Renovating the Interior of Province House, Prince Edward Island

John Way

The restoration of the "cradle of confederation" has been carefully programmed over a period of four years and is now virtually complete. It is anticipated that the restoration of the building to its appearance in 1864 will attract many Canadians to Charlottetown where the movement toward Confederation really started.

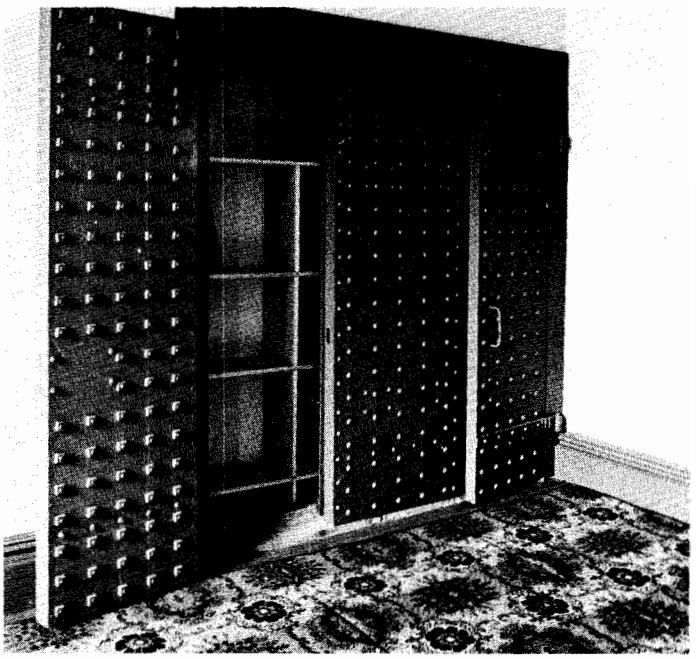
An agreement between Prince Edward Island and the federal government has designated certain areas of the building for use by the respective governments. The province retains ownership of the building and will use it for annual sittings of the Legislature. The federal government will interpret those areas associated with the 1864 Confederation Conference. Certain other areas were designated as joint use areas – by the province during Legislature sittings and the federal government during the remainder of the year.

The agreement provides that the Confederation Chamber, the Clerk of the Council Office and the Library be restored to the appearance of the rooms in 1864 (the year of Confederation meetings). The corridors and stairs leading to these rooms are to be treated in a similar way. Following negotiations with the province four offices on the ground floor are also being restored to the same period. Other areas of the building would be used for modern interpretive purposes.

Prior to starting any interior restoration work, it was essential to confirm the construction and location of original walls, floors, stairs, ceilings, doors, windows etc. The specifications gave a good indication of the original construction but so many changes had been made over the years that it was difficult to decide which parts of the building were original. Historical research gave some indication when major repairs were done but no drawings or documentation were available. Physical investigation revealed that the plaster in the areas to be restored was not original and in fact had been installed over insulation board making it out of original line. This change revealed a number of situations where wood trim had been changed to accommodate these modifications. There were other surprises too.

In the attic evidence of vertical plastered shafts leading to the roof was found. These were obviously used as roof lights and photographs taken in the early 1900s confirmed their size and location. We anticipated that these provided light to the third floor corridor leading to the public gallery, however, further investigative work revealed a large opening in the floor below the roof lights which provided natural light to the second floor corridor. Notches in the beams around the opening illustrated the extent of the balustrade providing protection to the open space. There were two such skylights. The lack of gas or electric lighting in the 1850s made natural light an important feature in a new building of this era.

In one description of the building six fireproof vaults were specified but only five could be located, all on the ground floor. This remained a mystery until a built-in bookcase and the surrounding plaster was removed exposing an 18" deep recess in the wall surrounded by cut stone. This was the location of the sixth vault and was restored using new fireproof doors.



One of six fireproof security vaults uncovered during restoration.

John Way is project manager of the Province House restoration project. An article by him on renovations to the exterior of Province House appeared in the Summer 1982 issue of this review.

Whilst all this investigative work was being carried out a careful analysis and recording was made of existing structural, mechanical, plumbing and electrical services contained within the building. The original building was heated by fireplaces and Franklin stoves, lit by oil lamps and had very little in the way of washroom facilities. During the years many services were added and changed. Gas was used as lighting in 1855. Some of the original gas pipes are still attached to structural framing. In recent years a hot water heating system with convector heaters, a sprinkler system and new washrooms were added on all floors. Many of the pipes, sprinkler heads, and heaters were exposed thus conflicting with the historical authenticity of the 1864 period.

Engineering aspects of construction

As work progressed and the areas to be restored were stripped of new finishes, it became apparent that some structural modifications should be made to the building to level floors and ensure structural integrity. Where major beams spanned long clear spans, they were reinforced with steel members to ensure continued strength. The ends of beams and joists bearing on the exterior walls had been damaged by dampness and wood rot to a dangerous point. These beams were cut off and a new scarf about six feet long was jointed to the existing wood beams. The new wood was treated with wood preservative to give it a longer life when built into the existing masonry wall. The replacement of wood tongued and grooved flooring was also essential because large sections of the floor had worn down more than one inch from the original thickness. These areas were replaced with similar wood.

After considerable analysis of the existing main stair structure it was found that a number of major changes to the treads and landings had been made which changed the "run" of the stairs. The whole staircase had also deflected to some extent. Therefore new steel beams were inserted at the landings to stiffen up and ensure structural stability for the anticipated heavy visitor traffic. These were added without changing the appearance of the stairs in any way. All steps were levelled and new treads added as originally specified. As a result of the levelling, considerable work had to be done to the balusters and handrail to ensure their strength and appearance as they were in the 1850s.

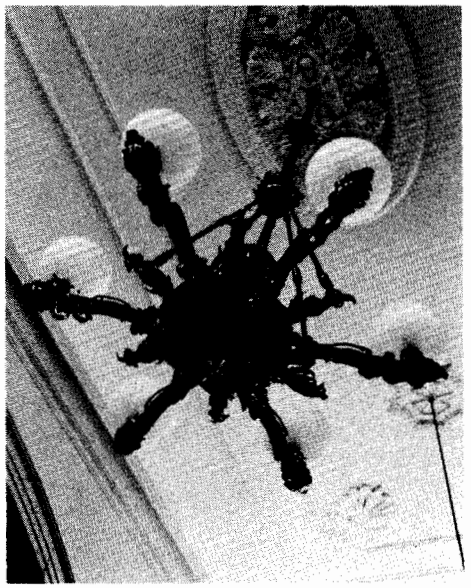
The restoration of the west wing provided an opportunity to re-instate the stairs from the basement to the second floor. The only indication of the size and shape of the stairs was in a photograph of the building taken in 1860 where the stairs appear through an open doorway. By enlarging this area of the photograph sufficient information was obtained to design the stairs as a reasonable facsimile of the original 1850s design. These stairs were steep and narrow with winders making them even more difficult to negotiate.

All services in restored areas are concealed as much as possible and control of temperature in restored areas is provided to preserve artifacts. The installation of an air conditioning system was considered for the restored areas but due to space restrictions and difficulties of confining the system to a relatively small area of the building, this proposal was rejected.

The various types of heating available for incorporation in the existing structure were analyzed with appearance of prime importance. To minimize the impact of the heating system on the appearance in the restored areas a hot air floor grille type unit was selected. This unit was provided with hot water heating except on the second floor where there was insufficient space to conceal the piping in the structure so electric heating was used.

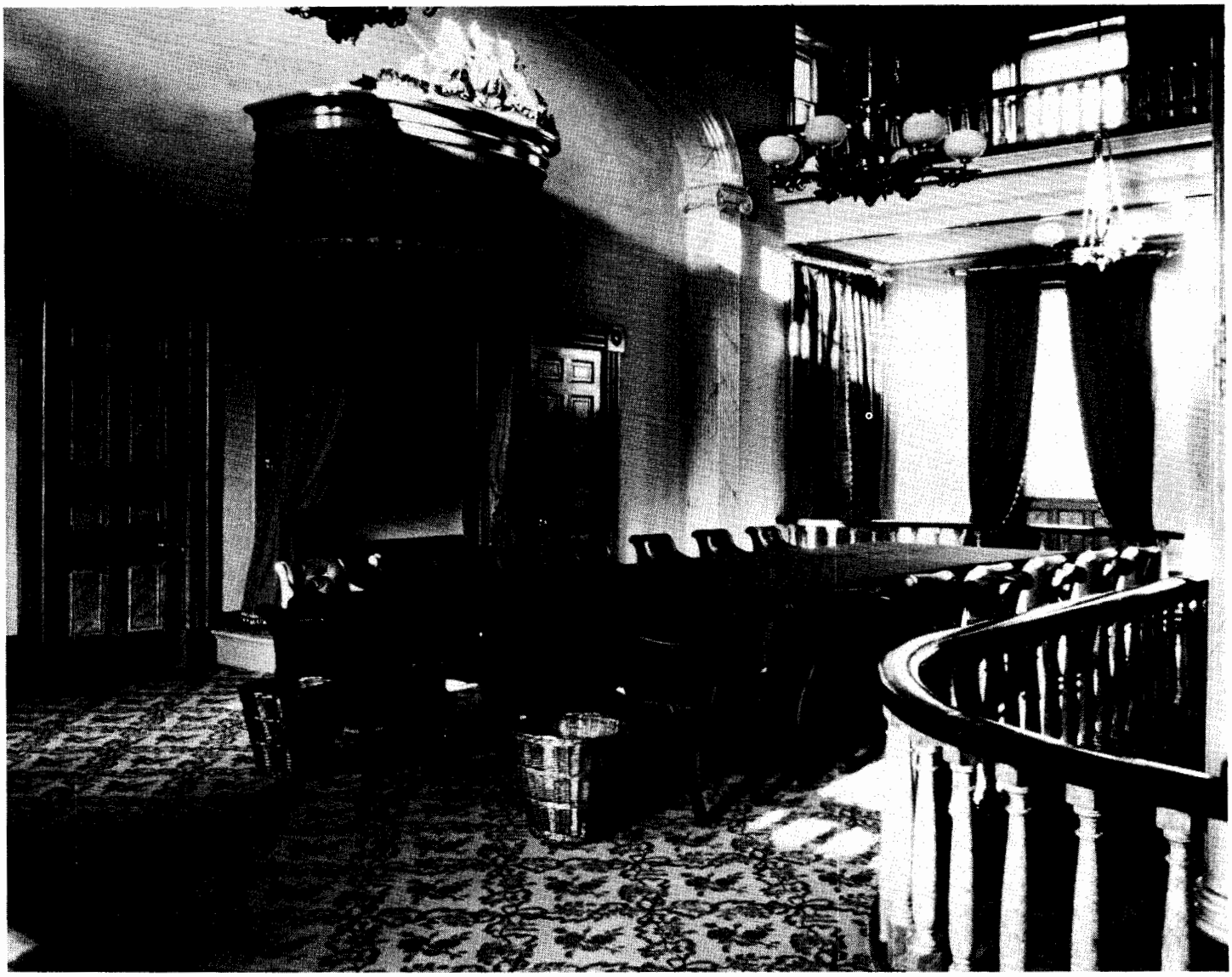
To supplement the heating system in the Confederation chamber and Legislature chamber a simple ventilation system was installed. This avoids the build-up of heat in both areas during the summer months. The chimneys in use in the 1850 period were used to conceal the air intakes and exhaust and the ventilation equipment was located in the roof space where it would not be a visible part of the structure.

In order to maintain the 1850s appearance of restored areas, fireplaces were re-introduced into those areas that were identified as having active stoves. Reproduction heating stoves of the period were purchased and installed in the appropriate locations complete with connecting flues to chimneys. These stoves and chimneys were not made active due to the fire hazard and the cost of having to rebuild masonry flues through the building to todays safety standards.



Restored light fixture and plaster medallion in Confederation Chamber.

Modern fire regulations require that a sprinkler system be installed in a building of this size. The concealment of this system in the restored areas presented numerous problems but were successfully overcome by using the basement and roof space to accommodate the main runs of piping. As with all other services in the building additions had been made to the electrical system over the years, and new outlets for equipment were required. These additions had brought the system close to its maximum capacity so it was essential that a new underground supply system be installed before any new work was undertaken. Areas of the basement were used to install the new switches and panels and all restored and renovated areas were re-wired to present day codes. In restored areas all new outlets were concealed behind wooden baseboards and reproduction lighting fixtures re-wired for electric power.



The Confederation Chamber restored.

Architectural restoration

Prior to the removal of material from restored areas it was essential to carry out an analysis of the paint that had been used on wood trim over the years and endeavour to arrive at paint colours that had been used in the 1850s. This was achieved by taking small core samples of paint from a variety of locations throughout the restored areas. These cores indicated 15-17 layers of paint in many locations but by the use of a special microscope it was possible to obtain colours of paint at the various levels. The colours selected were based on this analysis. In many cases there was evidence of doors and trim being grained, stained and varnished.

In order to obtain more evidence of these special finishes in different rooms it was necessary to strip through the layers of paint to about the seventh or eighth layer, then very carefully remove the last two layers to expose the original wood graining of the 1864 period. This painstaking work was done by Conservation specialists for sample areas in Confederation Chamber, Library and Offices for door stain and grain colours and corridors and Confederation Chamber for column marbleing. These samples were used to match the new stain and grain finishes for shutters, new and repaired doors, trim and baseboards in all restored areas. The graining in Confederation Chamber is satinwood with an appearance of birds-eye maple, in the offices dark oak, and in the Library a light oak.

All windows, shutters and trim in the building were assessed with regard to re-use, repair or replacement. Most windows, particularly on the upper floor were found to be original construction. These were repaired as necessary with many sills and lower rails being replaced. Almost all windows in the restored areas were

reglazed with glass of the 1850s appearance which was obtained from an old greenhouse before it was demolished. Some windows in the restored offices on the ground floor had been replaced in the early 1900s and were not the correct dimensions so new windows were made to the correct sizes.

Exterior doors were replaced since they were part glazed and not panelled as indicated in the historical records. Interior doors had been moved to different locations in the building and many had glass upper panels inserted. Most doors had all hardware removed, or modern type locks added. Each door was carefully assessed in terms of the amount of original material that could be used and the extent of repair and replacement required. Many doors were repaired with new rails, stiles and mouldings. Some were completely replaced with new ones and new brass hardware of the 1864 period was installed throughout the restored areas.

The extent of repair work required to doors, windows, shutters and trim was considerable and could only be completed by a crew of tradesmen on site working on each individual item and carrying out the required repair work. This was carried out in a very dedicated manner by four carpenters and two assistants. Work on new doors, windows and shutters was contracted out to local carpentry shops.

Decorative plaster features such as ceiling mouldings and lighting medallions and repairs to existing medallions were also completed. These special features required the use of special "older" methods of workmanship in order to achieve the required final finish. Special mouldings and features were built up with many layers of plaster until the final shape or profile could be sculpted. The mix for the plaster was as originally specified in the 1850s and included the slaking of lime on site, an unusual procedure for todays plasterwork.

During the final stages of the project, many specialized items had to be produced in order to complete the restoration process. The fire proof book vault required a new set of doors and special hinges. The vault doors of the 1864 period were approximately four inches thick made up of two sheets of quarter inch steel held apart by bolts at approximately eight inch centres over the entire face of the door. The doors were made in a metal fabrication shop and installed in the original stone surround on metal printle type hinges. The end result was a successful fireproof set of doors.

Lighting fixtures in restored areas were replaced and new period reproduction chandeliers and wall fixtures were added in the locations of the gas fixtures. The design of fixtures was based on some original fixtures which were restored and re-wired and other types of fixtures of that particular period.

The final finishes to walls, floors, doors, windows, ceilings, etc. were established following the colour analysis of the paint samples. Generally speaking ceiling and wall finishes in the 1864 period were limewash and this type of finish was used in restored areas where there was not too much visitor traffic. In the stairs and corridor areas a modern paint specially formulated to simulate a limewash was used so that it would not brush off on peoples clothes and could be cleaned when required.

Floors in the restored areas were originally finished carpeted over tongued and grooved boarded flooring. In some restored areas the boarding had been removed or changed and in these cases new boarding was installed. In other areas repairs were made to make the floor level and ready for installation of carpets imported from Europe. A special type of woven carpet following that originally purchased for the building was used and the narrow widths were hand sewn on site to fit specific areas. In stairs and corridors the original boarding was stained but in order to avoid excessive wear on relatively soft wood stair treads and floors, and because of the heavy visitor traffic, runners covering the heavy wear areas were installed. These runners can be replaced inexpensively when worn out.