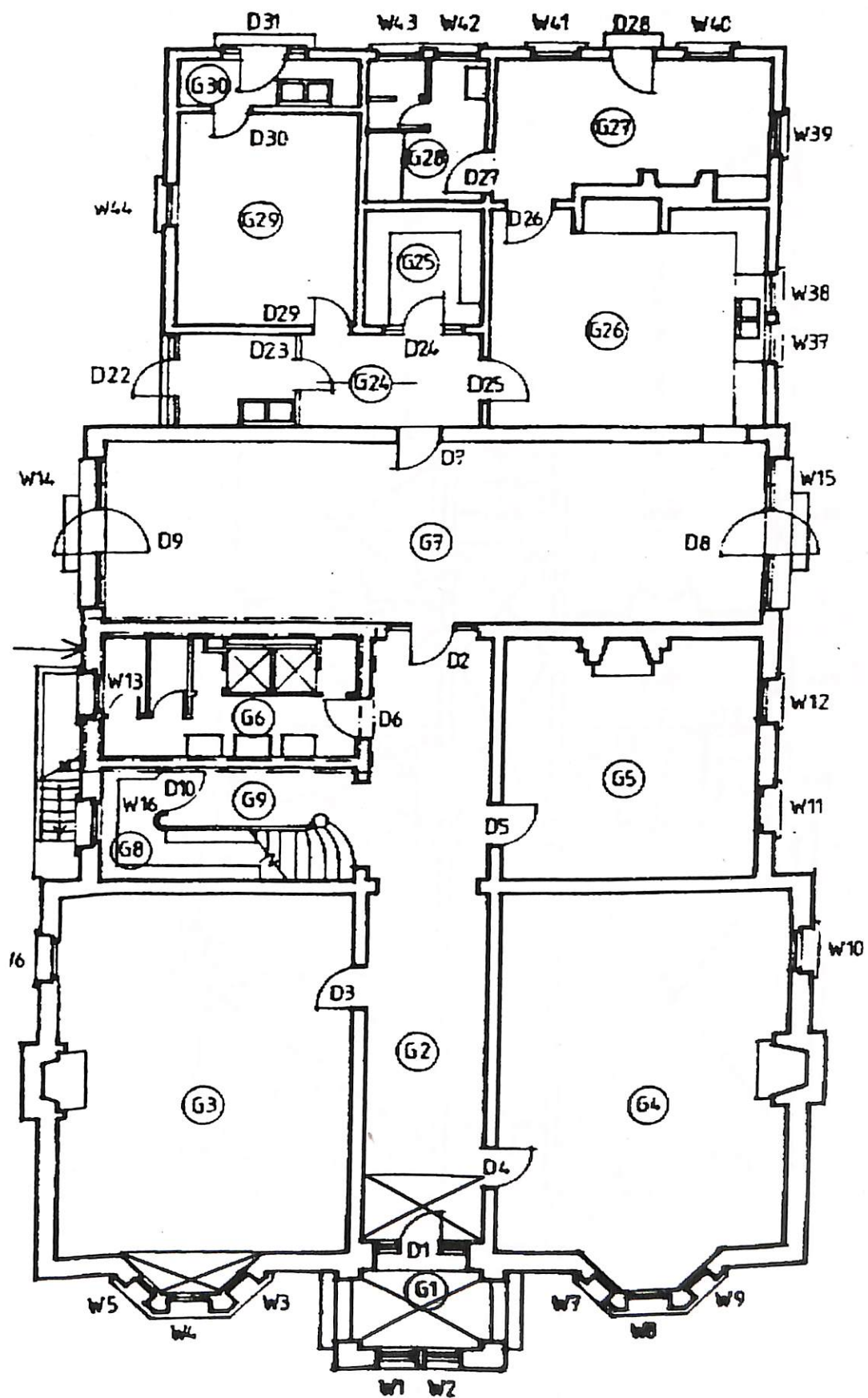
Firstly the building needs to be occupied on a permanent basis so that the climate will be more controlled. Occupation should be seen as an important part of preserving the Interior and must ensure that occupation is appropriate and more importantly beneficial to the fabric. Generally a heated room during Winter will be more stable than an empty room that has no heating at all. Activities such as cooking or use of showers etc. can be considered inappropriate however any proposed use must be appraised for its impact on the building.

### Ongoing Monitoring

The detachment of paint in the Vestibule has proceeded rapidly in the last two to three years and illustrates the need to undertake continual Condition Surveys at regular intervals. This report demonstrates very well the need to undertake surveys at more regular intervals and given the evidence these should be done every two or three years. It is believed that more regular Condition Surveys will reduce the cost of stabilization and be cheaper than the current approach.

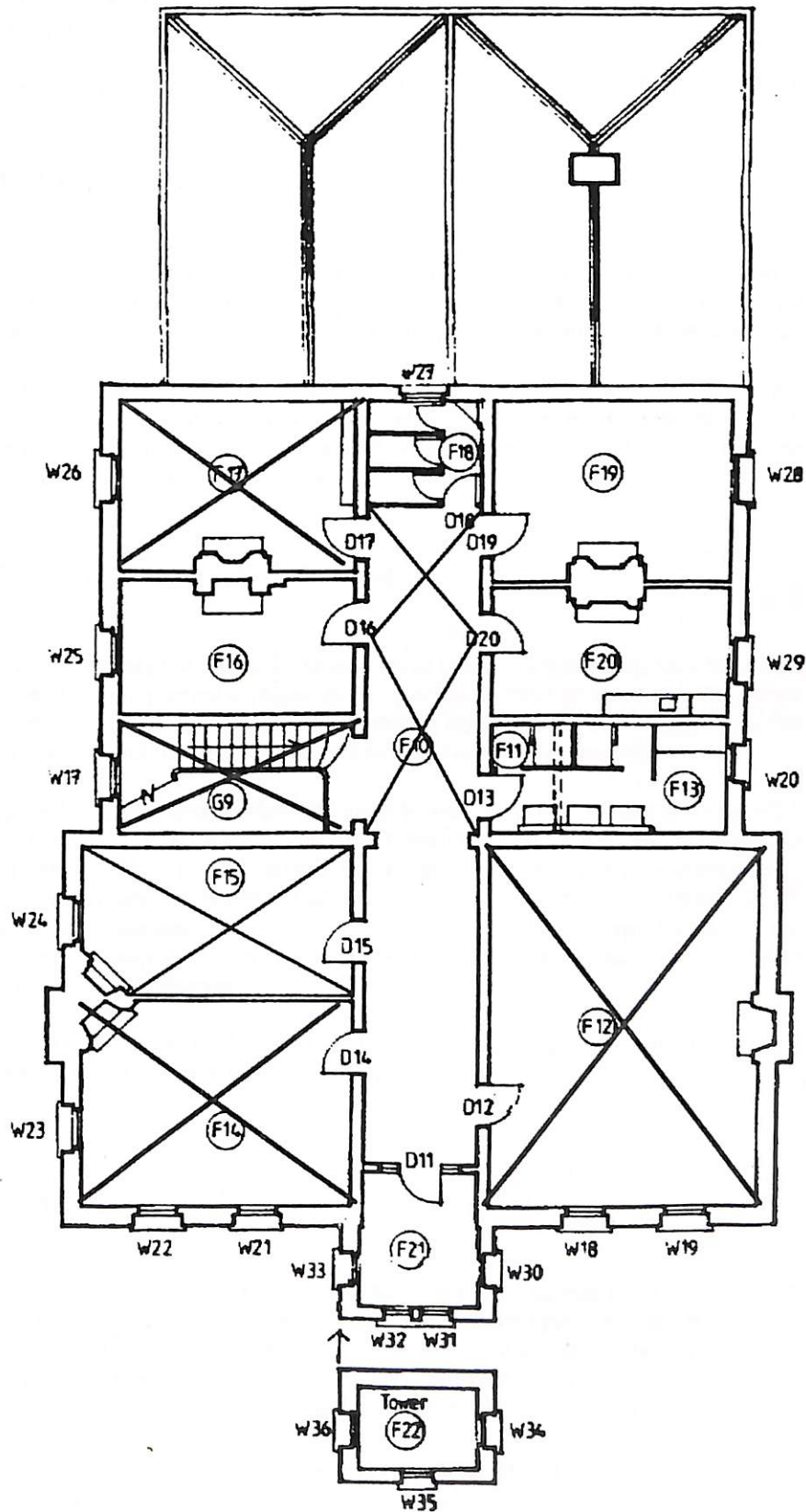
The following notes outline the current condition together with notes on how the same surface was documented 10 years earlier. Treatments to each of the rooms are added, together with appropriate graphic documentation where necessary.

Figure 1. Ground floor room numbering (after Sanderson 1989)



**Figure 2. First floor room numbering (after Sanderson 1989)**

Red hatched rooms have been stabilized in 1996. Black hatched rooms have been stabilized between 1986-1995.



## 2. CONDITION SURVEY

The following observations have been noted in each of the principal rooms. Rooms not surveyed include The Tower, Stair Hall (from below) and Room F13. None of the rooms beyond the Vestibule have been assessed in detail but appear stable. These rooms do not contain critical decorative information.

Changes and losses to the building can be summarized in four separate categories as follows;

### 2.1. CEILINGS

A number of ceilings have collapsed in the intervening 10 years. Most recently the Portico ceiling has collapsed and the cause of this can be linked to the same damage that led to the first ceiling falling. Rain entering the tower has severely weakened the plaster in many areas throughout the upper level.

The two plans show the ceilings that have fallen since 1986 marked with a cross. Given the wide range of lost areas and randomness of the event it is relatively obvious that any ceiling remains in danger of collapse. Artcare recommended some time ago that all significant ceilings should be stabilized as a precautionary measure, especially those on the first floor.

### 2.2. RECENT USE OF THE BUILDING

The "Jonquils" exhibition has left its mark. At least three areas of the building have been damaged or had illicit fixings placed through painted surfaces. Either the florists have gone against the wishes of the Committee or there has been a lack of supervision during installation. It is strongly urged that supervision be tightened and that this task should be undertaken by a conservator.

The lack of appropriate supervision is also evidenced by the increasing number of removed doors that have not been reinstated after the event. It has been noted that none of the removed doors have been labeled and that this could lead to difficulties in reinstallation. Replacement of removed doors should (and should have been) made a condition of all use of the rooms. Damage to the fabric is of less impact than the increasing misplacement of fixtures. Some concern must also be expressed about the introduction of window locks that have no relevance to Villa Alba and remain the only visible evidence of such fittings to the casual observer.

It is equally difficult to understand why room G29 has been left in the condition it is in. The decoration is inappropriate for the building and an insult to Egyptian culture.

### 2.3. EXTERIOR

During the most recent exhibition the area to the west of the building was landscaped. The landscaping required substantial modifications to the extant fabric and archaeological deposit. It was, it appears, undertaken without any form of supervision. The gardening shed was demolished at a time when a Conservation Plan is pending and numerous items were retrieved by the conservators from the skip. These items include various pieces of marble and a door that clearly belongs to the house.

Having seen these items discarded the conservators requested that the landscaper retain all evidence of stone, metals and other objects that may be a crucial part of future analysis of the west side of the house. This potential loss of material combined with the earlier cleaning out of the conservatory compost heap

and the unsupervised excavations during building works some years earlier represents an uncharacteristic neglect of the important missing fabric in this part of the original garden.

The landscaping while improving the tidiness of this side of the building offers false information that could be misinterpreted by future visitors.

### 3. TREATMENT MATERIALS AND METHODS.

Although treatments vary from room to room and, in the case of paint removal from section to section of the one wall, the following approaches represent the general methods employed in the building.

#### 3.1. REATTACHMENT OF OIL AND OIL EMULSION PAINTS.

The paint types at Villa Alba can be divided into three categories. Oil paint has been used to paint the more artistic surfaces such as the Vestibule, naturalistic elements on walls such as those in the Bay window of the Drawing Room G4 and on the figurative elements in the ceilings such as the cherubs in the Lower Hall G2. Most other wall surfaces have been painted with what can be described as a washable distemper or oil emulsion. Most of the plain wall surfaces have been painted in this water stable medium such as the Drawing Room G4 and upper Bedrooms F14-16 etc. Other wall surfaces have elaborated on this medium by the addition of a stenciled glaze layer such as that seen in the Lower Hall G2, and Main Bedroom F12.

Distemper (calcimine) has been used extensively throughout the house on ceilings and only occasionally on walls. This type of paint is very water sensitive and must be treated more carefully than the other paint types. Distemper painted ceilings are found throughout and are best illustrated by the Boudoir F17 and the non figurative parts of the Lower Hall G2. Distemper on walls is confined to small rooms such as the Closet of the Upper Hall F11. Where this paint medium needs consolidation it requires a different approach to the oil bound media but little or no detachment has been found in the distemper.

The following treatments have been implemented in the Vestibule (G7) and Drawing Room (G4). And on the cornices identified in the Condition Survey.

Rooms G 4 and 7 have had paint reattached using a copolymeric mixture of Ethylene/vinyl acetate and stabilized Isobutyl methacrylate. These two ingredients form the basic resins of the commercial conservation product BEVA but without the various tackifying and flexibilizing additives. BEVA has been designed specifically to attach itself between oil paint and canvas and thus requires greater flexibility than that needed on a plastered wall.

The resin is dissolved into solvents consisting of aromatics and alkanes and the exact formulation varies depending on the room temperature. Typically the solvent contains toluene, blended alkanes and cyclohexane. The resin is warmed and then applied by brush to the wall surface immediately over the detachment. A heated spatula warms the resin solution thus lowering the viscosity to a point where it flows into the capillary formed by the detaching flake. This warming also softens the paint making it more flexible. The spatula is then able to flatten cupped flakes and realign them in their original position. During this process the adhesive loses a certain amount of solvent and upon cooling imparts sufficient adhesion to stick the flake in position. Complete solvent loss ensures a very secure bond.

The cornices displayed a slightly different detachment pattern and it was found that the best method for securing these flakes was an application of acrylic emulsion. The acrylic is an emulsion of methyl acrylate and ethyl methacrylate, both variations of the generic acrylic series. This emulsion is known to be the most stable to light and the one most recommended for conservation use.

#### 3.2. CONSOLIDATION OF POWDERING PAINT

This treatment has been required in Room F14, in the chequered pattern of the ceiling. Due to the well bound nature of the paint it could be consolidated with acrylic emulsion without increasing the gloss level. The acrylic has been diluted with water to minimize gloss increase and yet provide adequate strength to the film.



### 3.3. REATTACHMENT OF PAPERS.

Painted papers were found detaching on a number of ceilings and are noted individually in each room description. The most severe detachments were those found in the Frieze of the Lower Hall (G2). The papers have originally been attached with starch paste which is easily weakened by high humidity.

Any adhesive that is applied to a water soluble adhesive such as starch should itself be water soluble to some extent. The problem with having a fully soluble adhesive in this situation is that it will respond to the environment in the same way as the starch and eventually it too will release the paper from the wall. To overcome this an adhesive mixture has been formulated. The formulation uses Hydroxy ethyl cellulose as the water soluble component into which a 5% addition of acrylic emulsion has been added. The acrylic gives added binding strength, particularly under damp conditions. The mixture has been tested for resolubility and can be removed with water, requiring slightly more effort than starch paste.

The Boudoir ceiling was found to differ from the painted frieze decoration and other ceilings in that both the paint and paper were very absorbent and readily stained with water. In this case the adhesive chosen was that described above, composed of EVA / isobutyl methacrylate. This adhesive can be reversed by applying heat to the surface of the paper.

It is preferable where possible to apply an adhesive that will respond in a similar manner to the starch wherever possible. This need anticipates the eventuality that the whole ceiling papers may require removal at a later date. If isolated areas have been readhered with a water insoluble adhesive they will remain stuck to the ceiling during broad scale detachment. A slightly modified water soluble adhesive should release more or less consistently with the original starch.

### 3.4. STABILIZATION OF PLASTER.

Plaster has been stabilized in a number of rooms. In cornices and friezes movement of the building has caused cracking on a small scale, particularly along the cove section. In these cases, as described in the detailed surveys the plaster has been secured with an acrylic emulsion.

The second type of detachment is one where the whole plaster has separated from the wall. It has been noted in the Vestibule that the plaster is on the whole not well attached to the wall but this does not mean that it will soon collapse. Any wall on any old building may display as much detachment as the walls at Villa Alba and the best illustration of the status of the plaster can be judged from the south east corner of the building. Movements in this area have been significant, particularly in the past 10 years yet the plaster, that could easily be described as "drummy" has remained in situ and it would be irresponsible of this conservator to suggest that treatment were urgent. In the Vestibule there is consistent detachment throughout the room and yet only a very small area has required consolidation.

The treatment for detached plaster has been confined to Rooms G6, F13, F20 and F17 where penetrations have damaged the surrounding surfaces. Room F18 has similar detachments but access has not been provided to this room during the course of recent works.

Several approaches have been used for lime plaster stabilization including removal and replacement, injection with cementitious grout or lime grout. In this case we have chosen acrylic injection due to the very narrow gaps between much of the detached plaster and masonry. The acrylic emulsion is applied after prewetting the interface with a water/ethanol mixture. Where the emulsion has been able to flow out or where gaps around edges are wider the gap has been filled with an acrylic filler. This filler is made from the acrylic emulsion and utilizes the rheological properties of two fillers. The first, fumed silica, thickens the acrylic very well but results in a strong, hard and brittle fill. Glass microspheres are almost the opposite in that they produce a very soft fragile fill that can have advantages where an object is not subjected to any contact or handling. The fill material balances the properties of both fillers to produce a

material that has similar strength to the lime plaster. The filling can be removed mechanically or dissolved with appropriate solvents, those that will dissolve the acrylic emulsion AC235.

The fill has been applied around most exposed edges largely to create a dam to contain the injected emulsion. It has not been toned as it is expected that eventually the lost plaster will be reconstructed and removal of some of this filling may be necessary.

Several ceilings have been stabilized both during the recent campaign and in previous years. In earlier years stabilization responded to collapses however the recent treatments have aimed to preempt further collapse and offer some protection to the more highly decorated ceilings. The most recent of the previous treatments was in Room F15. This treatment was a partial stabilization focusing on the identified areas of detachment focused mainly around the central plaster rose.

The recent inspection showed that one area on this ceiling was still unstable and thus it is advised that future treatments should extend over each complete ceiling surface. During the most recent treatments this approach was confirmed as many areas of broken keys were found in seemingly stable areas.

The approach to stabilization of plaster ceilings is determined by the need to reattach plaster to wooden laths and then to secure broken lath and plaster composites onto the joists. This has been undertaken in the past by the use of lime plasters, cement based renders (very dangerous) and acrylic emulsions. All of these methods have short comings. Lime has been preferred by those who like the concept of using like materials for repairs. The problem is that the attachment must be achieved by adhering plaster to wood and wood to wood. Plaster is completely incapable of doing this. It will not adhere well even to old plaster and is far too brittle as an adhesive. The movement of wood will soon shear off the minimal bond that might be accomplished. Acrylic consolidation of ceiling is better but relies on the ceiling being structurally stable in the first place. Any detachment of plaster from the laths will only be reunited if the gap is sufficiently small. The following table presents the advantages of the various systems.

**Table 1** *Plaster repair systems*

	Portland cement	lime plaster	gypsum plaster	Sprayed resin	foaming epoxy system
<b>Chemical stability</b>		✓✓		✓✓	✓✓
<b>Thermal stability</b>	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓
<b>Moisture stability</b>	✓	✓	✓	✓✓✓✓	✓✓✓✓
<b>Salts stability</b>		✓✓✓	✓	✓✓✓✓	✓✓✓✓
<b>Tensile strength</b>				✓✓	✓✓✓✓
<b>Bond to plaster</b>	✓✓	✓✓	✓✓	✓✓✓	✓✓✓✓
<b>Bond to wood</b>	✓		✓	✓✓✓	✓✓✓✓
<b>Removability</b>	✓	✓	✓		✓✓
<b>Penetration under lath</b>				✓✓	✓✓✓✓

The system used at Villa Alba is one that has assessed the complete adhesive requirements and attempted to combine a sound long term material with effective placement. The system employed is a foaming epoxy manufactured by Ciba Geigy.

The material is modified on site with other Ciba products to achieve the optimum penetration into voids between the lath and underlying plaster. The system also provides good support to the plaster keys above the laths to ensure fewer breaks in future. The formulation is as follows;

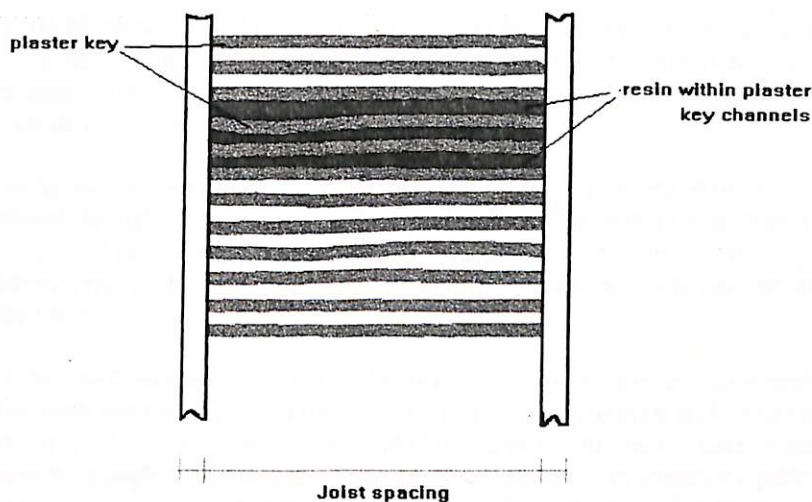
Araldite LC177	80 parts
Araldite LC3600	20 parts
Hardener HY249	13 parts
foaming agent	1 part

The process follows a number of steps each of which is rigorously adhered to.

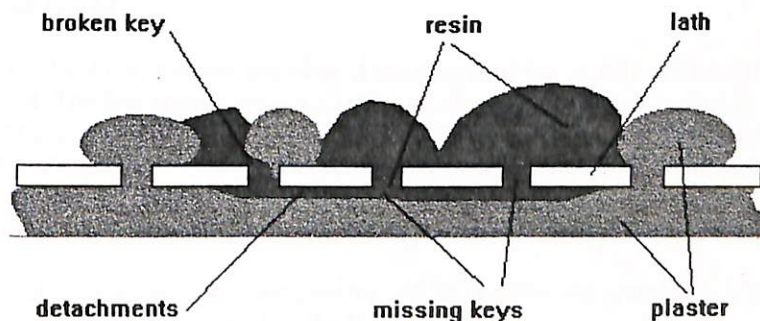
1. Tan bark scooped and vacuum cleaned into bags.
2. All broken keys removed into bags.
3. Ceiling re-vacuumed to collect settled dust and remove plaster debris.
4. Araldite 3600 applied at 40% concentration in ethanol by spray to whole ceiling ensuring all surfaces are coated. This spray consolidates the plaster keys, stabilizes dust and enters the voids between plaster and lath giving a good priming coat. This phase of the treatment is the equivalent of an acrylic consolidation but offers better thermal expansion properties.
5. Fallen ceiling areas repositioned from below by series of hydraulic props where needed. (not used in recent campaign as there was no obvious subsidence to any of these ceilings.)
6. Foamed epoxy applied to all channels between plaster keys and allowed to flow into all voids under the laths and onto the top of exposed plaster from where keys have been removed.

The system is illustrated in figure 3 and 4.

**Figure 3.** *Plan view of resin placement*



**Figure 4.** *Section view showing placement of resin and key reconstruction.*



During the treatment it is important to have total control of the reaction at all times. It is firstly important to maintain the lowest viscosity possible to gain maximum penetration. This varies with temperature but a simple visual observation permits adjustment on a daily basis.

The foaming action proceeds from the 10<sup>th</sup> to 80<sup>th</sup> minutes after mixing in which time the resin will increase in volume up to 3 times. This is completely controllable by the amount of foaming agent applied and the foaming rate is used mainly to determine the strength of the product which can be reduced down to 4 MPa (tension and compression) at its lowest design strength but even lower if required.

The hardening reaction causes an increase in viscosity but can be slowed or accelerated to suit the conditions. An unaltered cure will produce a viscosity increase at 30 mins which means that the foaming reaction proceeds for 20 minutes before thickening halts the flow.

The foaming during this first 20 minutes reaches 90% of its maximum and gently pushes the thin resin into all available voids. Volume increase does not impose stresses within the ceiling structure as these are released from the application hole. The resin is poured out without the aid of pressure application and has been applied to unsupported ceilings without any suggestion of movement of the ceiling.

The resin is fully cured within 24 hours and at this time all props can be removed.

### 3.5. PAINT REMOVAL

Although paint removal has not formed part of the treatments responding to the Condition Survey this work has been undertaken concurrently. The paint removal methods are complex in that it is not possible to state a simple recipe and application time as this is varied constantly in response to the paint type, number of overpaint layers and the room temperature.

On the whole however the approach has been developed initially in the Vestibule G7 and then further refined through a trial research in the Boudoir F17. This latter development work has enabled a better understanding of the non oil surfaces but equally has refined the methodology on the Vestibule. The Boudoir trials were sponsored by the VAPC 8 years ago and have been an important step in refining the approach.

In the Vestibule the solvent system has been developed to dissolve the overpaint well and at the same time have minimal impact on the original. The surviving original surface has been severely cleaned prior to overpainting with ample evidence of cleaning back with caustic soda. A number of caustic burns can be seen throughout the revealed areas and this treatment has altered the paint to some extent. The green passages of the eastern Edinburgh panel have suffered the most due to the use of Prussian blue in the paint. Prussian blue is the poorest pigment to use with linseed oil and cannot be ground in the medium. It is typically ground in a non drying oil and incorporated into the oil later. The outcome of this virtual incompatibility between the pigment and medium is a poorly formed film that is easily disturbed. The lighter passages on the other hand are composed principally of Lead white, the perfect pigment to use with linseed oil. All of the lighter passages are more durable and have not received the same surface abrasion that the Edinburgh greens have done. Nonetheless there are some severe burn marks through the lighter areas as well.

The solvents used not only address the issue of paint removal but equally consider the impact on the original oil paint. The first application is a mixture of ethanol and acetone applied in poultice for precisely timed intervals. These intervals are typically 20 minutes but vary with temperature and are established at the beginning of each work programme. Once the poultice is removed the softened paint is then gently sliced away with a moderately sharp scalpel. Final cleaning is then affected with a mixture of acetone and alkane solvents, constantly adjusted to provide the ideal cleanup of overpaint residue.

Further details of work on the Vestibule painting will be provided on completion of the project or through interim reports commissioned by the VAPC.

The current paint removal relevant to this report is that in the Upper Hall F10. The systems developed in the Vestibule and Boudoir have been applied to the Upper Hall but once again have required adaptation and fine tuning.

Essentially the Upper Hall dado can be divided into three treatment areas based on the nature of the original decoration and how it has been painted out. It appears that when the decoration was overpainted in the 1950s the gold areas were given an extra coat of paint making them slightly more difficult to expose. Equally the gold areas have been applied with gold size which adds to the difficulty of removal. There is also a significant difference in response between the light blue patterned background and the deeper ground to the flower panels. The three areas are thus;

Dado frieze and gilded areas  
Lighter blue background  
Deep blue ground to flower panels.

A number of solvent variations are employed on each of these three areas.

Acetone + ethanol  
ethanol + alkanes  
water  
water + ethanol

Some of these are applied as a poultice while others applied by cotton wool swab. The exact combination is based on the conservators judgment and it is not necessary to detail the procedure as each conservator may well adopt a different system.

What is clear however is that the paint responds differently from passage to passage in a similar manner to the Vestibule paintings. The medium in the Upper Hall is different, being more typical of an oil distemper, and does not appear to have been so severely treated although there are areas of abrasion. Under normal circumstances the conservator would strongly recommend that now the removal system is developed the same team should proceed with the work. Recent discussions indicate however that the VAPC has higher priorities that appear to override the best practice for conservation.

## 4. DETAILED WORK IN EACH ROOM

### 4.1. ROOM F10

1986

#### Condition

The walls and cornice are all stable. The ceiling paper has been completely removed from the South Hall. The plaster in the North Hall is extremely precarious and should be stabilized immediately.

#### Emergency conservation

None carried out due to the extensive damage.

1996

#### Comments on 1986 observations

The ceiling in the North Hall was supported with timber boarding in May 1988. This boarding remained in place until the ceiling was stabilized and losses replastered in September 1991. More recently one section of replastered ceiling collapsed through water ingress. This loss was replastered within a few months of its collapse. The cause of collapse was assessed by the conservator soon after the fall. It was found that the roof was still leaking in this area and deposited water onto the ceiling. It was also noted that the recent repairs had not been adequately keyed into the laths.

#### Current Condition

1. Southern half not inspected.
2. N half shows some paper detachments.
3. Stabilized plaster still very secure.

#### Recommendations.

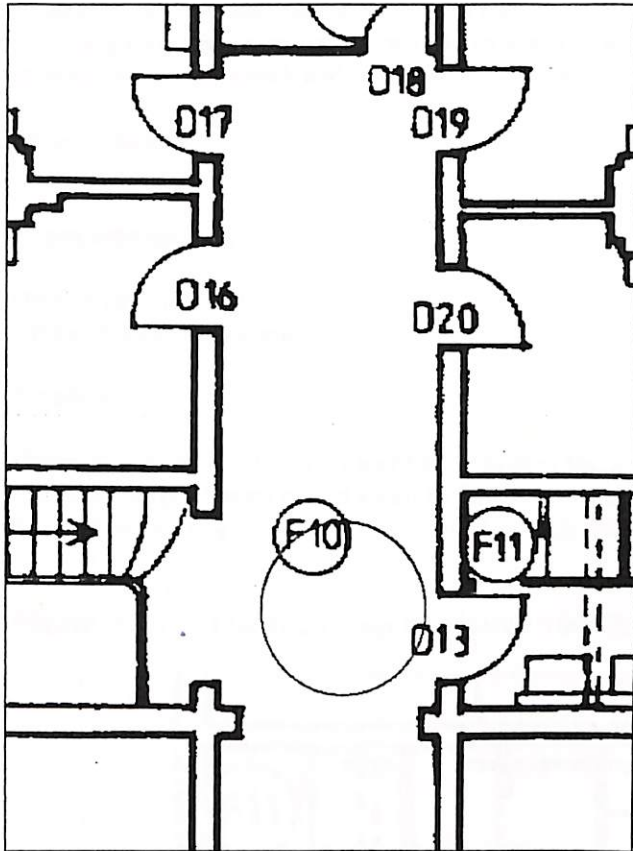
The detached paper should be readhered soon to avoid loss of further evidence of the whole scheme.

#### Treatments

Papers reattached with cellulose ether/acrylic emulsion adhesive.

#### Documentation

The following figure defines the extent of detaching paper. All areas outside this area were stable and within the red line several areas of isolated detachment were reattached.



*Figure 5. Location of the detaching papers. Paper detachments are located within the red outline and have occurred all over this area.*

## 4.2. ROOM F11 - F13

### Current Condition

Ceiling is a replacement so not studied further

Partitions have been removed since 1986 exposing original painted plaster. Some of this is poorly attached to the brickwork and requires stabilization

Door removed

### Recommendations.

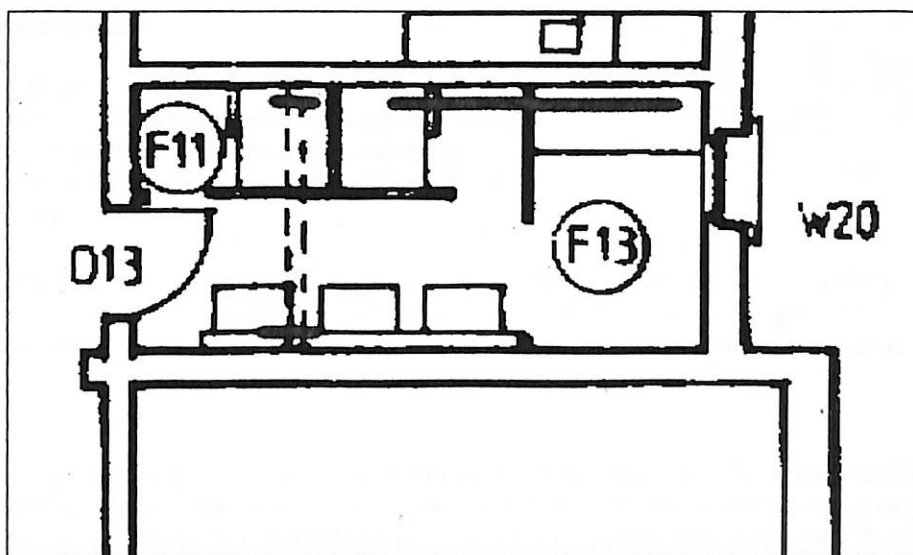
Door needs to be replaced.

Reattach plaster fragments.

### Treatment

Plaster fragments stabilized with acrylic emulsion and acrylic filler. Interface first vacuumed to remove debris and larger fragments detached to facilitate cleaning of debris and consolidation of interface. All exposed plaster edges have been consolidated with this treatment.

**Figure 1.** *Location map of plaster stabilization*





### 4.3. ROOM F12

1986

#### Condition

The walls, frieze and woodwork are all in excellent condition. The ceiling (as stated in our initial proposal) requires major work to consolidate the original paint. The majority of the exposed original ornament is very tenuous.

#### Emergency conservation

Our initial proposal stated that emergency work in this room would be extensive and separate from the present emergency work.

1996

#### Comments on 1986 observations

Emergency stabilization was carried out on most of the detached paint.

#### Current Condition

1. Previous consolidation holding well.
2. Consolidant slightly glossy.
3. Slight powdering over most of decoration.
4. Very slight flaking on un-consolidated areas.
5. Detached plaster on the frieze and cornice in the south eastern corner of the room.

#### Recommendations.

1. Consolidate all original decoration.
2. Stabilise cornice/frieze area in south eastern corner.
3. All cornice /frieze areas should be stabilised.
4. Whole ceiling needs to be stabilized from above.

#### Treatments

Ceiling flakes within the decorative borders consolidated with acrylic emulsion AC235.  
Cornice and frieze consolidated with acrylic emulsion and acrylic filler in larger voids.  
Ceiling stabilized from above using epoxy system as described under treatment methods

#### Comments

This ceiling was found to be in a very unstable condition in some areas. Together with the adjacent room F14 there were large areas where the keys were completely broken. In one place this extended to over 4 m<sup>2</sup> and it was surprising that the ceiling had not already collapsed. Two areas were found to be very fragile and needed to be removed. This process caused the loss of some surface due to the extremely fragile nature of the fragments. These losses are confined to the plain painted central field colour and do not include overpainted border ornaments.

During work the floor to this room was damaged by the conservator due to a collapse of a mobile scaffold. The wheel adjustment was found to be defective causing the tower to collapse. The impact has torn and dented the floor but this will be rectified by the conservator.

#### Documentation

Both stabilization from above and the consolidation of the painted brown borders in this room have been all over treatments. Documentation can illustrate this but is not more informative.

## 4.4. ROOM F14

1986

### Condition

The walls, frieze and woodwork are all in good condition. In the cornice there is pronounced cracking but this seems to be part of the settling of the building. This corner of the house has moved outwards by about 5-10 mm. The cracks are quite stable.

On the ceiling the extant original is in poor condition. The stenciled trellis work has very poor adhesion and needs to be consolidated fully. The plaster has quite severe cracks but they appear to be quite stable. Paint flaking (from the Central plain area) appears to be only the overpaint, the original retains reasonable adhesion. Some retouching has been carried out and is obvious from the ground as being darker and glossier than the surroundings. The two main retouchings are above the south window and to the left of the door. There is also some water staining from previous leaks. There is however no moisture evident at present.

### Emergency conservation

The conservation has been restricted, as in all rooms, to ensuring that imminent losses are arrested. To this end it has not been feasible within the limited budget to consolidate all of the trellis pattern. It is however in a moderately safe state and some of the more precarious parts have been re-adhered.

1996

### Comments on 1986 observations

No further stabilization work has been undertaken in the intervening decade.

### Current Condition

1. All chequered patterned areas are powdered - requiring consolidation.
2. Evidence of structural movement in ceiling - Whole ceiling needs to be consolidated from above.
3. Frieze detached but not unstable.

### Recommendations.

The recommendations of 1986 remain valid although there is no significant change to the stability of the room except for the increased loss of paint from the plain central ceiling panel. The recommendations of 1986 can be summarized thus;

- Consolidate trellis design
- Remove badly matched repainting
- Uncover south ceiling lunette to determine pattern

### Treatments

Trellis design consolidated with acrylic emulsion AC235.  
Other recommendations not commissioned in fee proposal. Stabilization only considered.

### Documentation

The ceiling has been treated in total from above and consolidation to the ceiling border has been all over.

## 4.5. ROOM F15

1986

### Condition

A leak in the NW corner has caused considerable damage to the cornice, frieze and wall. There is no indication that the downpipe causing this moisture penetration has been made water tight. On no account is it necessary to remove or replace the spouting. It can be made perfectly water tight in situ.

### Emergency conservation

The work has concentrated on consolidating the ceiling and cornice. The walls are too wet to treat. There is no immediate danger of imminent losses on the wall.

1996

### Comments on 1986 observations

In 1994 a section of ceiling, west of the central rose, collapsed. The damage was limited to the plain central panel but the rose itself had become unstable as well. The ceiling was stabilized from above by Artcare using an epoxy system employed on previous occasions.

### Current Condition

1. Centre rose very stable.
2. Ceiling in NE corner requires further stabilization from above.
3. Door has been removed.

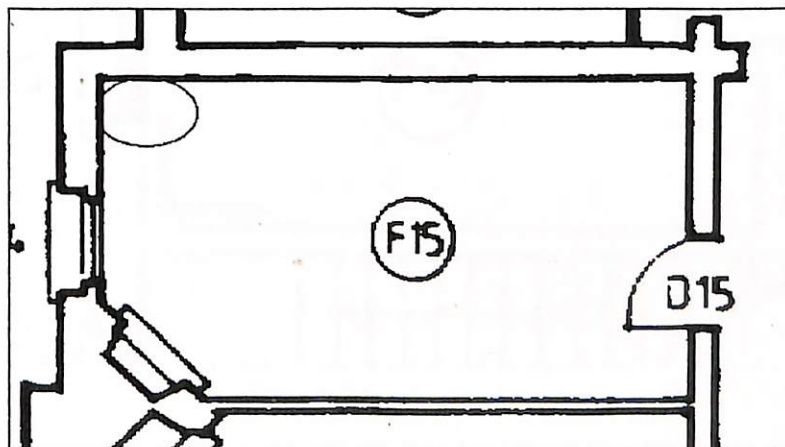
### Recommendations.

Replace door.

Artcare to stabilize the NE corner at no cost. It is difficult to determine that this area has become detached since the 1994 stabilization however we feel that it is too soon after the treatment. It may be necessary to drill through from-below in this area if no obvious entry points remain above. The total area is small but it is within the critical corner ornament of the ceiling.

### Treatment

Additional consolidation carried out above to the NE corner. This area is now stable.



## 4.6. ROOM F16

1986

Condition -

Emergency conservation -

1996

### Current Condition

1. Areas of the cornice unstable include SW corner and area over fire-place.
2. Centre rose stable.

### Recommendations.

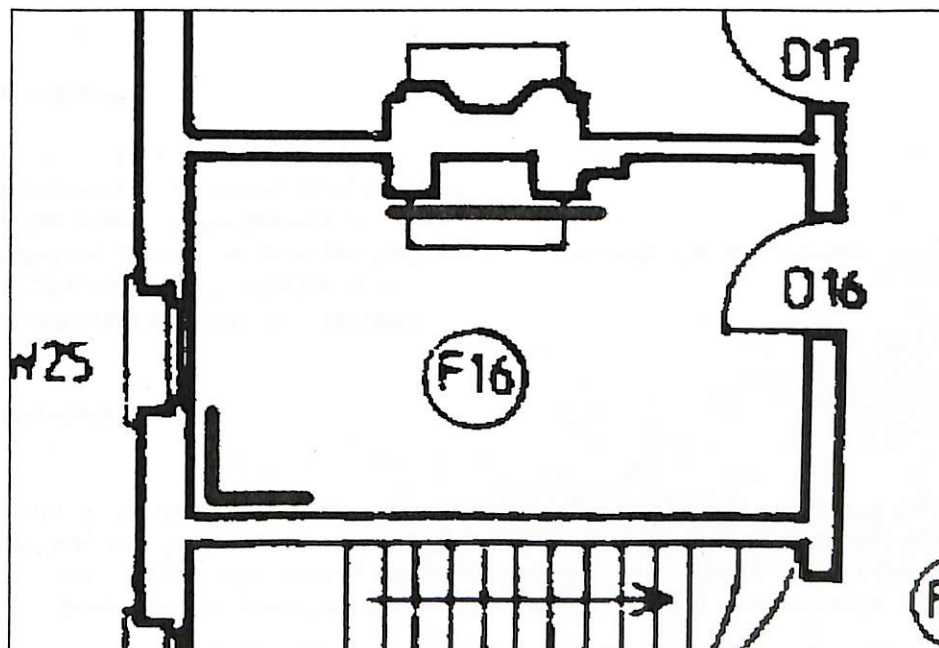
Stabilize cornice.

### Treatment

All cornice detachments have been stabilized with AC235.

**Figure 1.** Location of cornice consolidation.

*Treatments occur in small isolated pockets in each of these areas.*



## 4.7. ROOM F17

1986

### Condition

- 1.) Previous explorers have damaged the dado in a most undisciplined manner.
- 2.) Ceiling: The ceiling paper was in a very badly adhered condition. Almost all of its surface required treatment. Fortunately several losses had been collected and a further piece was found amongst some broken slates in the Hall. Previous efforts to readhere some of the paper (NW corner) have badly stained the paper.
- 3.) Door: One of the sanded gilt flower panels is lifting and partly damaged.

### Emergency conservation

All efforts were concentrated on the ceiling with some minor consolidation in the cornice scotia. The hanging papers were re-adhered with ease but the extent of the disadhesion required much more time than originally estimated.

### Recommendations

1. Walls should be completely uncovered.
2. Ceiling: The previous adhesive stain in the NW corner should be removed. The gilded circles in the central panel need consolidating. The whole surface should be lightly cleaned.
3. Skirtings: The plumbing enclosure should be removed and the skirtings returned to the wall.
4. Door: One of the panels of sanded gilding requires relaxing and consolidation. The whole should be cleaned.

1996

### Current Condition

1. Paper detachment SW corner 400x 200.
2. Paper detachment in pink border W of fire-place.
3. Several other areas of paper detachment on a smaller scale.
4. Crude repairs on the cornice above fire-place and cornice on wall opposite fire-place.
5. Areas of instability in the cornice and rose.
6. Entire ceiling needs stabilization from above.

### Recommendations.

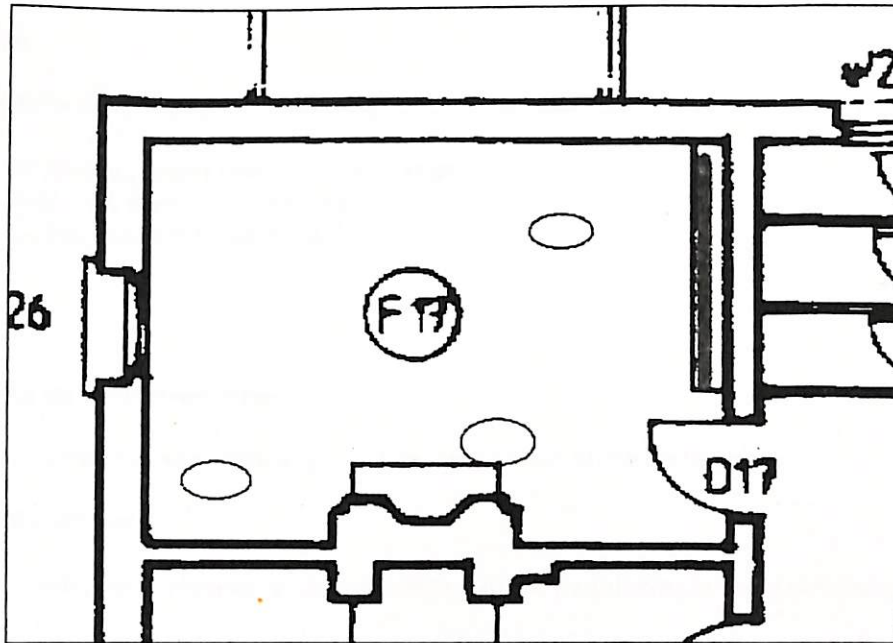
It is clear that this ceiling has continued to detach from the plaster. This is not surprising given that the room has not been occupied with consequent high humidity causing loss of bond strength in the starch adhesive. It is felt given the importance of this ceiling and the collapse of other ceilings that it should be secured from above. This stabilization should be carried out on all of the more important ceilings.

### Treatment.

Detached papers all reattached with cellulose ether/acrylic emulsion.  
 Cornice reattached with acrylic and filler.  
 Ceiling stabilized from above with epoxy system.

**Figure 1.** *Location of treatments.*

Ellipses indicate areas of ceiling paper reattachment. Vertical bar indicates wall plaster stabilization zone.



## 4.8. ROOM F18

1986

### Condition

The original is all stable but the following members are damaged.

1. South wall, lower part due to alterations.
2. East wall, lower 1.800 metres.
3. Ceiling covered by hardboard.

1996

### Comments on 1986 observations

The above comments were drawn up prior to the removal of the partitioning.

### Current Condition

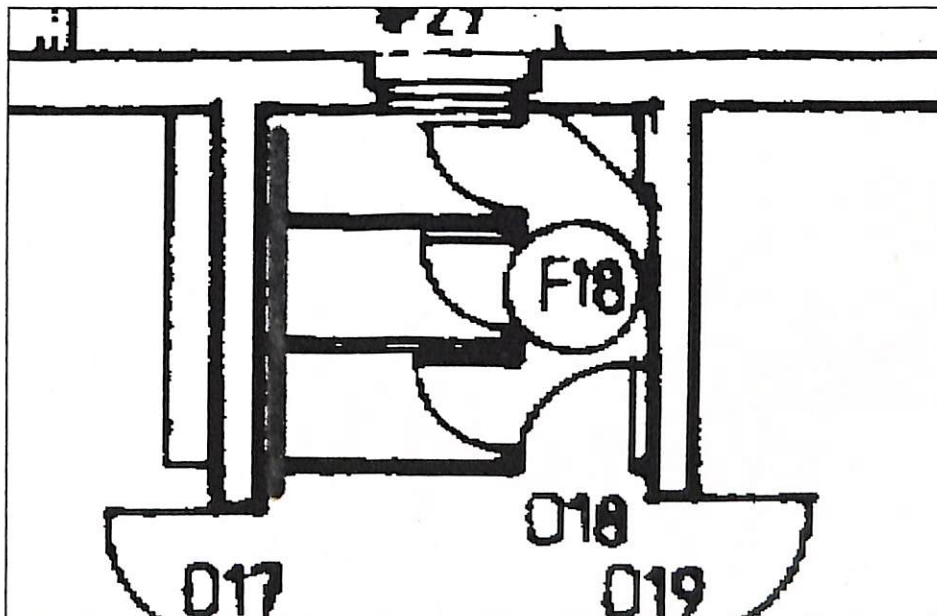
Decorated wall plaster revealed during demolition of the partitioning is badly detaching in several places.

### Recommendations.

Wall plaster with original decoration showing requires re-attachment.

This room has not been vacated and treatment will be completed as soon as access is provided.

**Figure 1.** Location of detached wall plaster.



## 4.9. ROOM F19

1986

### Condition

Stable except for minor flaking in the cornice.

### Emergency conservation

Readhered flaking cornice.

1996

### Current Condition

1. Cornice unstable in SE corner.
2. Cornice unstable in NE corner.



## 4.10. ROOM F 20

1986

### Condition

Apart from the lost plaster on the south wall the room is in sound condition. There is however a small area of damage in the west scotia above the door.

Emergency conservation -

1996

Comments on 1986 observations

### Current Condition

1. Cornice in centre of west wall is very unstable. This is the same area as observed in 1986 but has become less stable in the intervening decade.

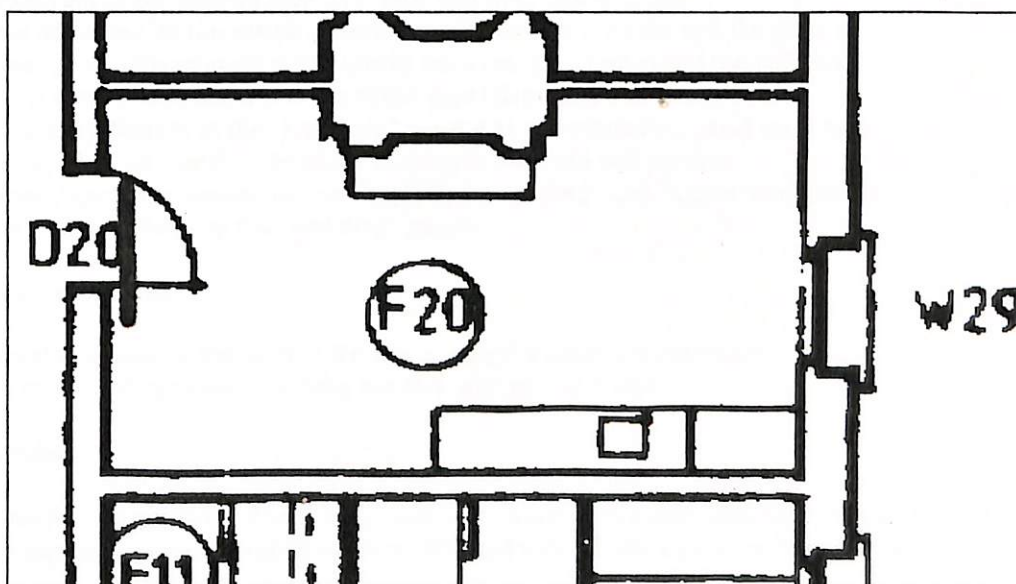
### Recommendations.

The cornice should be stabilized soon.

### Treatment

Cornice stabilized with acrylic AC235 and filler.

**Figure 1.** Location of cornice stabilization



## 4.11. ROOM G2

### 1986 Condition

The walls and woodwork are all stable although the skirtings are badly scuffed. The ceiling is in extremely unstable condition. Most obvious is the hanging paper but this is less serious than the disadhesion of the distemper from the paper. The oil painted ovals are all stable.

### Emergency conservation

Much more work than expected has gone into the South Hall to re-adhere the falling papers and consolidate the paint onto the paper. The hanging papers had curled and become brittle and any force would cause the paint to fall off. It was necessary to firstly relax the papers to get them to lay flat on the ceiling prior to re-adhering them with BEVA 371. The flaking distemper, not surprisingly, has proved the more difficult task. Too much adhesive would saturate the pigment and alter the refractive index of the medium. The saturation would cause the paper to darken and, if too extreme, become glossier.

The refractive index of the medium is equally important. Calcium carbonate used as a pigment in the distemper, and many other white extenders, have a refractive index in the range 1.5 - 1.6. This is coincidentally the range of the majority of natural and synthetic resins used as consolidants. We have therefore used a resin of low refractive index (BEVA 371) and starting with a low concentration arrived at saturation point (i.e. maximum resin content with no visible staining) This became a 6% solution of BEVA but the process is not an immediate 100% adhesion. This ceiling will therefore require further treatment after 3-6 months to secure the paint completely.

1996

### Comments on 1986 observations

The further treatment suggested was not possible following a collapse in the affected area during a heavy storm that loaded the ceiling with water. The loss has since been replastered.

### Current Condition

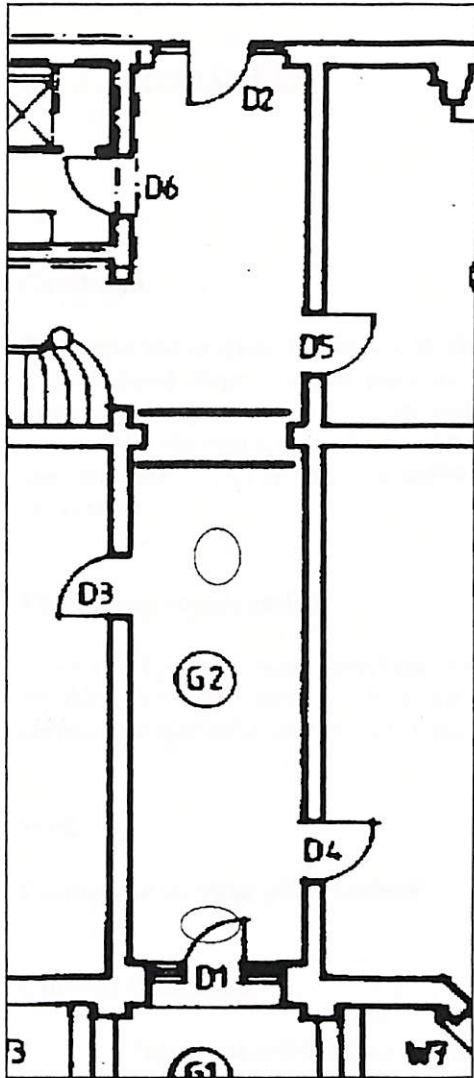
1. Powdering of the painted area over blue and gold components.
2. Area of flaking, in the eastern grisaille panel between cherubs and the door.
3. Minor paper detachments along cracks between the cherubs and the arch-way.
4. Major areas of detachment in the frieze panel depicting a drawing class.
6. Major detachments in the "sculpture" panel and corresponding panel on N side.
7. A row, of three modillion brackets missing in northern hall cornice.
8. Minor paper detachments in "bowling", "pole-vaulting" and "tug of war" panels
9. 2 large detachments in the "sprinting" panel.

### Recommendations.

Urgent stabilization is required in the frieze panels. Losses are imminent. Stabilization still required on ceiling but less critical than frieze.

### Treatment

All detached papers in the Frieze have been reattached with acrylic emulsion / cellulose ether adhesive. All ceiling deterioration areas have been stabilized with acrylic emulsion diluted with water.



**Figure 1. Location of reattachments**

The lines indicate the area of detachment in the Frieze

Circles indicate the areas of detaching ceiling paint.

## 4.12. ROOM G3

1986

### Condition

The frieze has cracked through both plaster and paper (for example above the right hand corner of the Bay window). Support paper has peeled off in the SE corner and at several places along the south wall. There is damage caused by a water leak in the centre of the west wall, apparent on both frieze and cornice. On the cornice six pieces of egg and dart moulding were unstable and some previous repainting has been found. The ceiling is in stable condition except for several minor cracks along the south end of the room.

### Emergency conservation

Cracks and peeling paper have been consolidated in the frieze. Six unstable pieces of egg and dart moulding have been removed from the cornice and re-adhered. Consolidation of minor cracks in the cornice has also been carried out. Cracks in the south end of the ceiling have been consolidated.

1996

### Comments on 1986 observations

### Current Condition

1. Twine leaf moulding on the ceiling is detached on the east wall in the vicinity of the door.
2. Frieze on the E wall most S panel, has area of detached paper and plaster - both are reasonably stable.
3. Ceiling in SE corner has an area of crumbling plaster within central blue panel -requires urgent stabilization.
4. Section of detached cornice on S wall - requires stabilization.
5. Screw fixing applied, to painted panel at W end of bay window.
6. Area of detached paper on W panel of S wall - temporary backing in 1986 - however requires more extensive treatment.
7. Piece of rebated floor recess missing.

### Recommendations.

Stabilization of cornice and more particularly the ceiling should be undertaken soon. The ceiling plaster has collapsed completely and is only held by the paper lining.

The screw fixing should be removed immediately and the expense referred on to the exhibitor in this room. It is clear that installation during the most recent event has gone largely unsupervised.

### Treatment

The screw fixing in this room has been removed by others prior to work commencing.

A more detailed study of the plaster deterioration in the ceiling at the south end of the room indicates that the building has moved dramatically in the last ten years. This can also be seen in the ceiling above in Room F14. It appears that rather than further movement outwards the building has moved inwards with a resultant buckling of crack edges in the plaster. The 1996 Condition Survey identified an isolated

area of crumbling plaster but further inspection revealed this to extend the length of a crack running east west across the room. It has now become essential to monitor the movements of this end of the building. Artcare commenced this process in 1986 however all of the monitoring devices have been removed in subsequent years. One was removed by the plasterer while repairing cracks in the Vestibule and others presumably by people decorating the rooms during fund raising events.

Whether accurate monitoring is undertaken or the ceilings simply watched for change there is little point in undertaking further stabilization without addressing the structural stability issues. The most likely interpretation of inward movements at this end of the building is that the soil has dried out around the centre of the building allowing the building to return to its previous position.

The downpipe at the north east corner of G3 has leaked for some time before 1986 and repaired in the early 1990s. Thus it can feasibly be assumed that during the period of leakage the soil swelled and has since the repairs entered a phase of contraction. This may sound like a gentle return to the previous position however this will only happen if the soil moisture levels return to their state at construction. Should the soil dry out further than original levels there is a danger of enormous compressive stresses being placed on all elements within the zone of movement. It can be assumed that timber components will survive such movements but equally that brittle material such as plaster will not fare well.

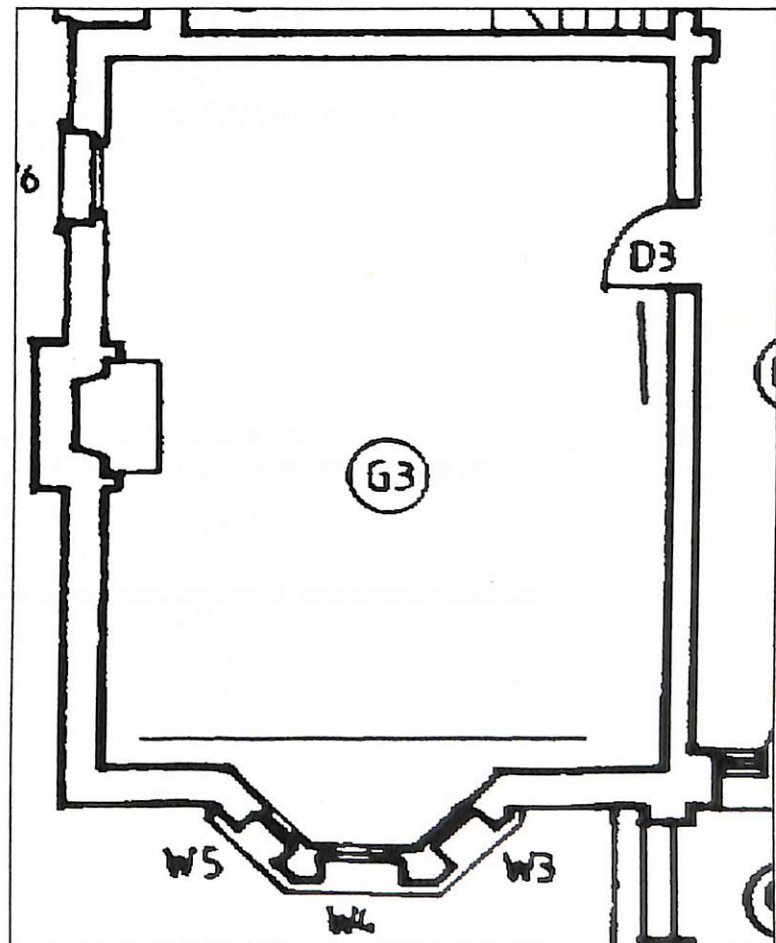
Damage has begun to occur in the ceiling due to compression as the two edges have come together. No other damage has occurred yet simply because there is no disturbance until surfaces begin to compress into each other. Why the ceiling only has begun to compress is not clear but may be due to stretching of the ceiling plaster during the initial outward movement of the south wall.

The only sensible approach is to monitor the movement of this end of the building or to at least initiate more regular inspections of the building. Condition Surveys at ten year intervals can be considered too irregular given the extent of damage that has occurred from 1986 to present. It is recommended that this ceiling be inspected biennially and it would be wise to survey the whole building at similar intervals.

**Figure 1.**

Vertical line indicates zone of detached cornice

Horizontal line indicates position of crack in ceiling from which plaster is beginning to deform.



## 4.13. ROOM G4

1986

### Condition

The ceiling and frieze are in sound condition. A protracted moisture penetration from a missing gutter above has caused damage to the cornice and wall to the right of the Bay and considerable paint loss to the panels below the window. The cornice has received damages in three other places and it would seem that these have been dislodged by force.

### Emergency conservation

Consolidation of the Bay window panels, the blue echinus of the two right hand capitals in the Bay and the edges of losses in the cornice.

1996

### Comments on 1986 observations

### Current Condition

1. S. cornice has detached plaster in cove.
2. In the alcove, a complete member of coffer moulding is detached.
3. In coffered alcove area, presence of recently applied green metal bracket in plaster.
4. Movement in SW corner of room - relatively stable.
5. Water staining on S. wall and NE corner.
6. Painted surfaces very stable.
7. Lower cornice S of fire-place is unstable.
8. Painted dado by window continues to flake.

### Recommendations.

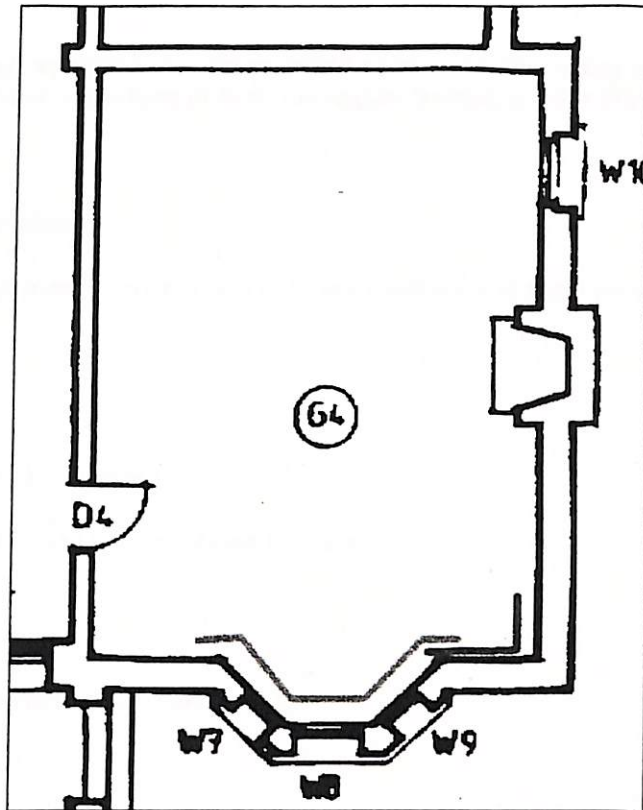
Stabilization of the cornice and frieze should be undertaken in the near future.  
Bay window paint to be stabilized, extending to the columns and capitals immediately adjacent.

### Treatment

All detaching paint in the cornice and Bay window area has been stabilized with acrylic emulsion.

**Figure 1.** *Location of consolidation in cornice and Bay window.*

Green line represents the area of the Bay and associated columns.  
Red line indicates the location of cornice stabilization.



## 4.14. ROOM G5

1986

### Condition

The wall, cornice and woodwork decoration appear to be entire. The ceiling has suffered badly from paper loss. The damage, in the form of small rectangular lacunae, is uniformly spread over its whole surface.

### Emergency conservation

No work has been undertaken in this room but some small areas of paper should be re-adhered in the next year or so.

1996

### Comments on 1986 observations

No action has been taken in the intervening 10 years.

### Current Condition

1. Paper in this room continues to peel.

### Recommendations.

1986 recommendations need to be adhered to.

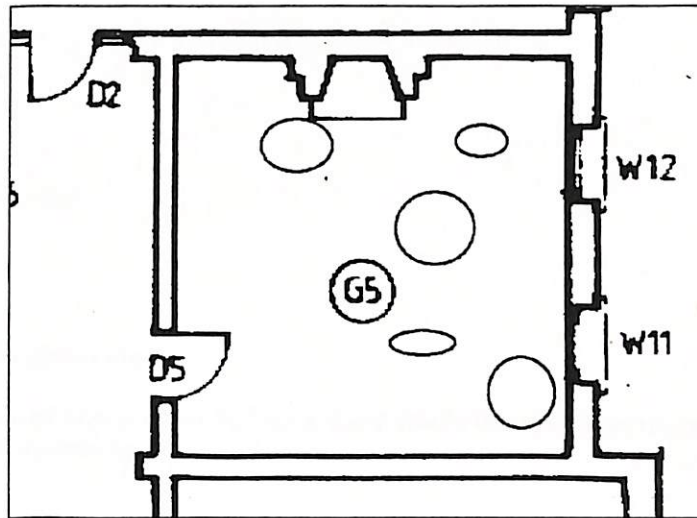
### Treatment

The paper in this room has been reattached with the EVA/acrylic hot melt adhesive. This was chosen over the aqueous based system for two reasons. Firstly the paper lining in this ceiling is discontinuous, especially around the detaching areas. Secondly the detached papers have been overpainted with a modern blue paint that has caused them to buckle severely.

The detached areas are quite brittle and to be able to flatten them and attach them to the ceiling heat has been preferred to moisture that was unable to successfully relax the cupping. Visual inspection of the room after treatment shows that some flakes are still hanging from the ceiling. These areas are the blue paint applied direct to the plaster and do not contain any original decoration. They have been left unattached to facilitate removal at a later time. They may in fact fall off before further work is undertaken on this ceiling.



**Figure 1.** Locations of detaching papers on the ceiling. Note that not all detachments include the original paper. Those remaining unattached consist only of overpaint.



## 4.15. ROOM G6

1986

Although it has been overpainted the room is in sound condition.

### Condition

### Emergency conservation

1996

### Comments on 1986 observations

The full investigation of this room is still required and should be undertaken to complete the colour scheme analysis commenced in 1986.

### Current Condition

Unable to completely inspect but no change apparent. The door has been removed and fittings on the window have been replaced with a type having no relevance to Villa Alba. It was noted in the previous investigation that the window lock was present. There is no trace of the lock now and even though it is not an original fitting it formed part of the evolutionary fabric of the building.

### Recommendations.

The previously extant window fitting should be re-established following a Conservation Policy being established. It would seem that more than ever this document is needed now. Two important requirements of any Policy document relating to Heritage management are that they should be prepared professionally by independent professionals with no involvement in Committee management of the property and that the authors should consult other professionals with a knowledge of the fabric and history of the building.

It is understood that a Management document is under preparation by members of the Committee which makes it very difficult for the Committee as a body to objectively review the content of any reports that may appear. Guidelines for the preparation of such documents clearly state the approach to commissioning of documents and these guidelines should be adopted prior to the commissioning or acceptance of any Policy statements for Villa Alba.

Before any further work is undertaken in this particular room the Colour Scheme Analysis should be extended to fully study the information presented on the now exposed walls. In 1986 this room was still being used as a private Bathroom by the Caretaker and could not be studied in detail. This applies to all other rooms privately occupied at that time. A thorough study of the Kitchen and surrounding rooms would also be of great value in interpreting the evolution of the house. Speculation continues about whether the single story section represents an earlier structure. While the investigated fabric, both by Artcare in 1986 and Pru Sanderson in 1989 has failed to support or deny the supposition of an earlier incorporated structure the evidence remains on the building and largely unexplored. The only investigation carried out since the Sanderson Report has been the Exterior Colour Scheme Analysis by Artcare in 1993 that was unable to find supporting evidence in the fabric of the suspected addition of windows to the Vestibule.

## 4.16. ROOM G 7

1986

### Condition

- 1.) A leak down the north side has caused part of the ceiling and cornice to collapse and the paint on the walls to peel off.
- 2.) Dogs have severely damaged the doors and architraves.
- 3.) Slight disadhesion of the paint is apparent in isolated places around the walls.

### Emergency conservation

Some consolidation was carried out around the north door but the paintings, given their importance, should be looked at thoroughly. This should be a high priority.

1996

### Comments on 1986 observations

The recommendation that further consolidation be carried out was accepted by the Committee and all loose original paint was reattached between 1987 and 1989. At a later time the ceiling and cornice were repaired and the cracks in the ceiling filled by the plasterer. This filling served no stabilizing function and remains today as obvious as the previous cracks themselves. In the process the crack monitors, established some years earlier, were removed by the Plasterer.

### Current Condition

1. No change to ceiling since repairs.
2. Major paint detachments on the North wall east of the door-way.
3. Paint detachments on the North wall in the whole upper section of the over-painted area.
4. South wall has minor paint detachments E of door-way.
5. Isolated patches of painting detachments in the middle section W of the door-way.

### Recommendations.

The paint detachments are clearly fresh activity since the previous stabilization program. The previous consolidation is self evident and all paint within these areas remains stable. The new detachments occur in a pattern that does not relate to any specific moisture entry or obvious cause. It is worth noting that all of the uncovered paint remains well attached to the wall even though it was detaching in the same manner.

Consolidation of the detached paint must be undertaken as a matter of urgency.

### Treatment

All of the detaching paint has been reattached with the EVA / acrylic resin. The treated areas remain obvious on the wall as it is important to readily recognize them during paint removal. The locations of all detachments are recorded on the drawings that have been maintained since the paint removal project began and will be presented as part of the final documentation or in an interim report should the Committee so direct.

All of the uncovered areas have been inspected more thoroughly during the stabilization program with no detachments found. The adhesive used in this area has been particularly formulated to address the problem of attaching original paint to the wall while needing to then remove the overpaint from it. This is not a particularly difficult problem in that it is resolved by choosing an adhesive that wont dissolve in the paint removal system.

The following sequence has been used to reattach original paint prior to paint removal.

1. Consolidate all paint layers onto wall in manner described in section 3.1. The adhesive has been made from non polar resins and in particular the inclusion of isobutyl methacrylate ensures that the adhesive will not be disturbed by the ethanol/acetone poultice.
2. Prior to paint removal within a consolidated area all adhesive is removed from the surface with a blend of solvents containing aromatic and alkane components.
3. Solvent poultice applied as described in section 3.
4. Inspection to confirm all detachments are now secure.

**Figure 1. Location of paint detachments**

