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Historic Structure Report Mission Concepción Convento

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Center for Cultural
Sustainability

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Chapter 1: Study Summary

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Purpose of Report The purpose of this Historic Structure Report (HSR) is to provide information crucial to maintaining historic fabric, authenticity, and integrity of the Mission Concepción convento. This HSR provides a comprehensive documentation of the convento structure's historical significance, chronological development, and physical condition. The chapters which follow set forth conservation objectives and work requirements, and provide specific recommendations on treatments. Viewed as a whole, the research and analysis combine to serve as a comprehensive planning document for the future care and maintenance of the structure.

The research done to produce this Historic Structure Report (HSR) included archival as well as field investigations, plus reading all the work by various scholars and conservators over the previous five decades. The task of The University of Texas at San Antonio, Center for Cultural Sustainability (UTSA CCS), was greatly facilitated by the fine quality work of others who came before us. Also of benefit to the current effort are the numerous historic photographs of the convento, testament to the sustained heritage tourism economy of San Antonio and the quality of Mission Concepción as a resource worthy of visitors' attention.

Research findings presented in this report are the first to graphically illustrate a detailed chronology of development and use. Chapter 4 shows the change over time in bar graphs, "worm's-eye view" drawings, and timelines. The report does not find any surprises with regard to physical change because the surviving structures of Mission Concepción were conceived and built as one coordinated endeavor, without later additions or major modifications. Of course, this does not mean all the changes are perfectly documented. Precise knowledge is lacking, for example, on the sequence of collapse and repair in the area of the stone stair to the Father President's office.

A very important aspect of Mission Concepción is that it has been so little altered since the 1750s. Though many buildings and features of the mission compound have been lost to abandonment and neglect, the church and convento have survived largely intact without alteration. No disasters or subsequent user modifications, as can be seen at other San Antonio missions, happened at Mission Concepción. For this reason Concepción as a cultural resource is very highly regarded for its extraordinary amount of material authenticity and integrity.

Conditions, Objectives, and Recommendations There is, potentially, a very significant structural problem at the southeast corner of the convento, at the two-story sacristy and Father President's office. This matter requires thoughtful investigation and analysis by a preservation engi-

neer, and as such, an engineer's report is in progress at the time of this writing. The structural movement appears to be active.

Elsewhere, there are important conservation issues to be addressed, but none as critical as the structural movement observed by the HSR team and described herein. Principal among the other issues of conservation is site water management. This term refers to all the methods for keeping the building materials dry—roofing, drainage, and site topography. Management of water generated by condensation from the HVAC system falls into this category, plus allowances for non-destructive evaporation of moisture which does find its way into the walls. A full analysis of the entire building—church and convento as one—is necessary. For now, this report is limited to the convento and includes appropriate recommendations for improvements to site water management.

Guiding all future decisions must be clear historic preservation objectives for the Mission Concepción convento and church together. This will require coordination between the Catholic Archdiocese and the National Park Service property managers. The basic objective is one everyone will readily agree is appropriate: “Preservation” treatment as defined in the Secretary of the Interior’s *Standards for the Treatment of Historic Properties*. This is elaborated in Chapter 7 of the HSR. The intent is simple, which is to use a light and gentle touch in conservation of the materials. Of course, life safety issues driven by concern for structural stability will call for repair that is more than a “light touch.” Beyond the one area of needed structural improvement, the principal conservation tasks will concern non-abrasive cleaning of stones, conservation of painted plaster, and ongoing program of mortar repointing. Most important among these is proper care of the extant Spanish Colonial plaster, especially where there is decorative painting. All the treatments are rationalized in Chapter 7, Historic Preservation Objectives, and later described and prioritized in Chapter 9, Work Recommendations and Alternatives.

Within the framework of a “preservation” treatment, this HSR recommends consideration of greater respect for the period of significance, 1755–1922. Future projects can achieve basic conservation needs as well as foster a more accurate historic appearance. For example, the past treatments of the roof and parapet walls altered more than was necessary to achieve weather tightness. This can be rectified when the next roof is designed. As part of the same project, the HSR recommends considerations of “green” roofing elements to better match the overall appearance at the end of the period of significance. Details are provided in subsequent chapters.

Key decisions to be made with regard to future treatments concern also

an expanded use to open rooms now closed to visitors and landscape design improvements for better visitor experience. Options and recommendations are provided below in Chapters 7 and 9.

The current use of the property will, of course, continue. Owned by the Catholic Archdiocese of San Antonio and managed by the National Park Service under a cooperative agreement, the convento is a cultural resource in a public park. An accessible route, barrier-free, will need to be maintained through the convento. The primary useful purpose—education—is achieved through interpretive programs provided by the San Antonio Missions National Historical Park (SAAN). The major educational focus concerns Spanish Colonial history. For many visitors, the convento is simply enjoyed for its value as a beautiful ruin which provides tangible evidence of past endeavors.

The intangible aspect of living heritage plays a large role here, as well, because the convento was built, modified, used, and preserved by the ancestors of present-day people still living in San Antonio, and it thus embodies the cultural heritage of past generations. Today it remains a place for festive celebration, spiritual rejuvenation, and meditative reflection just as much as when it was first built by local people under direction of the Spanish missionaries in the mid-18th century.

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Location of Historic Structure	Mission Concepción is among a series of five 18 th -century Spanish Colonial missions located in the City of San Antonio, Bexar County, Texas, United States of America. Concepción's exact geographical coordinates are W 98° 29' 33" N 29° 23' 26" (NPS, 2014, p. 2).
Ownership of Historic Structure	Land ownership is divided between the National Park Service, Archdiocese of San Antonio, and City of San Antonio (NPS, 2014, 253). The Catholic Archdiocese of San Antonio manages portions of the property still functioning as an active parish. The National Park Service (NPS) manages the remainder of the property, including the convento structures. NPS does not own any part of the structure itself (NPS, 2014, p. 244).
Landmark Status	In 1970, Mission Concepción achieved National Historic Landmark Status (NPS, 2014, p. 258). Additionally, the mission is part of the San Antonio Missions National Historical Park, which was placed on the National Register of Historic Places in 1978. Other designations include Texas State Antiquities Landmark, Recorded Texas Historic Landmark, and City of San Antonio Local Landmark (NPS, 2014, p. 259). Collectively, Mission Concepción and the other four San Antonio Missions achieved UNESCO World Heritage status in 2015 (UNESCO, 2015, p. 213).
HSR Methodology	With the purpose of creating a comprehensive report to provide as much information as possible about the structure, several methods for collecting information have been used. Said methods can be divided into four categories: literature review, archival research, field survey, and heritage documentation. 1. Literature review: Being a World Heritage site, the missions of San Antonio have previously been studied and documented. For an initial understanding of the subject structure and its site, analysis of the literature written about the missions was performed. Books, articles, and reports about the history and development of the site were reviewed to understand the evolution and significance of the building. Moreover, condition assessments and reports of previous interventions were reviewed, analyzed, and summarized to help in the understanding of the current condition of the structure and to determine the deterioration that the structure has undergone over time. The APA citation format is used throughout and all sources are in the list of references of this HSR.

2. Archival research: Archival research was conducted to gain more knowledge about the structure's history, focusing on the uses, owners and construction chronology. The archives visited were the NPS SAAN headquarters at 2202 Roosevelt Avenue, the Old Spanish Missions Collection at Our Lady of the Lake University (OLLU), the UTSA John Peace Library, the UTSA Institute of Texan Cultures, the San Antonio Conservation Society library, and the Daughters of the Republic of Texas (DRT) Library Collection. Beside the visits to these archives, the Southern Methodist University (SMU) library, the Library of Congress, the University of North Texas (UNT) library, the Amon Carter Museum of American Art, the University of Southern California (USC) library, and the Portal to Texas History were also consulted.
3. Field survey: Many visits from March 1, 2018, to October 12, 2018, were made to the building site to assess the structure's current condition. For this assessment, recommendations established in the ICOMOS document *Illustrated Glossary on Stone Deterioration Patterns* (2008) were used. Heritage documentation, described below, was accomplished during the visits. Since it is more advisable to have homogeneous lighting in order to achieve high-quality photogrammetry results, most visits were scheduled early in the morning or on cloudy days. Moreover, while the data needed for photogrammetry was being collected, a detailed visual survey was performed.

In addition to this condition assessment performed by the UTSA CCS team, from July 30, 2018, to August 2, 2018, James Mason, a structural engineer working for the National Park Service and based at Mesa Verde and in Santa Fe, NM, visited the structure to perform an assessment of its structural problems.

4. Heritage documentation: Lidar data was provided by the Oakland, CA-based nonprofit CyArk for use in documentation of the structure, but data was insufficient at the convento for the level of analysis needed to produce this HSR. Consequently, the UTSA CCS determined to combine traditional and innovative techniques to create architectural plans with high-quality photo elevations.

Measurements were obtained with a traditional method using tape measures as well as a laser meter (Leica DISTO D330i), clipboards, paper, and pencils to create new plans. The photo elevations were created

using photogrammetry, a computerized process that produces spatially accurate and measurable images. In photogrammetry, the input is photographs and the output is a map, drawing, or 3-D model. The process is divided into two main steps: capturing the photos and processing the photos. In order to capture the photos, the equipment needed is a digital camera, a tripod, and scale bars. However, depending on the lighting conditions it might be possible to obtain good results without the tripod, and scales can be added to the model in the software using known measures.

To obtain high-quality results that could be used for the condition assessment of the walls, the recommendations given by San Francisco, CA-based nonprofit organization Cultural Heritage Imaging (CHI) and by photogrammetry software developer Agisoft regarding the overlapping needed for the photos and the camera settings were followed, as well as the camera position to acquire a reliable, measurable model. After having obtained all the pictures needed, they were processed with a photogrammetry software; in this case, Agisoft PhotoScan (professional edition) was used. The program aligns the pictures by determining the camera position and the camera calibration, creating a sparse point cloud that is refined in subsequent steps creating a scaled 3-D model that can be exported to Revit, Rhinoceros, or AutoCAD softwares.

Photography equipment used for this HSR include a DSLR camera, model Nikon D300, and two different lenses, a Nikon DX AF-S Nikkor 18 35 mm 1:3.5 5.6G ED and a Nikon AF Nikkor 35 mm 1:2 D.

Furthermore, new drawings were used for documentation and condition assessment of the structure. The drawings served as a base for which the deterioration patterns observed are represented graphically following the ICOMOS recommendations.

For consistency with previous reports, the UTSA CCS team continued to use the nomenclature established by NPS for historic structures, so the Father President's office is HS-203 and the convento structures are HS-204. The team added logical identifiers to designate 'room' with four walls and some roof. Room names reflect the names most commonly used in other reports/documents recently completed.

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**Historical
Background/Context**

Mission Nuestra Señora de la Purísima Concepción de Acuña, along with the four other San Antonio missions, was the physical embodiment of the Spanish Colonial project in New Spain that operated at dual purposes: to evangelize the area's indigenous population, and to secure the frontier through the establishment of secular, self-supporting communities of loyal Spanish subjects (NPS, 2014, p.30). Originally located near the present-day community of Douglass in Nacogdoches County, Texas, Mission Concepción was reestablished on the banks of the San Antonio River by the missionary friars of the College of Querétaro on March 5, 1731, because of deteriorating conditions in East Texas (Habig, 1968b, p. 124). Although some of the East Texas indigenous attached to the mission joined the move, the relocated mission primarily served the Pajalache and Pachalache population of South Texas, which the Spanish referred to as Coahuiltecans (NPS, 2014, p. 141–142). At this time the mission's name was appended “de Acuña” in honor of Juan de Acuña, Marqués de Casafuerte, the viceroy of New Spain (Habig, 1968b, p. 125).

The Franciscan missionaries utilized a five-step process wherein the previously hunter/gatherer indigenous were gradually trained in and converted to the Roman Catholic faith, and acculturated to the new, relatively sedentary lifestyle of farming and ranching (NPS, 2014, p. 113). The form of the mission compounds reflected these goals and typically included churches, convents, dwellings, granaries, storerooms, workshops, and defenses. Although these facilities were paid for by the Spanish Crown and the programs administered by the missionaries, the entirety of the mission real properties were technically owned by the indigenous, which the missionaries referred to as neophytes. The missionaries held the properties in trust, and upon the completion of the process, all property was distributed to the community. This process, known as secularization, was intended to be complete within 10 years, but due to frontier circumstances such as drought, epidemics, and Indian attacks, the San Antonio mission projects lasted a little over 100 years (NPS, 2014, p. 129).

In terms of Mission Concepción, this extended duration resulted in at least two major building campaigns that improved and enlarged the mission facilities. In his 1756 report, Fr. Francisco Xavier Ortiz, who had been sent by the College of Querétaro to report on the mission's progress, indicated that the major project to replace the mission's original earth and stone-built structures (church, convento, and sacristy) was steadily progressing (Habig, 1968b, pp. 131–132). While the mission's original convento generally adhered to the type (two-story, flat-roofed, arcaded cloister, similar to those at Missions San Antonio de Valero, San José y San Miguel de Aguayo, and San Francisco de la

Espada), the new (present-day) convento with its single story and vaulted roofs marked a substantial departure. Although no documentation supporting the missionaries' rationale for this occurrence exists, the mission, with its adjacent quarry, certainly had access to building material, and as the base of operations for the Querétaran Father President, enjoyed prestige that placed the construction of its facilities before the other missions (Ivey, 2018, p. 260).

Except for the 13-year period between 1750 and 1763 when Fray Mariano de los Dolores y Viana of Mission San Antonio de Valero served as Father President, the Querétaran operation was based at Mission Concepción (Ivey, 2018, p. 291). In 1772, though, the mission's administration, along with that of Missions San Juan Capistrano and Espada, was transferred to the Missionary College of Zacatecas whose organization was based at Mission San José (Habig, 1968b, p. 136).

Habig noted that by 1762, due to a decrease in military protection necessary to operate in the Texas wilderness still inhabited by hostile Apaches, the missionaries' expeditions to recruit new neophytes were greatly reduced and the Indian population at the San Antonio missions began to steadily decrease (1968b, p. 135). By 1794 the mission's population, which had previously been as high as 207 persons, had declined to just 38 indigenous (1968b, p. 141). During this year the four lower missions were partially secularized (Mission San Antonio de Valero having been fully secularized in 1793), with the missionary friars being relieved of their temporal administrative duties. At this point there was no longer a resident friar at Mission Concepción, whose pastoral care had been handed off to Mission San José (Habig, 1968a, p. 99).

The mission, largely abandoned during the time leading to its final secularization 1824, began to deteriorate, and was used opportunistically by the army of General Bernardo Gutiérrez in 1813 during the Mexican War of Independence (Ivey, 2018, p. 402). Upon Mission Concepción's final secularization on February 29, 1824, the Roman Catholic Church retained ownership of the church, sacristy, and convento, but the convento was subsequently sold on August 14 of the same year to Ramón Músquiz (Ivey, 2018, p. 435).

Upon Texas' independence in 1836 the republic confiscated the church mission properties, but otherwise did nothing with them. Mindful of their abandonment and with a long-range plan to return the missions to their original purpose, Father Jean-Marie Odin (later, first Roman Catholic bishop of Galveston) petitioned the Texas Legislature for their return. On January 13, 1841, the legislature approved an act returning the missions and their adjoining lands to the Church (Bremer, 2001, p. 151). Nevertheless, John R. Bartlett's account of

his 1850 visit indicates that the church was being used as a cattle pen (Habig, 1968b, p. 148).

In February of 1855 Bishop Odin granted the Brothers of Mary (Marianists) use of Mission Concepción for St. Mary's School (present-day St. Mary's University), which they had founded three years prior. The Marianists would remain at the mission for over 50 years, during which they restored the church and returned the farmlands to production. In 1911 the Sisters of Charity of the Incarnate Word established St. Peter's-St. Joseph's Orphanage adjacent to the mission, and in 1920 the Archdiocese opened St. John's Seminary next door (Habig, 1968b, p. 153).

During this time the Redemptorists, working under Bishop John William Shaw's effort to recruit religious orders that would be based out of the missions and serve the community, had taken charge of the four lower missions, which had remained in Church hands since secularization. The Redemptorists led a major restoration that was completed in 1913, whereupon the church was reopened for services (Thurber et al., 1993, p. 5).

In 1934 the mission was the subject of a large-scale Historic American Building Survey documentation effort as part of Works Progress Administration Project number 265-6907 (Habig, 1968a, p. 236). During the mid-20th century the Archdiocese conducted various renovations at the mission, but given its well-preserved state, the mission was not reconstructed to the extent seen at the other San Antonio missions.

In 1978 after years of negotiations, the United States Congress created the San Antonio Missions National Historical Park, which included the four lower missions (the Alamo being owned by the State of Texas), as well as the attached acequias (Thurber et al., 1993, p. 331). Via a Cooperative Agreement signed between the Archdiocese of San Antonio and the National Park Service, in 1983 the National Park Service assumed full control of the missions, and continues to operate the park to this day (Thurber et al., 1993, p. 341).

Mission Concepción and the San Antonio missions had significant and far-reaching impacts on the development of Texas and the United States both politically and culturally. These effects are evident in a wide range of disciplines such as agriculture, commerce, architecture, and art. For these reasons, continued research into the care and preservation of the mission fabric is called for.

**Evaluation
of Significance**

The Mission Concepción convento is significant on all levels recognized by the U.S. National Park Service, keeper of the National Register of Historic Places, from local to national. The property has national, state, and local designations,

and it is also internationally significant. An enormous honor was bestowed upon all five of the San Antonio missions in 2015 with their inscription as a United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage cultural site. This inscription has brought into focus an additional type of significance—intangible heritage of traditional cultural property. The World Heritage inscription specifically recognizes the Outstanding Universal Value of the unique and enduring culture that formed as a result of cultural interaction through missionary activities (UNESCO, 2015, p. 213). The convento exemplifies intangible cultural heritage in its use of traditional craftsmanship, specifically the enduring work of master builders, stonemasons, carpenters, and sculptors. It represents a multi-generational product of the culture that today retains a high integrity of intangible heritage, according to the criteria established in the 2003 UNESCO *Convention for the Safeguarding of the Intangible Cultural Heritage* (p. 2).

Nationally, the property is listed on the National Register of Historic Places (nomination by Ivey & Thurber, 1983) and in 1970 was approved for designation as a National Historic Landmark (Snell, 1968) based on the work of historian Charles W. Snell recorded April 10, 1968. The National Historic Landmark designation was warranted due to the fact that the buildings are so little altered from the original construction and Concepción was considered the “best preserved” of missions in Texas. Appendices to the designation illuminate important values of Concepción: “... ruined church and mission were occupied by the United States Army in 1849 and minor repairs were made,” “... aside from addition of tile floors, replacement of doors, and reroofing of the infirmary [103 A, Father President’s office], the great church stands much as it did in the 18th century,” and, “... still used as an active church ...”

At the state level, the Texas Historical Commission lists the property as a State Antiquities Landmark, as well as a Recorded Texas Historic Landmark. Locally in San Antonio, Mission Concepción is within the Mission Historic District, plus individually listed as historically significant.

Detailed histories of Mission Concepción have been written (Habig, 1968b; Ivey, 2018; NPS, 2014; Thurber et al., 1993). Although the Nomination Form by Ivey and Thurber (1983) was written almost four decades ago, it remains valid and accurate. The document evaluates areas of significance within appropriate historic contexts, and the periods of significance are properly established.

**Period
of Significance**

Regarding period of significance, the 1983 National Register Nomination for the four missions collectively establishes the period to be from 1755, per com-

pletion of Mission Concepción, through the conclusion of major restoration/reconstruction activity in 1937. Thus, even though the primary significance of the Concepción convento concerns association with the architecture and historic events of Spanish Colonial missionary endeavors in the 18th century, the significance does extend into the 20th century. In the specific case of Mission Concepción, the buildings were not modified by the 1930s depression-era work of Harvey P. Smith, so the period of significance is actually a little bit tighter than the Nomination form describes, ending about 1922 when some buttresses were added.

The convento building's form and materials are authentic, surviving evidence from the 1755–1922 time period. The building displays a historical narrative on the many aspects of life involved with missionary endeavors. Subsequent, post-secularization owners and users of the convento in the mid-19th and early-20th centuries have cultural significance for ongoing continuity in a declining state of ruin. No substantial additions to the convento were made after 1755, only reductions due to partial collapse. Thus, the present-day appearance of the building is a cleaner version of how it looked ca. 1920.

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Chronology Narrative

Founded at its present location in 1731, Mission Concepción's development follows a similar pattern to other San Antonio missions. The original structures were thatched-roof wattle and daub *jacales*, serving as housing and a place for worship while more permanent structures were being built first of adobe and later stone (Ivey, 2018, p. 252; p. 255). None of the *jacales* or adobe structures survive at Mission Concepción.

Arches and vaults appeared after the *terrado* (earthen-roofed) buildings because they required the expertise of master masons, so thus were the last to be constructed (Ivey, 2018, p. 95). The surviving structures at Mission Concepción are all arched and vaulted masonry, which is different from the other missions in San Antonio, and consistent with its prominence as the "headquarters" location for Franciscan Missionaries from the College of Querétaro. Administration of the missions was transferred away from the Queréterens over to Franciscans from the College of Zacatecas in 1772, thus shifting the power base to Mission San José at that time (Ivey, 2018, p. 287).

Over the course of its development, the Mission Concepción convento has undergone four major phases:

- initial *jacales*, adobe and *terrado* construction in the early 18th century;
- vaulted stone and mortar construction of church, convento and Father President's office in the mid-18th century;
- a period of decline (including collapses of some vaults) throughout the 19th century;
- and finally, restoration and preservation in the 20th century.

Construction Under Missionary College of Querétaro, 1731–1772

After first constructing the church from adobe, the missionaries built a convento, extending east from the sacristy; this was completed in 1732–1733 (Ivey, 2018, p. 257). After the semi-permanent adobe buildings were completed, construction of permanent structures commenced in the late 1730s. The construction of the present-day convento commenced in the 1740s. Master mason Antonio Tello, who worked on the other San Antonio missions as well, designed a vaulted convento with a vaulted corridor on its west side. He departed in 1744 with the project unfinished (pp. 260–264). Work on the convento did not resume until the 1750s (p. 281).

Demolition of the older, 1730s church and convento began in 1754 after services commenced that year in the present church (Ivey, 2018, pp. 282–283). The work of finishing the construction was at this time under the direction of

master mason Gerónimo Ibarra along with sculptor/decorative painter Felipe de Santiago, who commenced ca.1750 to complete the church and conclude vaulting the convento structure (Ivey, 2018, pp. 264–265). Ibarra’s vaulting of the convento was ordered to a halt in 1759 by Fray Mariano Dolores Y Viana (Ivey, 2018, p. 284). Ivey speculated that there may have been a collapse that prompted this command. In any event, construction of the convento did not continue past 1759, and it stands now in the same basic form it had when work concluded in that year. Changes between 1759 and 1772 include repurposing parts of the structure to create the refectory and guest room (Ivey, 2018, pp. 287–289). Later on page 436 of Ivey’s *Of Various Magnificence*, he described a deed reference indicating the guest room (labeled 104 C in the plans of this report) was enclosed and converted into a kitchen with chimney sometime after 1772.

**Changes During
Administration
by the Missionary
College of Zacatecas,
1772–1824**

Very few changes happened at Mission Concepción after 1772. The Zacatecan administration focused its efforts on projects elsewhere, including completion of the church at Mission San José in 1782. By 1789, Fr. Joseph Francisco López would describe at Concepción the “roomy house of the missionaries and the offices of the community” as, “all made of stone and lime, nearly all provided with arched roofs. This is a one-story building, except for the one room built above” (Habig, 1968b, p. 138). An instance of collapse in the early 19th century is described by Ivey—to part of the east corridor in 1800 (Ivey, 2018, p. 282). Possibly room 104 C changed use from a guest room to a kitchen during this period, see paragraph above.

**Period of
Abandonment,
1824–1855**

Secularization meant distribution or sale of the properties. The convento and all of Mission Concepción, except church and granary, was purchased by a “political chief of the Department of Texas,” Ramón Músquiz, in 1824 (Ivey, 2018, pp. 435 and 440). The ruined appearance visible in drawings from the 1840s and 1850s indicates scant attention to maintenance by new owners after the missionary activities ceased. Stones from the convento were sold (some perhaps stolen) in the 1840s for various other construction projects (Ivey, 2018, p. 442). The southeast corner of the Father President’s office collapsed between 1846 and 1850 (Ivey, 2018, p. 292). By 1890, when Mission Road was realigned to go across the former mission compound, all the stones from perimeter walls and Indian quarters had been mostly removed, along with some from the convento, as well (Ivey, 2018, p. 442).

At some point post-1850, three arches of the convento’s western arcade were

filled. What had been the portería corridor was repurposed into several rooms, some of which housed animals. The change is confirmed by William Corner's descriptions in 1890, as referenced by Ivey (Ivey, 2018, p. 436). Contemporary descriptions from the 1840s and 1850s refer to a grocery, smith shop, stables, cattle in the church, and all heavily infested with bats (Ivey 2018, pp. 442–443).

**Brothers of Mary,
1855–1911**

The Brothers of Mary opened St. Mary's School in 1852 and commenced to use Mission Concepción in 1855. Various Marianists and guests resided at the convento through 1911 (Habig, 1968b, p. 149). In the 1850s the Brothers added roofs, windows, and doors in their efforts to rehabilitate the convento as operational support for croplands to feed students at their school located in the middle of town (Ivey, 2018, pp. 440 and 444). They cleaned out and reopened the church in 1861 (Habig, 1968b, p. 149). Additionally, photographs from the 1870s–1880s indicate the presence of a new roof installed over the previously collapsed corner outside the Father President's office. The Marianists gave the property back to Archdiocese of San Antonio in 1911 at the request of Bishop Shaw (Thurber et al, 1993, p. 4).

**Catholic
Archdiocese,
1911–1941**

As the 20th century dawned, “tourism emerged as a potent force in the local economy...” and “restoration of the old Spanish missions was under way” (Thurber et al., 1993, p. 1). At Concepción, the Archdiocese led by Bishop Shaw pursued a restoration of the church completed in 1913. While there was increased interest in the painted frescoes of the church and in the “library” of the convento, there were no alterations made to the convento as part of the 1913 restoration (Thurber et al., 1993, pp. 2–5). The arches in the west arcade, or corridor (room 104 A), were reopened in 1917 (Thurber et al., 1993, p. 6).

St. John's Seminary was built and commenced operation immediately to the north of the church in 1920, providing new users for the church. Shortly thereafter, in 1922, the Redemptorists were given control of the four southernmost missions, including Concepción. They added a buttress to the west, exterior wall of room 104 A, the corridor (Thurber et al., 1993, p. 6). Drawings by Ayres and Ayres dated 1930 show conditions at the stone stair, which are labeled rooms 103 B and 103 C in this HSR, including a structural support post under one wall which also appears in photos of the same period.

**Mid-20th Century,
1941–1983**

The next major changes occurring at the Mission Concepción convento include a 1946–1947 re-roofing project paid for by the Archdiocese (Thurber et al., 1993, p. 231) and the 1949 addition of a public bathroom (p. 232). Evidently,

not all the roofs of the convento were completed in 1947, because three years later people convened, including Harvey P. Smith, to inspect roofs. Research conducted by Thurber et al. does not provide clarity on what, if anything, was done during an ensuing period of active inspections and reports, 1950–1956.

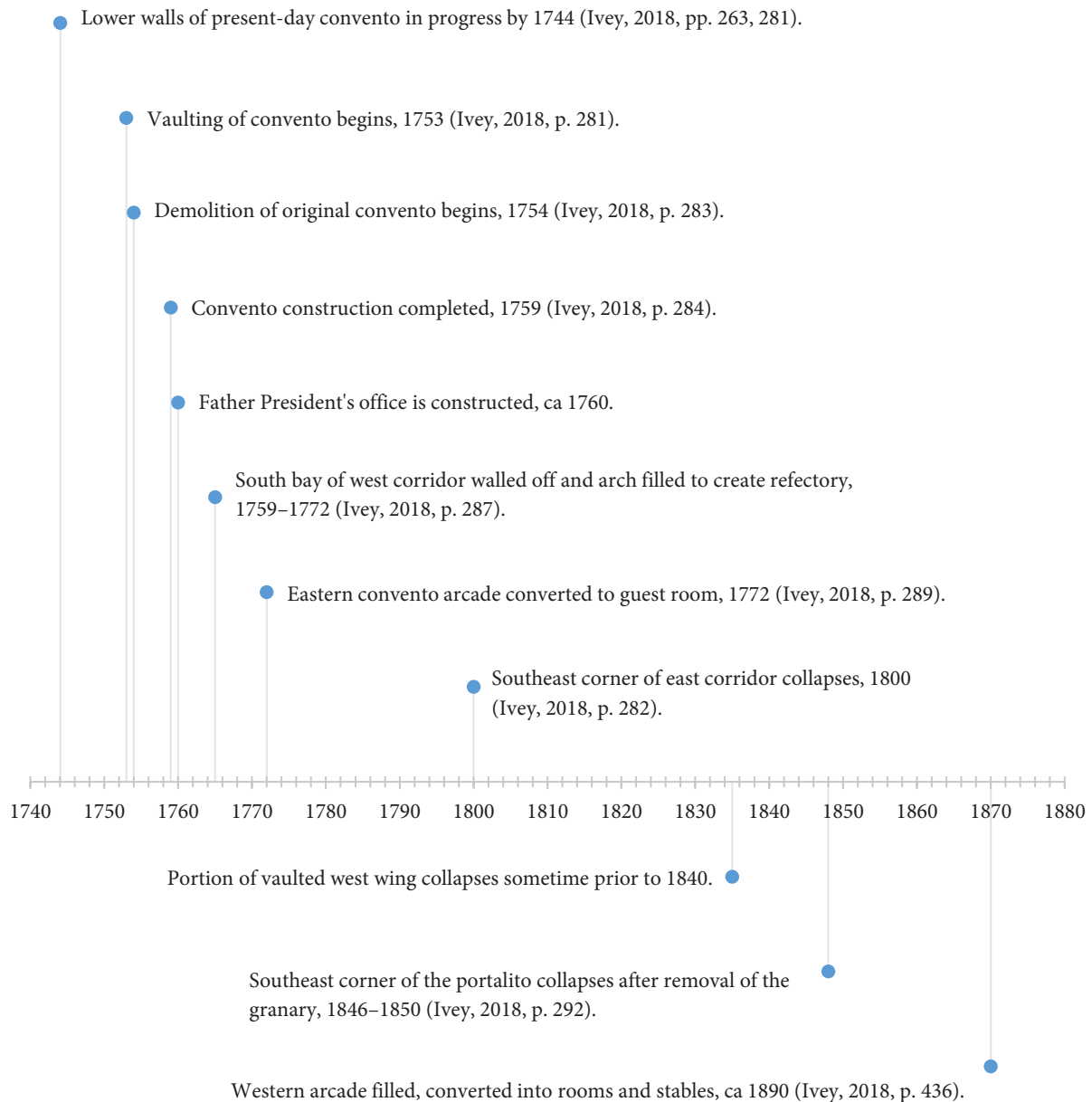
There is a 1950 reference to a tin roof on the southwest rooms in need of replacement. New stone floors were added to “some” rooms, and exterior grade was lowered about a foot, location unspecified (Thurber et al., 1993, pp. 322–325). Of note for current condition assessment, the correspondence from the period contains many complaints about rising damp (p. 324). Further, the 1993 authors characterize the soils under the church as a stable outcrop of limestone, while noting convento structures may be on ground less stable (p. 323).

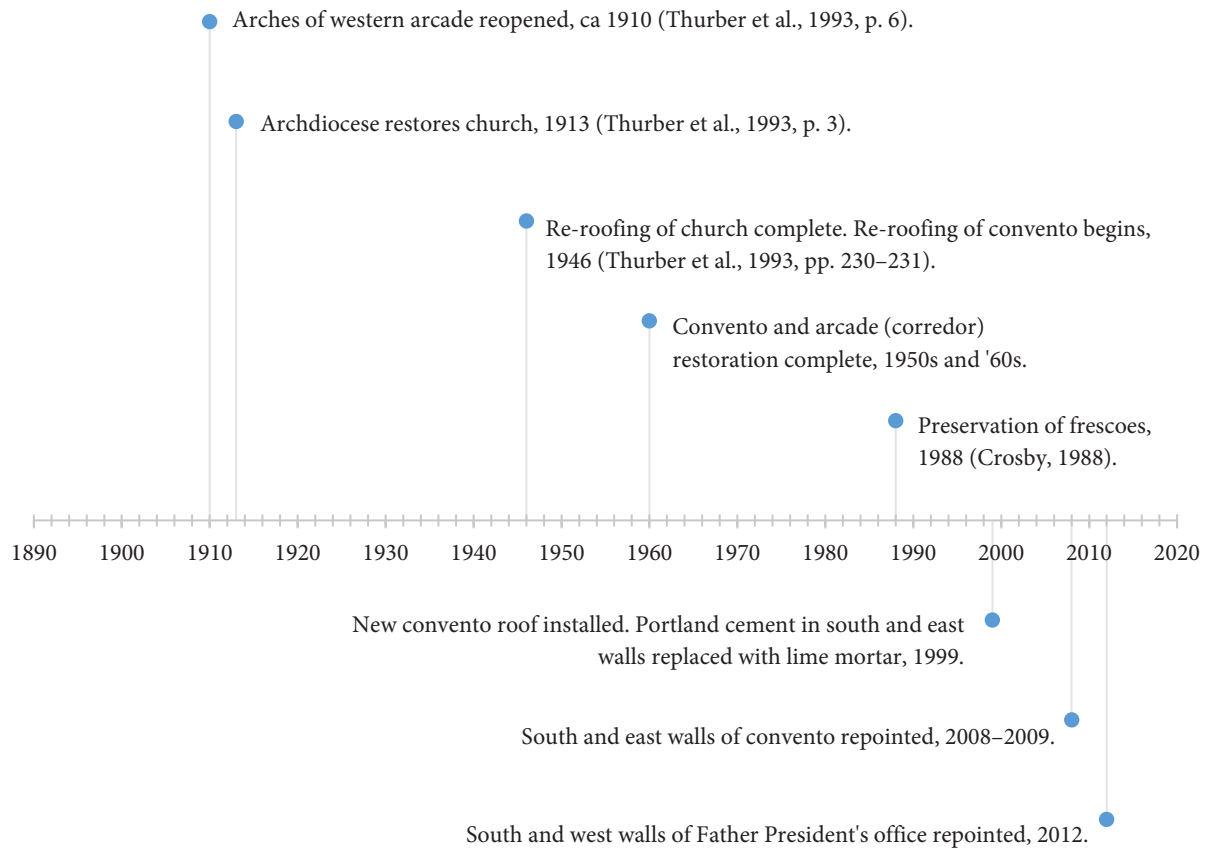
Restoration work on the stone stairs (HSR rooms 103 B and 103 C) was recommended by Harvey P. Smith in 1960 (Thurber et al., 1993, p. 325). Bishop Lucey apparently expressed interest at the time, but there is no clear record of what may have been accomplished. Ample evidence exists from photographs and physical marks on the building that work was done at the stone stair over multiple years. More investigation would be necessary to determine the precise chronology of development regarding this significant feature.

Conservators and international experts gathered in 1973. Plaster frescoes at Mission Concepción were a focus of attention for the assembled talent who concluded immediate conservation was necessary (Thurber et al., 1993, p. 349). The recommendations and subsequent treatments are covered in the condition assessment portion of this HSR document; see Chapter 6. Additional, subsequent conservation reports and treatments are discussed there, as well.

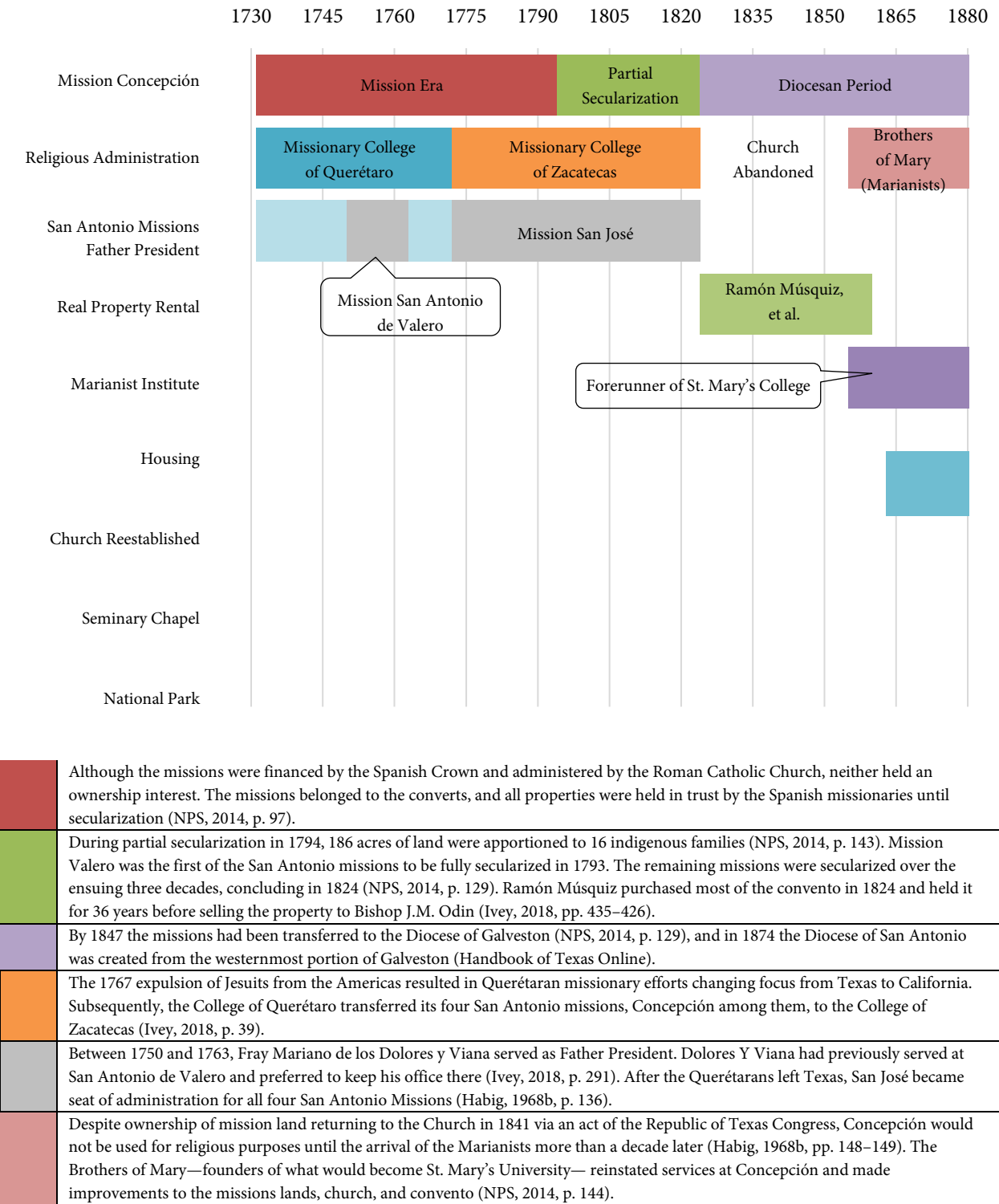
The San Antonio Missions National Historical Park (SAAN) was established by the US Congress in 1978 but was not fully funded and operational until after 1983. The National Park Service adheres to a high standard of care in accordance with their operating protocols. SAAN staff have managed the cultural resources in the park since 1983. At Mission Concepción convento, that work has included straightforward maintenance (such as roofing, masonry repointing, and better drainage), minor improvements for improved visitor experience, as well as restorative repairs. Additional changes made to Mission Concepción while under NPS management include removal of the bathroom behind the convento, preservation of the library frescoes (funded by the park’s friends’ group), two large-scale archaeological investigations and the relocating of Mission Road.

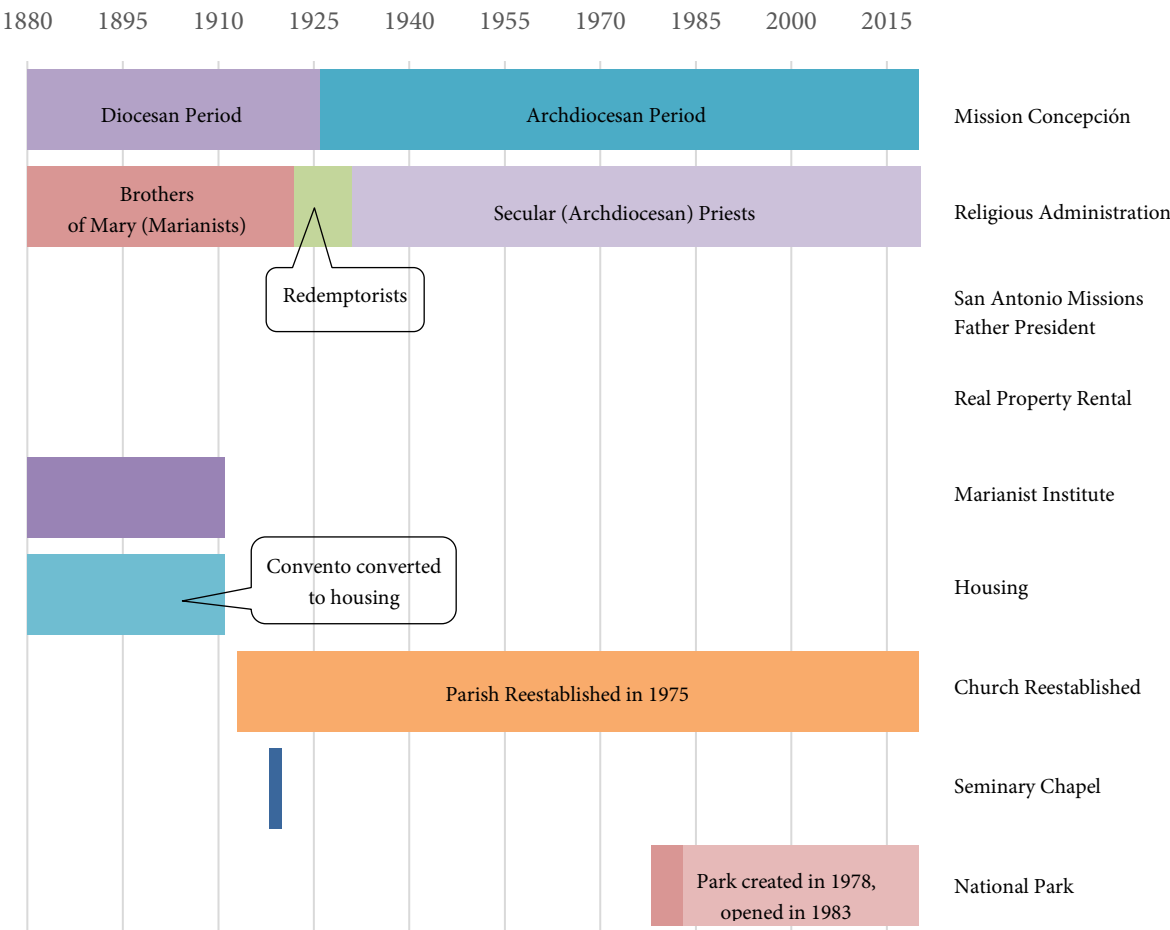
Mission Concepción Convento Development





Mission Concepción Convento Uses, Users, & Owners



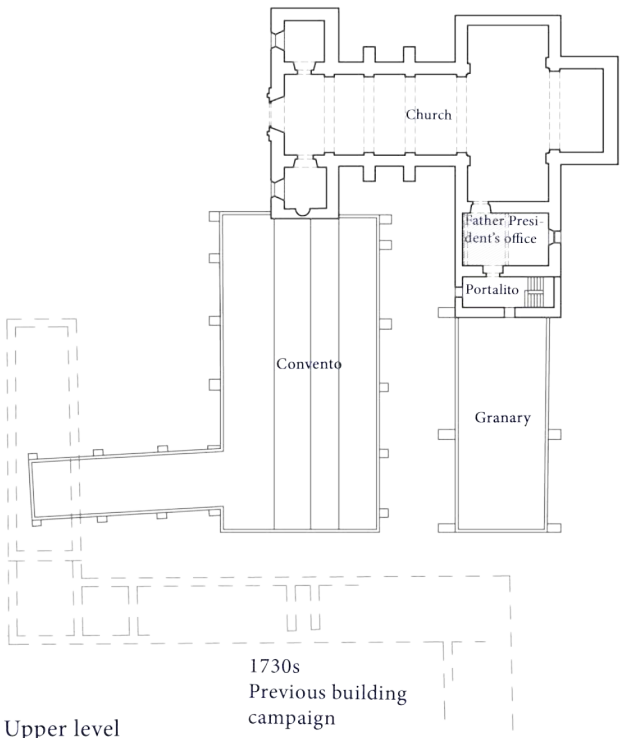
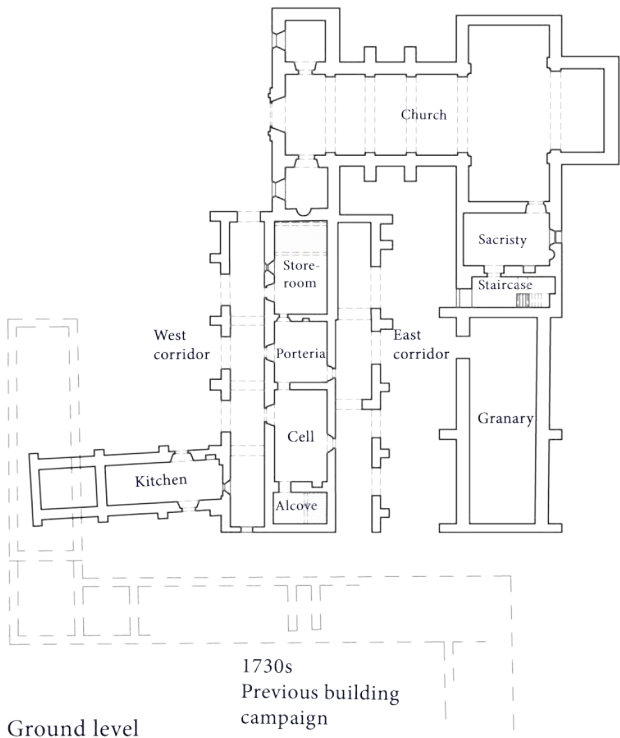
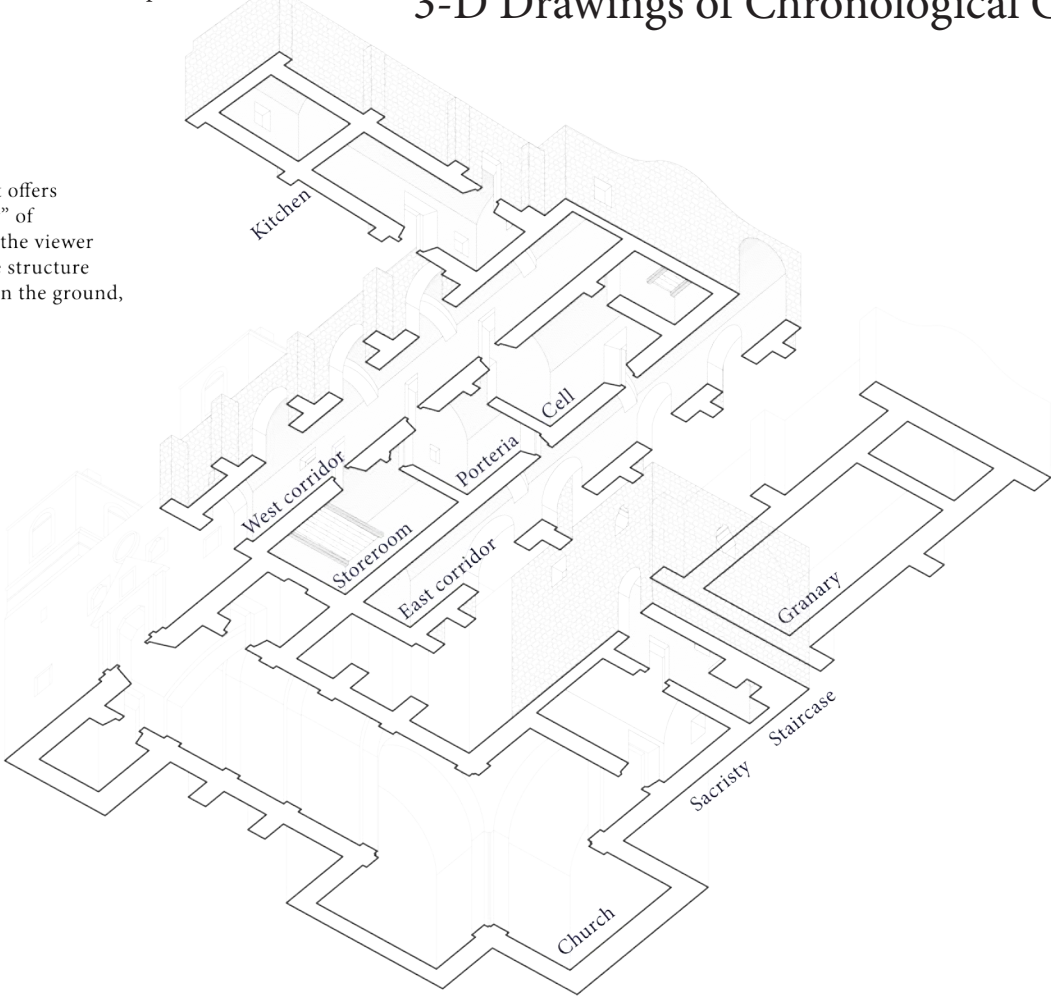


Secular administration refers to periods of time when the mission churches were placed under the care of diocesan priests (NPS, 2014, p. 97). In the Roman Catholic Church there are predominantly two types of ministries—secular and religious. Secular priests are those whose ministry is contained to a single diocese under the care of a bishop. Religious priests are those who are members of a religious order (p. 322). Religious orders, such as the Benedictines and Franciscans, are typically invited by local bishops to minister within their diocese.
San Antonio was elevated to archdiocesan status in 1926 (Thurber et al., 1993, p. 2).
A religious order that came to San Antonio at the invitation of Bishop John William Shaw, the Redemptorists performed stabilization, restoration, and landscaping projects at Concepción and other San Antonio missions (Thurber et al., 1993, p.6).

3-D Drawings of Chronological Change

1759

Illustration at right offers a “worm’s-eye view” of Concepción—as if the viewer were looking at the structure from underneath, in the ground, like a worm.



16' 0 16' 32' 48' 64'

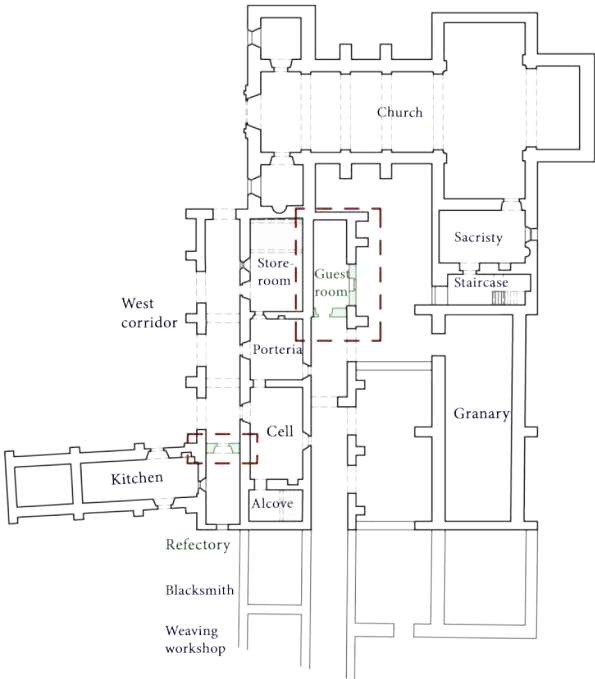
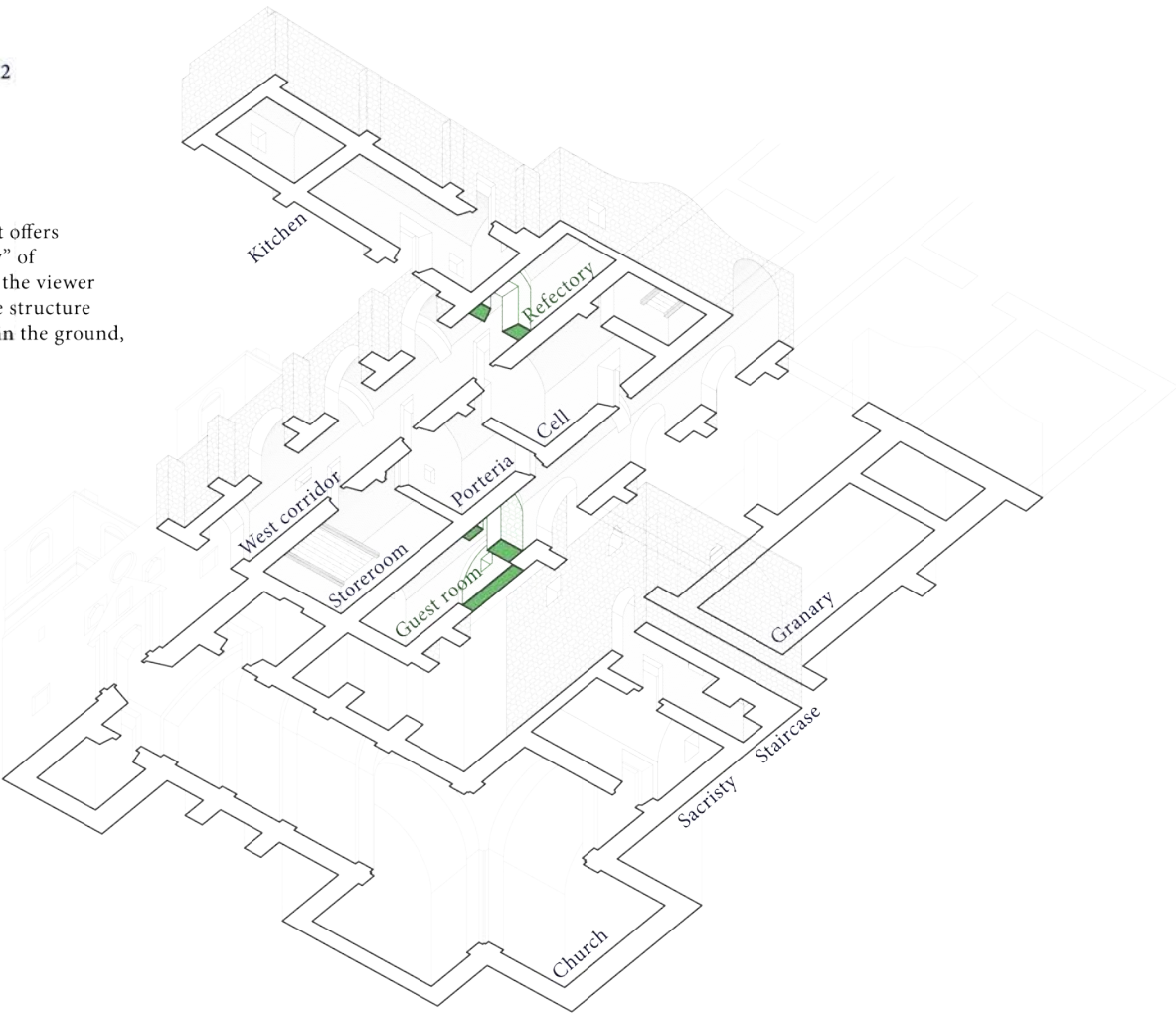


1730s	Previous building campaign at Concepción
ca. 1740	Construction of the church begins
1744	Lower walls of the present day convento in progress (Ivey, 2018, pp. 263,281)
1753	Vaulting of convento begins and sacristy is completed (Ivey, 2018, p. 281)
1755	Completion of the church
1759	Convento construction completed (Ivey, 2018, p. 284)
1760	Father President's office is constructed

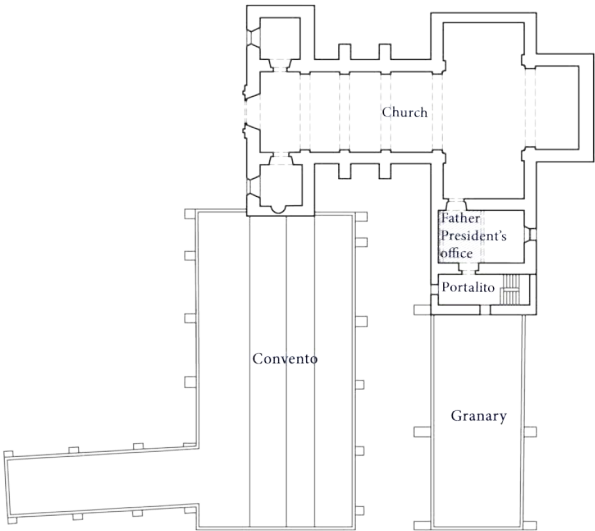
1772

1772

Illustration at right offers a “worm’s-eye view” of Concepción—as if the viewer were looking at the structure from underneath, in the ground, like a worm.



Ground level



Upper level

1759-72

South bay of west corridor walled off and arch filled to create refectory (Ivey 2018, p. 287)



Figure 4.1: West corridor looking south (UTSA CCS)

1772

North bay of the eastern arcade converted to guest room (Ivey 2018, p. 289)

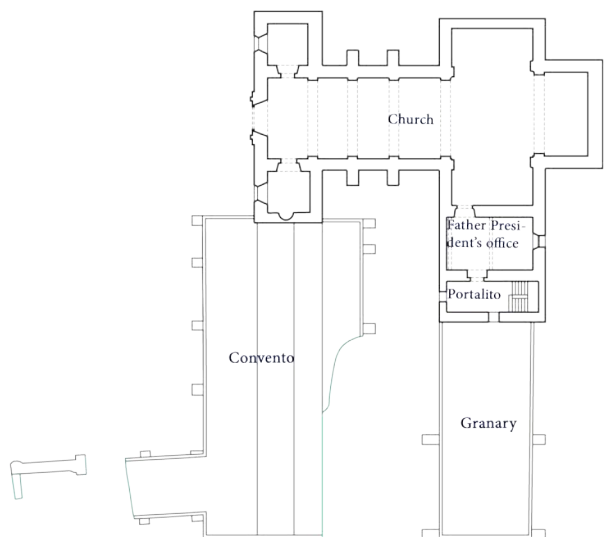
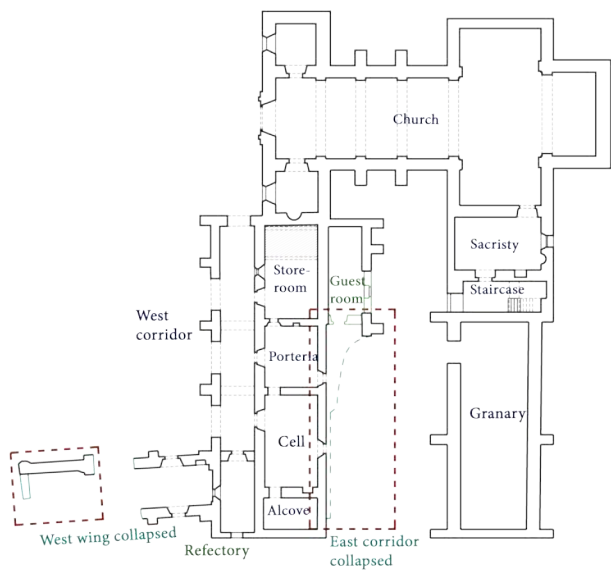
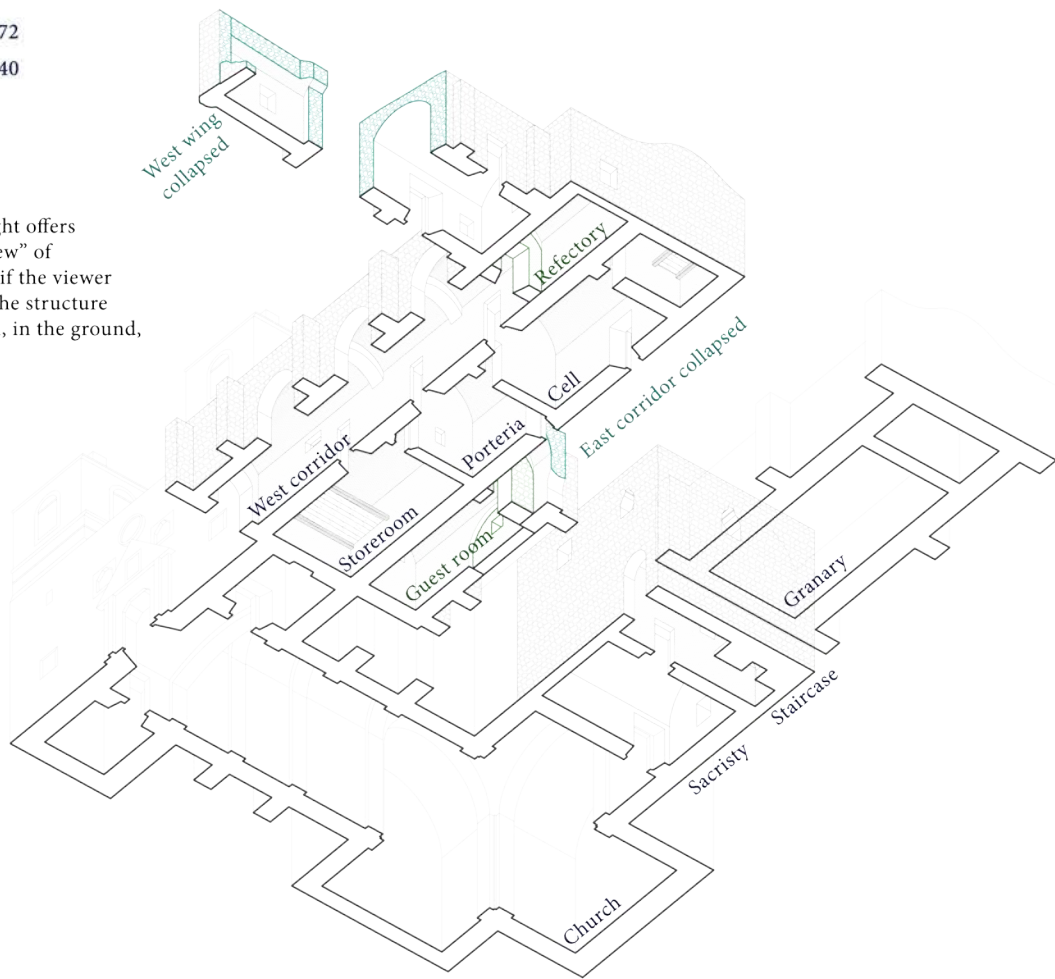


Figure 4.2: East corridor closed arch (UTSA CCS)

1840

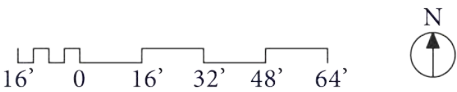


Illustration at right offers a “worm’s-eye view” of Concepción—as if the viewer were looking at the structure from underneath, in the ground, like a worm.



Ground level

Upper level



1800

Southeast corner of east corridor collapses (Ivey 2018, p. 282)



Figure 4.3: Remains of the east corridor (UTSA CCS)

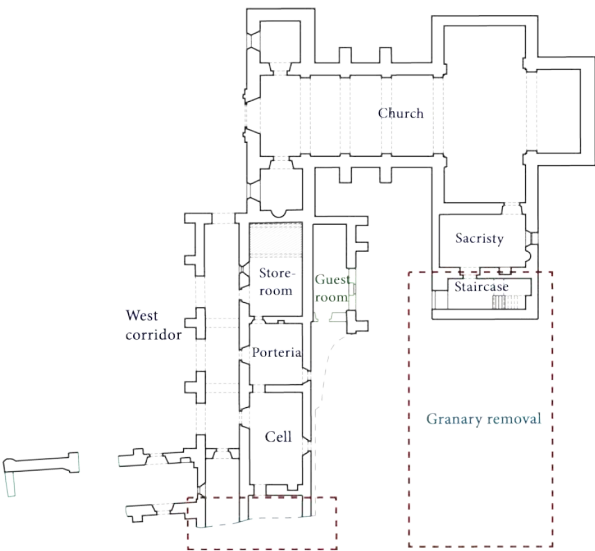
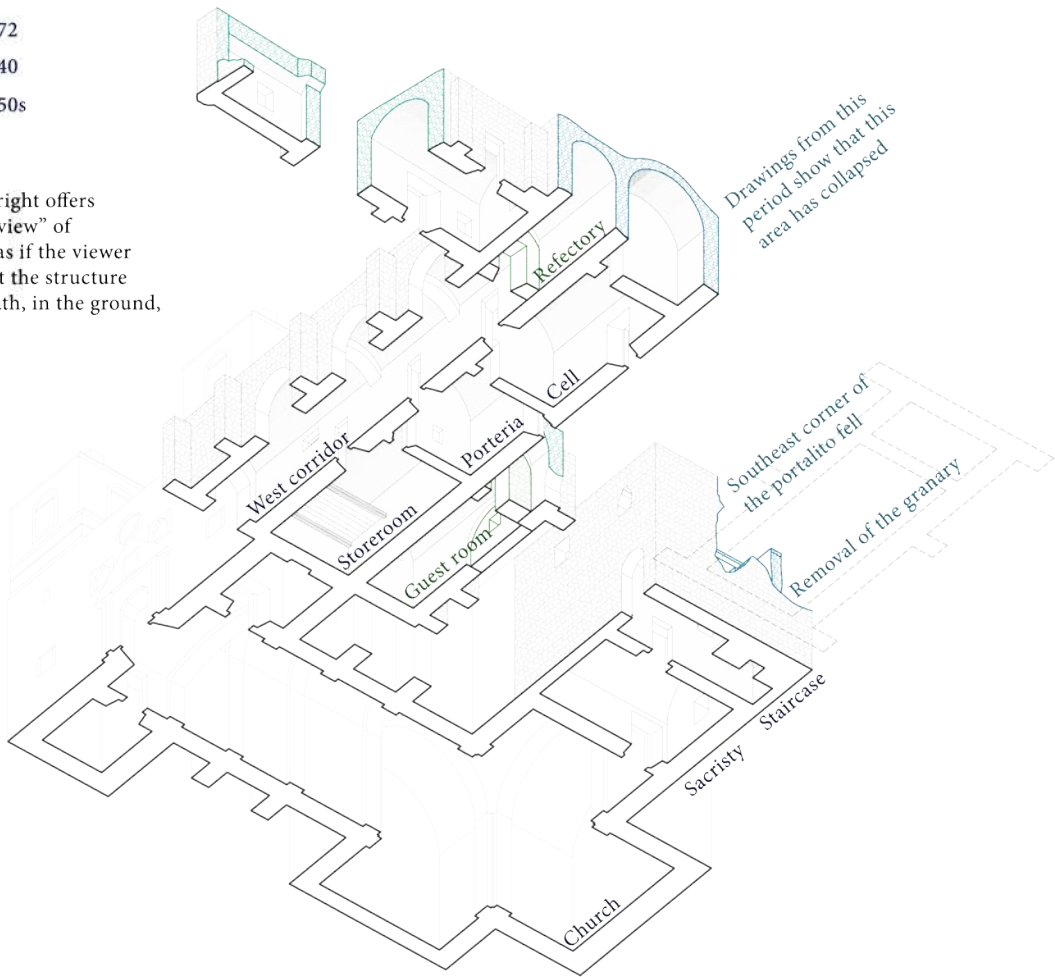
1840

The western part of the west wing falls sometime before 1840 (Ivey, 284)

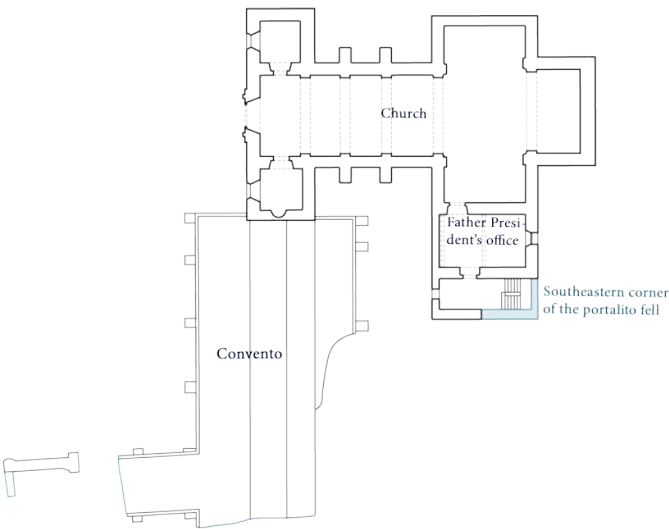
1850s

- 1772
- 1840
- 1850s

Illustration at right offers a “worm’s-eye view” of Concepción—as if the viewer were looking at the structure from underneath, in the ground, like a worm.



Ground level



Upper level



1846-50

Removal of the granary

Southeastern corner of the portalito fell after the removal of the granary (Ivey, 292)

Drawings from this period show that the south walls of the refectory and the main row of cells have collapsed (Figures 4.4-4.6)



Figure 4.4: Drawing by Edward Everett, 1846 (Amon Carter Museum)



Figure 4.5: Lithograph after a Hermann Lungkwitz drawing, 1850 (Institute of Texan Cultures [ITC])

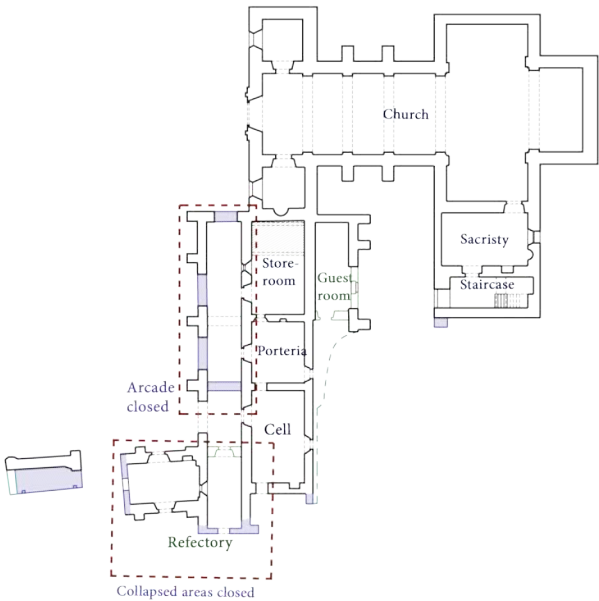
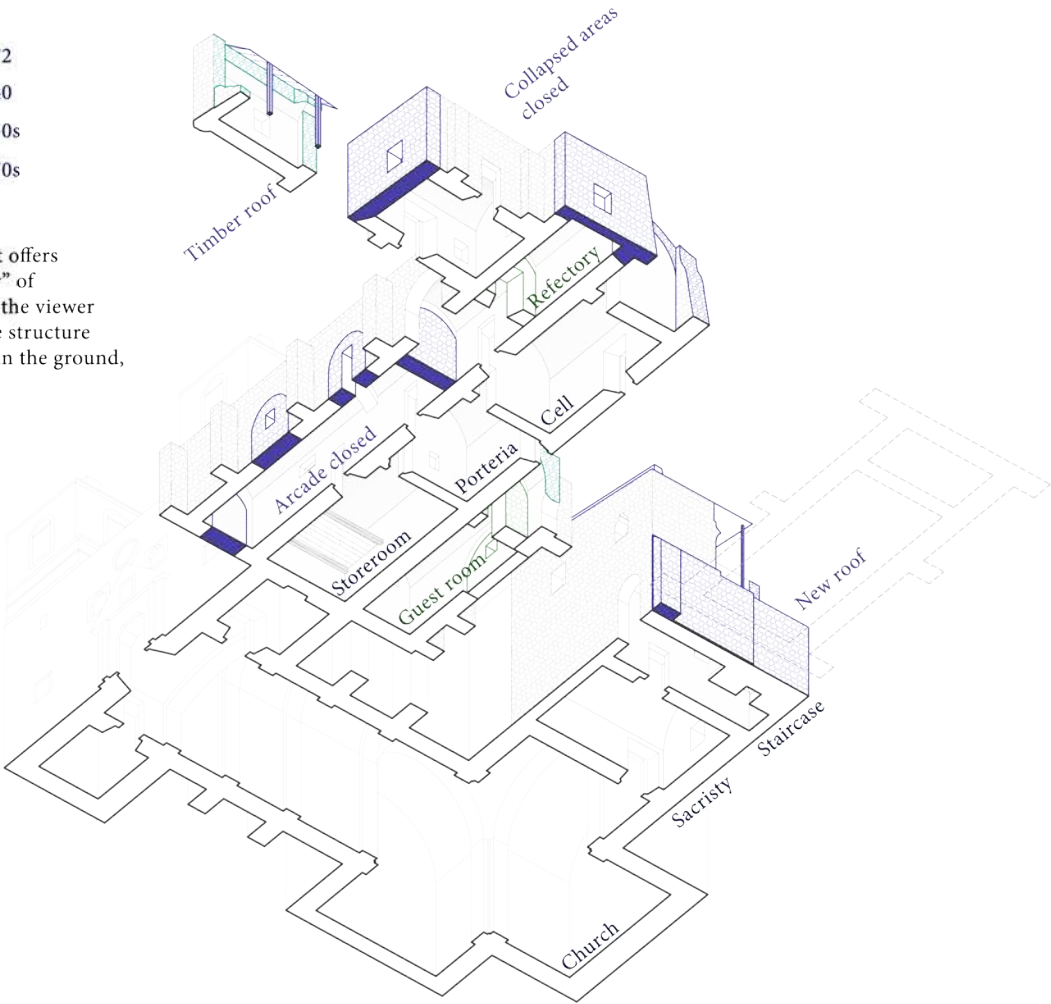


Figure 4.6: Photograph after a Hermann Lungkwitz drawing, 1853 (Raba Collection, San Antonio Conservation Society [SACS])

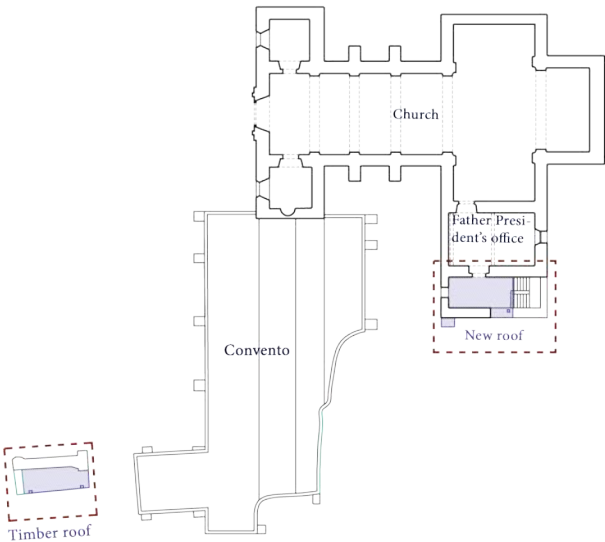
1870s

- 1772
- 1840
- 1850s
- 1870s

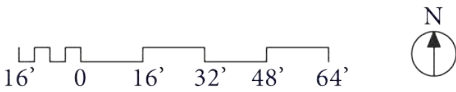
Illustration at right offers a “worm’s-eye view” of Concepción—as if the viewer were looking at the structure from underneath, in the ground, like a worm.



Ground level



Upper level



ca. 1870

Western arcade filled, converted into rooms and stables

Small timber roof added in the western corner of the west wing

Pictures from 1868 to early 1880s show that the south end of the west corridor and the west end of the south wing have been closed (Figures 4.7–4.9)

Pictures from this period show that a new roof has been installed in the southeast corner of the portalito, which had collapsed after the removal of the granary.



Figure 4.7: Photograph by Ernst Wilhelm Raba, 1868 (Raba Collection, San Antonio Conservation Society [SACS])



Figure 4.8: Photograph by H.A. Doerr, 1877–80s (Southern Methodist University Library)

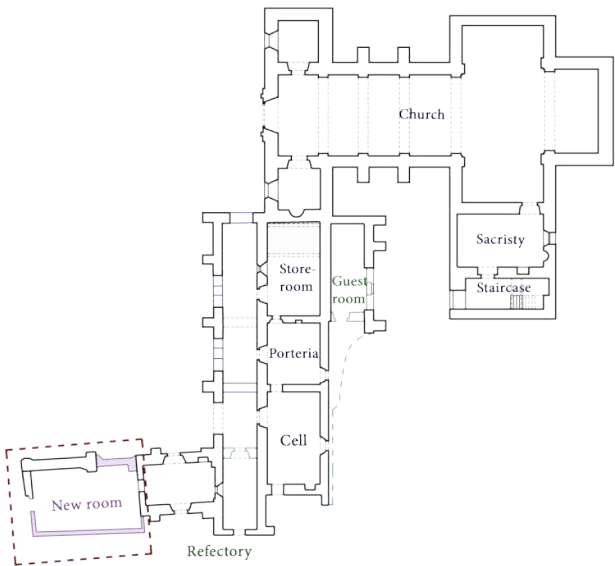
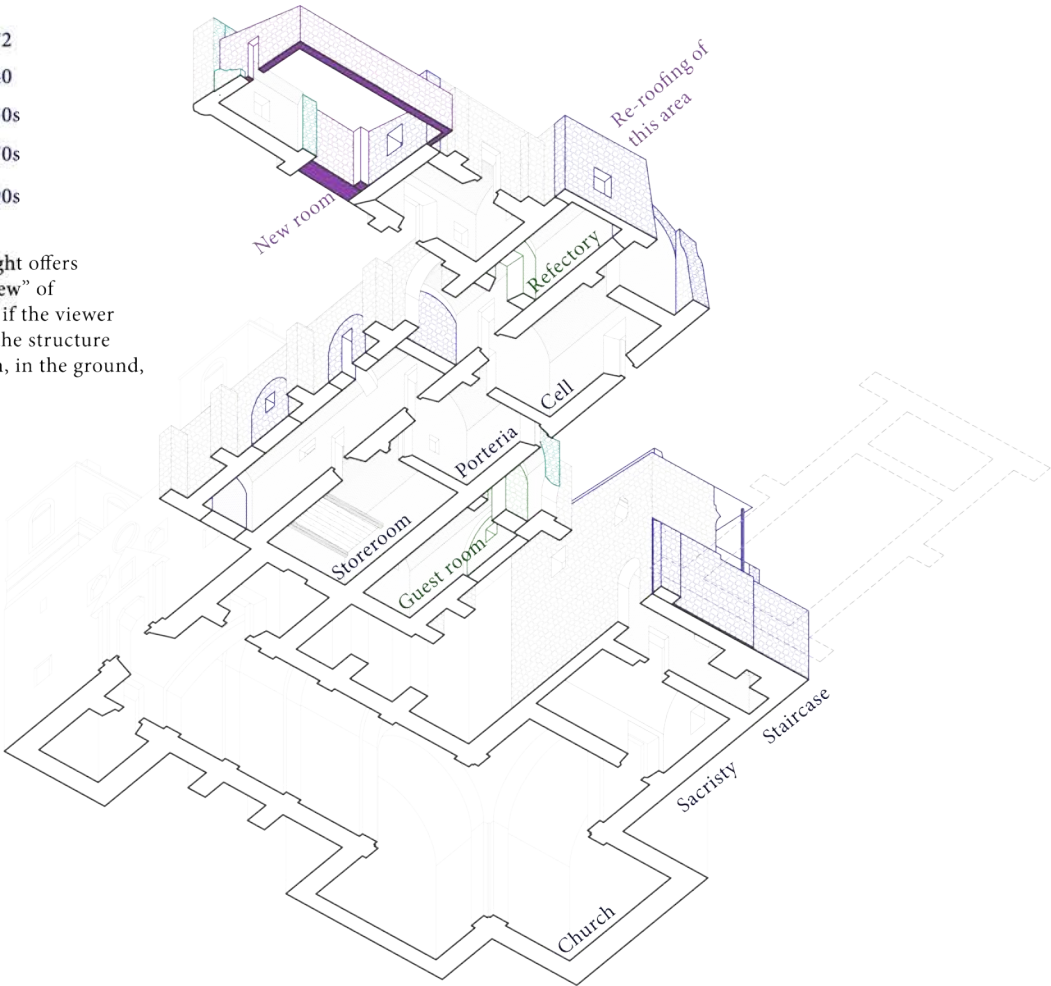


Figure 4.9: Unattributed photograph, 1885–87 (National Park Service Archive)

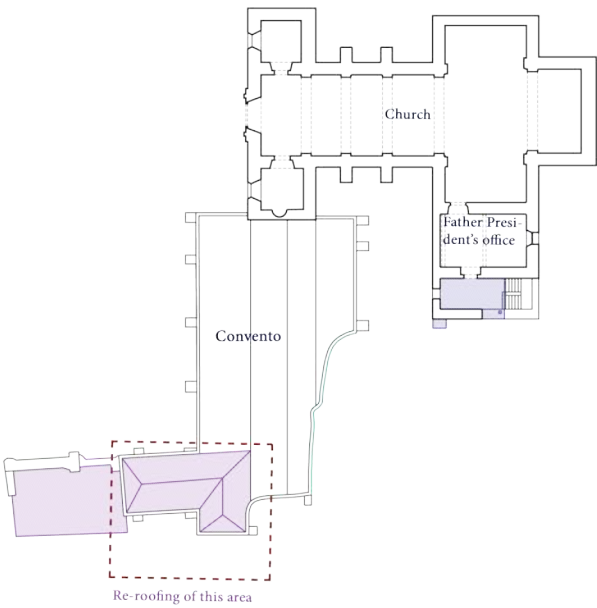
1890s

- 1772
- 1840
- 1850s
- 1870s
- 1890s

Illustration at right offers a “worm’s-eye view” of Concepción—as if the viewer were looking at the structure from underneath, in the ground, like a worm.



Ground level



Upper level

1890s

Pictures from the 1890s show that the ruins of the south wing have been closed, creating a room with a sloped roof.(Figure 4.12)

Pictures from the 1890s show that the part of the refectory and the south wing have been reroofed. (Figures 4.10-4.12)



Figure 4.10: Unattributed photograph, 1895-1905 (DeGolyer Library, Southern Methodist University)



Figure 4.11: Photograph by C.C. Pierce, 1898 (University of Southern California Library)

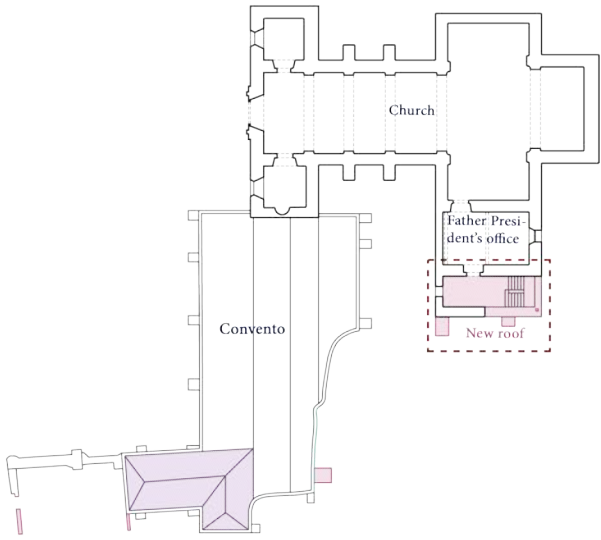
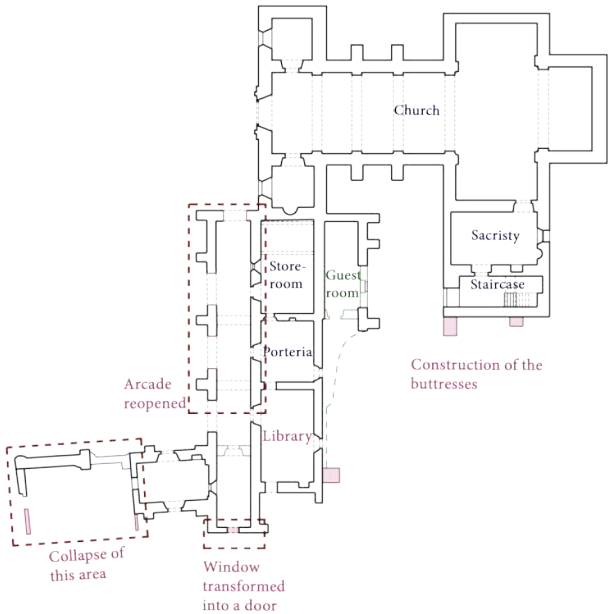
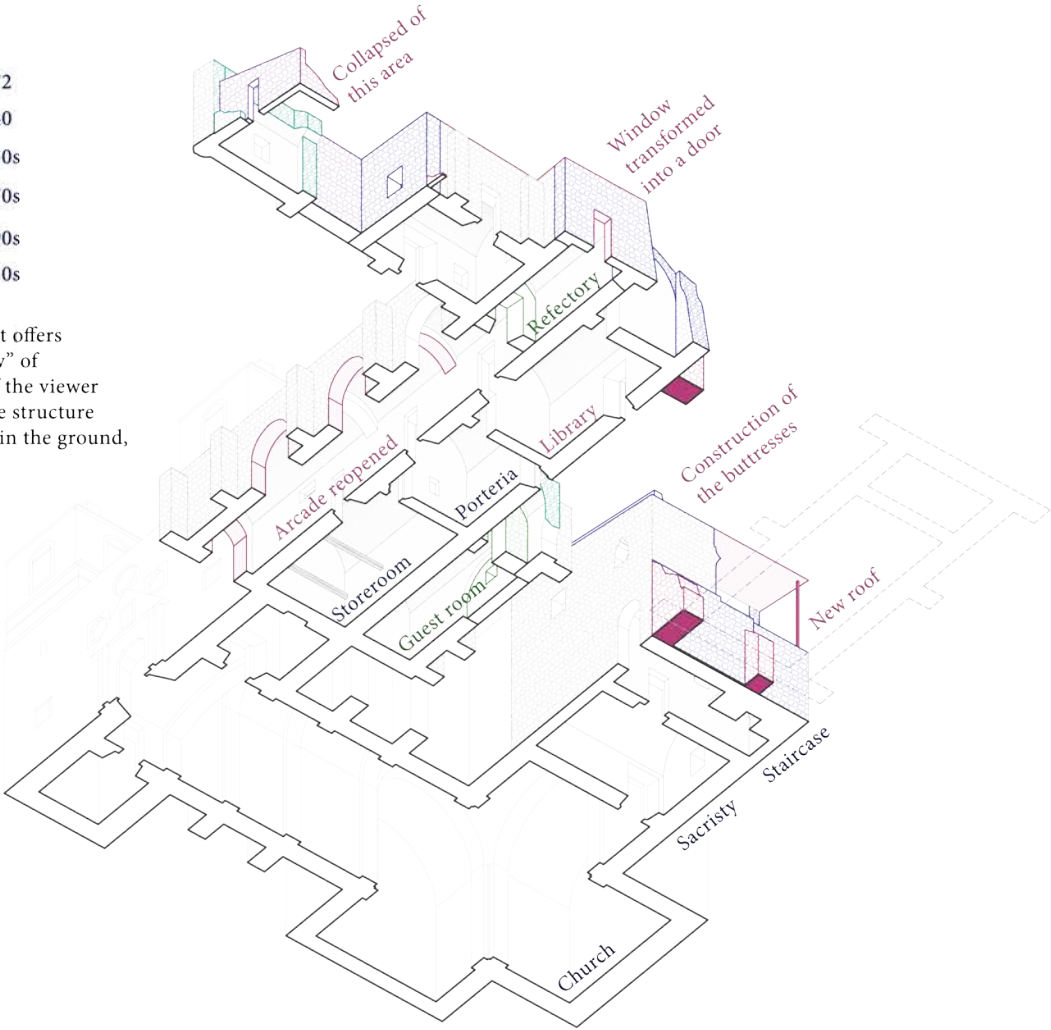


Figure 4.12: Photograph by Ernst Wilhelm Raba, 1911 (Raba Collection, San Antonio Conservation Society [SACS])

1930s

- 1772
- 1840
- 1850s
- 1870s
- 1890s
- 1930s

Illustration at right offers a “worm’s-eye view” of Concepción—as if the viewer were looking at the structure from underneath, in the ground, like a worm.



Ground level

Upper level



ca. 1910

The arches of the west corridor were reopened ca.1910



Figure 4.13: Unattributed photograph, ca.1910 (Southern Methodist University))

1922

Addition of a buttress to the east wall of the convent and corridor

1930s

HABS drawings from this period show that the western part of the west wing has collapsed.

1930s first time that the room is referred as the library.

Picture from 1936 show that the window of the south wall of the refectory has been transformed into a door



Figure 4.14: Photograph by Arthur W. Stewart, 1933 (HABS photographs, Library of Congress)

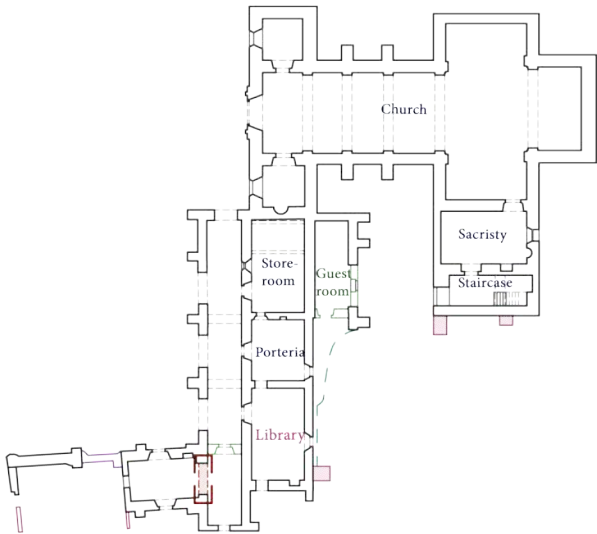
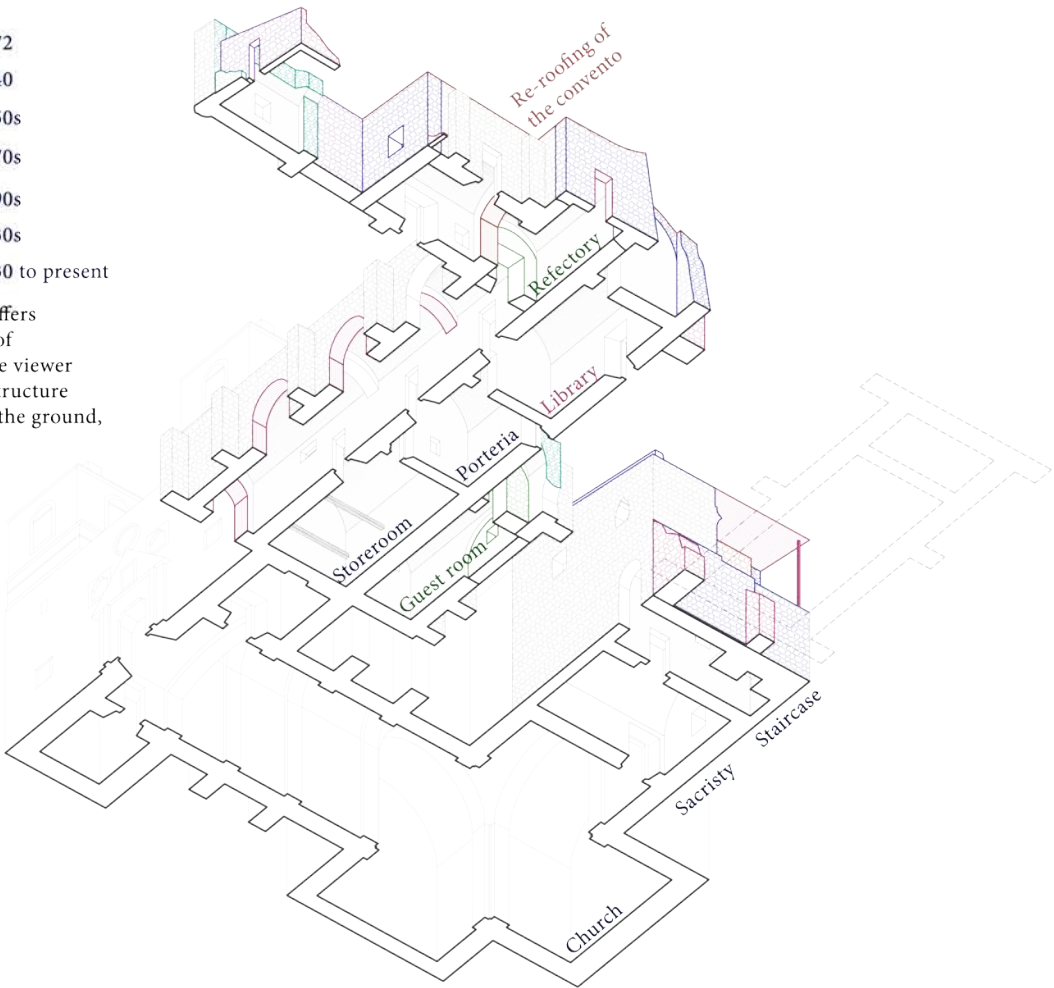


Figure 4.15: Photograph by Arthur W. Stewart, 1936 (HABS photographs, Library of Congress)

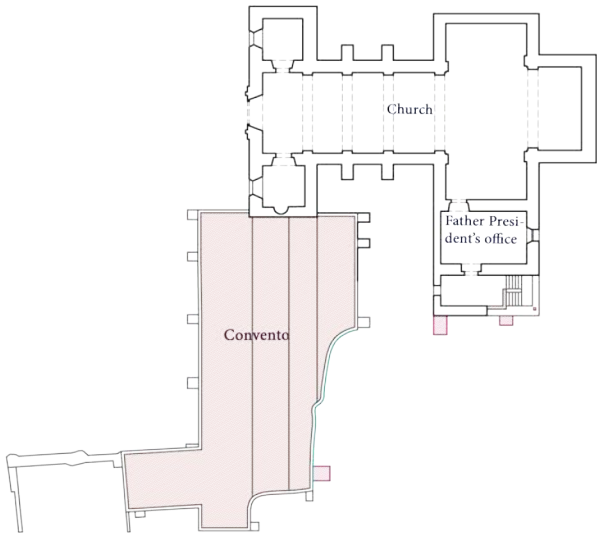
1930 to present

- 1772
- 1840
- 1850s
- 1870s
- 1890s
- 1930s
- 1930 to present

Illustration at right offers a “worm’s-eye view” of Concepción—as if the viewer were looking at the structure from underneath, in the ground, like a worm.



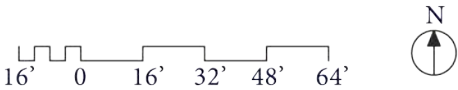
Arch between the refectory and the kitchen has been opened



Re-roofing of the convento

Ground level

Upper level



1946

Re-roofing of the convento begins. (Thurber et al., 1993, pp. 230-231)

1950s-60s

Convento and arcade restoration complete



Figure 4.16: Photograph of the south walls of the refectory and kitchen (UTSA CCS)



Figure 4.17: Photograph, the arch between the refectory and the kitchen has been opened (UTSA CCS)

1988

Preservation of frescoes. (Crosby, 1988)

1999

New convento roof installed. Portland cement in south and east walls replaced with lime mortar.

Archival Drawings & Photographs in Sequence

1850s



Figure 4.18: The drawing shows how several areas of the convento have collapsed. Drawing by Edward Everett, ca. 1846 (Amon Carter Museum)



Figure 4.19: The drawing shows the collapse of the southeast corner of the staircase. Lithograph after a Hermann Lungkwitz drawing, 1850 (Institute of Texan Cultures)



Figure 4.20: The drawing shows how several areas of the convento have collapsed. Photograph of a Hermann Lungkwitz drawing, 1850 (Institute of Texan Cultures)



Figure 4.21: The drawing shows how several areas of the convento have collapsed. 1854 (Quirarte, 2002, p.118; Drawing by J.R. Barlett)

1870s



Figure 4.22: Picture indicates the west end of the south wing has been closed. Photograph by Ernst Wilhem Raba, 1868 (Raba Collection, San Antonio Conservation Society)



Figure 4.23: Picture indicates the south end of the west corridor and the west end of the south wing have been closed. Ca. 1870 photograph (Institute of Texan Cultures)

1880s



Figure 4.24: The picture shows that two of the arches of the west corridor have been closed. Ca. 1880s photograph (National Park Service Archive)



Figure 4.25: The arch of the north wall of the west corridor has also been closed and converted into a window. Date of photograph unknown (Institute of Texan Cultures)



Figure 4.26: Picture shows that some work is being done in the courtyard. 1880–85 photograph (National Park Service Archive)



Figure 4.27: Picture shows the south wall of the convento. 1885–90 photograph (SMU Library)

1890s



Figure 4.28: Picture shows the south wall of the convento, including the southeast corner of the staircase that collapsed in 1850s. Photograph date unknown (National Park Service Archive)



Figure 4.29: Picture shows the south wall of the staircase, indicating the buttresses currently in place haven't been built yet. 1895–1905 photograph (SMU Library)



Figure 4.30: Picture indicates the west corridor remains closed and a small room has been built in the west end of the south wing. 1898 photograph (USC Library)



Figure 4.31: View from the south. Photo indicates the buttresses of the south wall of the staircase and the east wall of the convento haven't been built yet. 1898 photograph (USC Library)

1900s



Figures 4.32 and 4.33: View of the courtyard of the convento. Date of photographs unknown (San Antonio Conservation Society and National Park Service Archive)



Figure 4.34: The picture shows the room that was built in the western part of the south wing, which included a brick chimney, and that a gable roof has been added to the part of the refectory and the kitchen. 1911 photograph (San Antonio Conservation Society)

1910s



Figure 4.35: The picture shows that the west corridor has been reopened and the decay of the buttresses of the west wall. 1917 photograph (Institute of Texan Cultures)



Figure 4.37: Picture inside the Library (104 E) looking north. The tie rod hasn't been added yet. 1919 photograph (San Antonio Conservation Society)



Figure 4.36: Picture of the courtyard showing the addition of the buttresses in the south wall of the staircase and in the east wall of the convento. 1919 photograph (San Antonio Conservation Society)



Figure 4.38: Picture of the courtyard. 1920 photograph (National Park Service Archive)



Figure 4.39: Aerial photo looking at the building from the west. 1920 photograph (San Antonio Conservation Society)



Figure 4.40: View from the inside of the west corridor looking south. 1921 photograph (San Antonio Conservation Society)

1930s



Figure 4.41: View of the south wall of the staircase leading to Father President's office. Unknown date photograph (Institute of Texan Cultures)



Figure 4.42: View of the courtyard and the northeast part of the convento. 1927-31 photograph (Institute of Texan Cultures)



Figure 4.43: View of the convento and church from the south. 1927-31 photograph (Institute of Texan Cultures)



Figure 4.44: View from the inside of the west corridor looking south. 1927-31 photograph (Institute of Texan Cultures)



Figure 4.45: View of the south exterior wall of the Library (104 E). Unknown date photograph (National Park Service Archive)



Figure 4.46: View of the convento and church from the south. It can be seen that the roof of Father President's office has been replaced. 1933 photograph (HABS, Library of Congress)



Figure 4.47: View of Father President's office from the southeast. 1933 photograph (HABS, Library of Congress)



Figure 4.48: View of the southeast corner of Father President's office. 1933 photograph (HABS, Library of Congress)



Figure 4.49: View from the portalito (103 B) looking east. 1933 photograph (HABS, Library of Congress)



Figure 4.50: View from Father President's office (103 A) looking east. 1933 photograph (HABS, Library of Congress)



Figure 4.51: View of the east wall. Photo indicates the south buttress of the east wall (B15) has been reshaped. Unknown date photograph (Institute of Texan Cultures)



Figure 4.52: View of the southeast corner. Photo indicates the east buttress of the external wall of the refectory (B11) has been reshaped. Unknown date photograph (Institute of Texan Cultures)



Figures 4.53 and 4.54: View of the east wall. Some stones of the collapsed part have fallen. Date of photographs unknown (Institute of Texan Cultures)



Figures 4.55 and 4.56: View of the staircase looking east. The middle part of the arch has been filled and a timber pillar has been added as structural reinforcement. Date of photographs unknown (Institute of Texan Cultures)



Figure 4.57: View of the door of the east wall of the Library (104 E). Date of photograph unknown (Institute of Texan Cultures)



Figure 4.58: View of the courtyard. Date of photograph unknown (UNT Library)

1940s



Figure 4.59: View of the southwest part. Photo indicates the western buttress of the kitchen's south wall was lower than the current one. 1945-50 photograph (National Park Service Archive)



Figure 4.60: View of the southwest part. Date of photograph unknown (Institute of Texan Cultures)

Chapter 5: Physical Description

Location and Setting	52
Style and Architectural Description	52
Materials	53
Structure	54
Detailed Description	55

Figure 5.1: Site plan of Mission Concepción convento (UTSA CCS).



**Location
and Setting**

The subject structure of this report is the convento. Mission Nuestra Señora de la Purísima Concepción de Acuña also includes a church, various workshops, a well, a limestone quarry, and an open plaza. The archaeological remains of a granary, perimeter wall, and indigenous living quarters are known to be extant below grade. The convento was built in the southeast part of the mission compound, creating an open plaza to its west, which is delimited by a visitor parking lot and the modern-day Mission Road. North of the structure is the church to which the convento is attached, sharing a part of the north wall. A short distance to the south is a modern visitor support building. East of the structure, on adjacent property, are buildings of the St. John's Seminary.

Limits of this report: Please note this Historic Structure Report is limited to the convento buildings managed by the National Park Service. The cultural landscape, church, and sacristy are not included. The physical description is focused on the convento and includes the other elements only in context of describing the convento.

**Style and
Architectural
Description**

The style of the convento is Spanish Colonial architecture, here typified by barrel vaults and masonry arches executed in thick masonry construction. There are only a few stylistic elements in the construction, all near or within the Father President's office. The elements are a clamshell motif in the plaster transom of a window in the Father President's office, plus two arches with a Moorish

shape typical of Spanish Colonial style. The decorative arches are found in the support wall of the stair landing and the masonry window opening, both at the portalito, room 103 B. Also indicative of the Spanish Colonial style found at almost all missions in North America, there is painted plaster on many of the interior surfaces.

The majority of the convento consists of an L-shaped building attached to the southwest corner of the church and extending south. The other portion of the extant structure is a roughly square, two-story construction attached to the south transept of the church and includes the sacristy at ground level and the Father President's office above. There is an exterior stone staircase to reach the upper level.

The overall dimensions of the L-shaped building are 86 ft. long (26.2 m) by 42 ft. wide (12.8 m). It is a one-story building. The two-story structure is approximately 28 ft. square and includes the Father President's office in the upper level, just above the sacristy.

The long side of the L-shaped building is divided in three rows. The west row is an arcaded corridor with three bays and a room at its south end (refectory); the middle row, which can be considered the main row, has the wider span and includes three internal cells (storeroom, portería, and library); and the east row, which has only one extant cell (guest room) since the remainder have collapsed.

The short side or south wing is composed of two spaces, one interior cell that is connected to the refectory, and one external space in ruins delimited by only three walls, open to the south, and with no roof.

The upper-level space is divided in two parts, the internal room called Father President's office, which is connected to the church via a "tribune" opening for observation of Mass, and a smaller open space (portalito) that has a staircase and serves as a transitional area before entering the Father President's office. A sacristy room is directly underneath the Father President's office.

All the interior spaces have barrel-vaulted ceilings, except for the Father President's office, which has a sloped roof supported by wood rafters. In the parts of the convento that have collapsed, remnants of the barrel vaults are visible.

Materials The convento building is constructed mainly with rubble limestone (tufa) walls approximately 2–3 ft. thick, originally assembled with lime mortar. Currently, however, due to the evolution of the building, multiple types of mortars are seen in different areas of the building.

Most of the inside walls of the convento are covered with lime-based painted plaster (with red, blue, and yellow colors) from the colonial period. The refectory and kitchen have been recently limewashed with a cement-based wash painted white. The inside floors of the building are made with bricks, and the roof is covered with roll asphalt roofing.

Extant historical material includes some timber, as well. In the storeroom there is timber from the colonial period, which consists of two beams that historically supported a loft. Located in the outside part of the Father President's office is the only timber post in all the structure, which supports the timber roof. Also present are timber elements, such as lintels in some doors and windows. Additional wood is in the roof of the Father President's office and its portalito (external part of the room), which is made with typical rafters and roof substrate boards. Finally, in the room called the library there is a metal tie rod close to its northern wall.

Structure

The structure of the building is resolved with a system of load-bearing masonry walls, arches, and barrel vaults. The structure is reinforced with buttresses and in one of the rooms with a tie rod. Moreover, the staircase leading up to the Father President's office serves to buttress the upper floor.

The roof of the Father President's office is resolved through a system of rafter beams supported on load-bearing stone walls and on one timber column at the southeast corner.

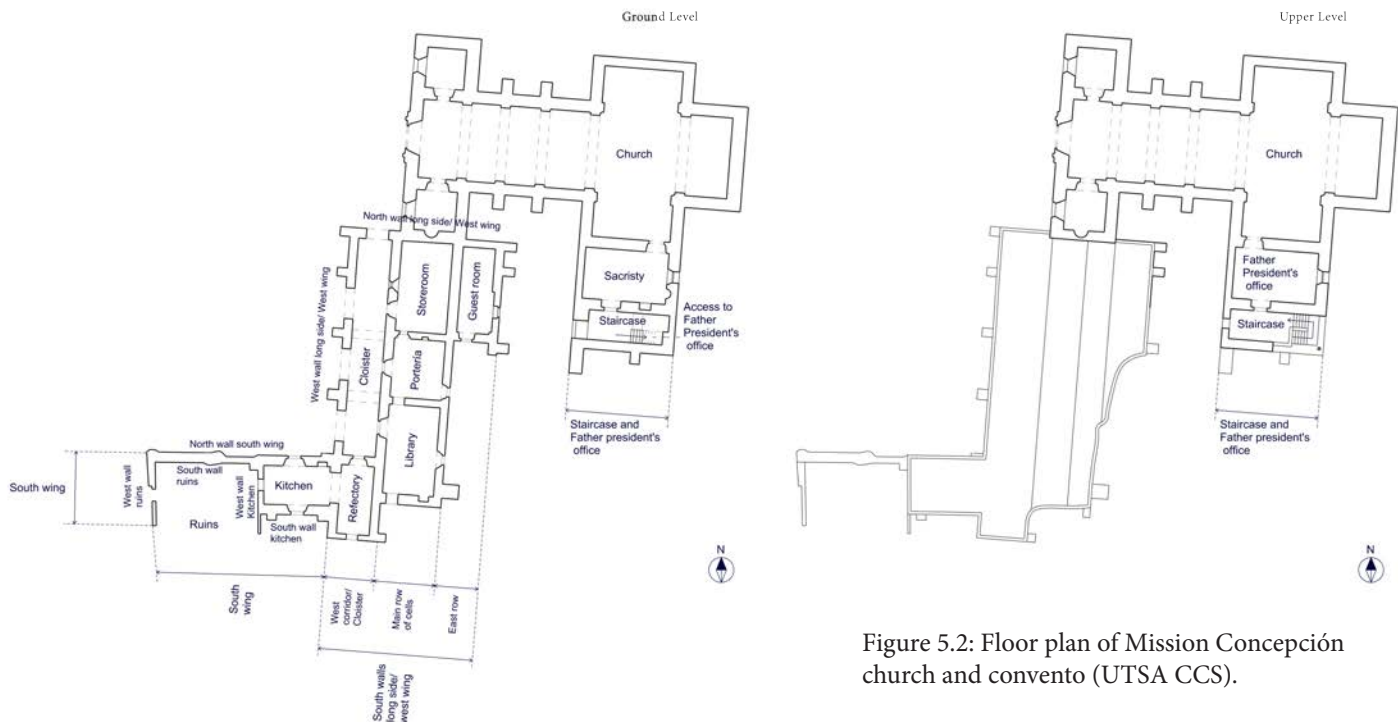


Figure 5.2: Floor plan of Mission Concepción church and convento (UTSA CCS).

Detailed Description

Text below first describes the L-shaped block of convento running south from the church. The description then considers the area of the stone staircase and the Father President's office.

L-shaped Portion of the Convento

The structure is characterised by masonry arches, long barrel vaults and multiple, small buttresses at corners and in between the arches. The large barrel vault down the center of the structure containing the storeroom, portería, and library is approximately 16.5 ft. high by 14 ft. wide, clear interior. The smaller barrel vaults on either side of the major vault are approximately 12 ft. high by 8.5 ft. wide. The walls are mainly massive, with only four small windows, one located in the kitchen, one in the storeroom, and the other two in the guest room which is now used for storage.

Guest Room and East Exterior Walls

On the east façade of the L-shaped structure, traces of an old arch exist in the guest room since this east row was initially an arcaded corridor similar to the west side. In the upper part of the wall outside the guest room to the south, there are remnants of a barrel vault, now collapsed and missing, which used to continue south. The wall has one door formed with a jack arch, which is the only entrance to the guest room. In the southeast corner of the guest room there is a buttress perpendicular to the wall, similar in purpose and shape to those on the west façade of the structure. On the surface of what was meant to be an interior wall, different types of mortars and remains of plaster are visible. The exterior wall of the library and portería has two door openings made with limestone jack arches.



Figures 5.3 5.5: Images of east exterior walls.

South End Walls and Kitchen Exterior

The south end wall of the middle (large) barrel vault has an arched shape that was initially a separation wall between cells, and after the collapse of the southern cells, is now an exposed external wall. Part of the barrel vault is still standing and has been stabilized. The barrel



Figures 5.6, 5.7: Entrances to the kitchen (above left), refectory, and library.

vault's arch springs from a height of 9.4 ft. (2.8 m). In the east corner, there is a buttress perpendicular to the wall, and in the west part, there is a door opening with a rounded masonry arch that leads to the library. In the upper half of the wall, there are remains of plaster, and in the lower part, there are various types of mortar.

The south wall of the west corridor is a rectangular shape approximately 14.6 ft. long (4.45 m) and 12.75 ft. high (3.8 m), with a door in the middle that connects with the refectory. The door has a timber lintel instead of a jack arch, and in the right corner of the wall, there is a buttress or wall remnant coplanar with the wall.

The south façade of the kitchen exterior is approximately 19.8 ft. long (6 m) and 12.75 ft. high (3.8 m). It has a door located around the middle of the wall and two buttresses perpendicular to the wall, one in the inside corner and the other in between the door and the southwest corner.

The north wall of the kitchen is the same height as the west arcade,

and is connected with it at its northeast corner. The kitchen has a door with timber lintel. Above the door, approximately 3.3 ft. (1 m) over it, there are two rows of flagstones. There are two buttresses, one in the east corner of the wall and the other between the door and the west corner.



Figure 5.8: North wall.

West Façade Wall

The west wall of the west corridor is 60.8 ft. (18.5 m) long and 13.8 ft. high (4.2 m). The wall is visually divided into four parts



Figure 5.9, 5.10, 5.11 (From top): West wall, north wall of west corridor, and north exterior wall of guest room.

by five buttresses. The northern part is a blind wall, and there are three arches of different spans in the other three parts. From north to south the width of the arches are 6.1 ft. (1.85 m), 8.65 ft. (2.6 m), and 7.65 ft. (2.3 m). All three are 9.5 ft. (2.9 m) high. The first, third, and fourth buttresses, (starting to count from the north) correspond to a transverse arch in the corridor. The first, second, and third buttresses have canales in their upper parts for rainwater evacuation off the roof.



North End Walls of Barrel Vaults

The north walls consist of three very different parts. The west part, that is the north end of the west corridor, is 13.3 ft. wide (4 m) and 14.6 ft. high (4.45 m), and it has a rather flat arch that leads to the corridor with a span of 5.5 ft. (1.6 m) and a rise of 1.45 ft. (0.45 m). The middle part, which is the north wall of the main row of cells, is the wall that is shared with the church, specifically the tower baptistery room of the church. The north end of the east barrel vault is connected to the church tower in its northwestern corner, and it is mainly a massive wall, with only a very small opening high in the middle of the wall.





Figures 5.12, 5.13: Former interior north wall (photo at left) and west wall of ruins.

Ruins at South Wing of L-shaped Structure

North Wall, Former Interior

The dominant, extant wall is a freestanding, stabilized ruin. It is approximately 30.45 ft. long (9.2 m) and has two different heights. To the east it is about 9.7 ft. high (2.9 m) and on the west end 12.5 ft. At the point where the height changes there are visible remains of a separate wall that once existed at that location. The taller part of this wall has vestiges of a missing barrel vault, as well as some surviving plaster.

West End Wall

The west wall is a freestanding, stabilized ruin. It is approximately 23.8 ft. long (7.2 m) and 12.7 ft. high (3.8 m) at the northwest corner. From that height, it has a decreasing slope to the southwest corner of the structure. In addition to the difference in height, the wall has a difference in thickness—the north corner is almost twice as thick as the rest of the wall. It has a door in the middle of the wall with a timber lintel.

The west wall of the kitchen is a rectangular wall of 16.2 ft. wide (4.9 m) and 13.3 ft. high (4 m).

The west wall has one window with a timber lintel located in the middle of the wall.

North Façade Wall

The north side of the freestanding wall has a buttress located where the height of the wall changes, corresponding to the point on the other side of the wall where evidence remains of a perpendicular partition wall.



Figure 5.14: North façade wall.

Interior Spaces of L-shaped Structure

The interior spaces include the interior corridor of the west arcade and the interior cells (storeroom, guest room, portería, library, refectory, and kitchen).

Corridor

The west corridor is approximately 60.3 ft. long (18.3 m), it has three



bays and a barrel-vaulted ceiling 11.7 ft. high (3.5 m). To the north, it is delimited by an arch that leads to the external area in front of the church's façade, and to the south, there is an arched wall with a rectangular door connecting it to the refectory. The external wall of the corridor is the arcade, and the facing wall has door openings to the interior rooms. The doors that lead to the three internal spaces of the main row are made with jack arches and have different dimensions. The door to the storeroom is the smallest of the three. The vaulted ceiling and some parts of the walls of the corridor have remains of plaster. In addition, one can see the presence of different types of mortars, limewash tests, and patching made with lime-based mortars. Also, in some areas around the doors and below the



Figures 5.15, 5.16: The corridor looking north (top photo) and south.

arches remnants of painted plaster, with red and yellow colours, can be found.



Storeroom

The “storeroom” cell is the northern cell of the main barrel vault. It is 14 ft. (4.2 m) wide and 25.3 ft. (7.7 m) long. The room has a barrel-vaulted ceiling and four openings: a door, a small window that connects it to the corridor, another door in its south wall that connect it to the portería cell, and a hole in the vault that goes through the roof. Both the walls and the vault of this space are covered with white plaster. In the north wall of the room and in the vault are two cracks that have been filled. A significant feature of this room is the presence of two timber beams crossing the space, one near the north wall (only separated from it by a couple of centimeters) and the other around the middle of the room, which are original from the colonial period. Also notable is the historical graffiti on the north end wall.

Figures 5.17, 5.18: The storeroom looking toward the southwest (top photo) and the north.



Figures 5.19, 5.20:
Portería looking south
(photo at far left) and
north.



Figure 5.21: Library looking toward the northwest.

Portería

The portería is the cell just south of the storeroom; it is 14 ft. (4.2 m) wide and 15.8 ft. (4.8 m) long. It has four doors, two holes in the barrel-vaulted ceiling and one niche. There is one door in each wall; they connect the portería to the north with the storeroom, to the west with the corridor, to the south with the library, and to the east with the exterior. Similar to the walls of the storeroom, the portería walls are covered in plaster. The ceiling has some plaster remains, too.

Library

The library is the cell just south of the portería; it is 14 ft. (4.2 m) wide and 25 ft. (7.6 m) long. It too has four doors—the north connects it to the portería, the west to the corridor, and the south and east to the exterior. This room has been called the library because it has a bookshelf embedded in its south wall. The shelves are made with three flagstones. The most characteristic feature of this room is that the walls and the ceiling have signifi-



Figures 5.22, 5.23: South-facing view of library (photo above) and image of its vault (top photo).

cant remains of painted plaster. The decorations—based on red, blue, and yellow colors—exist around the doors, in the lower part of the wall (similar to a chair rail location), at the springline of the vault, in the end walls and in the highest areas of the vault. Decorative painting features dados on the walls and faux voussoirs architrave at the door heads. The painting technique consists of plastered surface prepared with limewash including pigments and possibly organic binder.

The iconography represented in the painted work is significant. The connection of the sun and sunlight with the Son of God is common among indigenous people of Mesoamerica. Noted scholar on this topic, Rubén G. Mendoza, describes the painted work in the library of Mission Concepción as “...a mustacheed mestizo version of the solar Christ...” (Mendoza, 2005, p.102) in his journal article on Eschatological Architecture and Solar Geometry. A survey of painted plaster at Mission San Antonio de Valero, if one were available, might reveal iconographic similarities.

This room contains a metal tie rod, the only one in the building, placed near the north wall of the room at the springline height.



Figures 5.24, 5.25:
Guest room looking
toward the east (far left
photo) and south.

Figures 5.26, 5.27: Walls
of the refectory (below)
and kitchen (bottom
photo) interiors feature
a cement-based wash,
painted white.

Guest Room

The guest room is a vaulted room located on the east side of the L-shaped block. It is 8.5 ft. wide and 23 ft. long. Currently closed to the public, it has been used as a storage room. It is accessible through a door in its south wall that connects to the courtyard, and it has two more openings, one square window in its east wall and one small opening in its north wall that was part of the chimney lined with bricks. In the east wall there is an arch that has been closed to create the room. All the walls exhibit remains of historical plaster.

Refectory and Kitchen Interiors

The refectory is located in the southwest portion of the L-shaped block, and is structurally part of the barrel-vaulted corridor on the west side. The room has a barrel-vaulted ceiling and there are openings in its north and south walls to the exterior. On its west side, the refectory is open to the kitchen through a large arch.

The kitchen is 10.8 ft. (3.2 m) wide and 18.4 ft. (5.6 m) long, and also has a barrel-vaulted ceiling, though arranged perpendicularly to the vault of the refectory. The kitchen has two doors, one in the north wall and one in the south (both leading to the exterior). There is one window in the west wall and a niche in the north wall of the kitchen.

All the walls of these two spaces have a cement-based wash, painted white.



Father President's Office, Alcove and Staircase

The area comprising the sacristy, the staircase, the portalito, and Father President's office is a two-story construction located south of the transept of the church, with which it shares a wall. The sacristy, outside the scope of this report, is a vaulted room on the ground level, connected with the church by a door in its north wall and with the staircase by a door in the middle of its south wall.)

There are many variations in construction at the area of the convento around the stone stairs. These variations are explained, as much as possible, in the section of this report about chronological development. Below is description of current physical conditions.

Exterior Walls

East Wall

The east wall has two differentiated parts. The northern part is a continuation of the two-story high transept wall of the church. It has three openings, two small windows at the ground level and one window at the upper level. The southern part, however, is a one-story high wall that corresponds to the east exterior wall of the staircase. The masonry of this part, which is composed of small rubble stones and brown mortar, also differs from that of the northern part of the wall, which is built with larger stones and a mostly gray mortar, except in the bottom part of the wall where it has been repointed with brown mortar. In the southern end of the wall there is a wooden column over the one-story high wall that helps support the sloped roof.



Figures 5.28, 5.29:
Exterior east wall of the
Father President's office.



Figures 5.30, 5.31: Exterior south wall of the Father President's office.

South Wall

The south wall, like the east wall, has two different parts—the east part, which represents almost 2/3 of the wall and is only one-story high, and the west part, which is two-stories high. In the eastern corner of the one-story part of the wall there is a wooden pillar that helps support the sloped timber roof, and in the eastern side of the two-story part of the wall, there is the start of an old window or arched opening that no longer exists. The wall is visually divided by two big buttresses, one 18.6 ft. high, placed in the western corner of the wall and another, 12 ft. high, located almost in the middle of the wall. The wall is built with small rubble stones—except in a small part around the height of 12 ft. in the western part of the wall, where some big stones can be found.



Figure 5.32: Exterior west wall of the Father President's office.

West Wall

The west wall is a two-story wall that is a continuation of the transept wall of the church, and it is reinforced in the south corner by the 18.6 ft. high stepped buttress. The wall has three openings, one arched door in the south corner of the ground level and two windows in the upper level, one (Moorish element of Spanish Colonial style) window in the south part of the wall and a square window in the northern part of the wall. The masonry in the bottom part of the wall is more regular and is made with bigger stones than the upper part of the wall. This wall has been repointed with different types of mortars, including a cement mortar patching used to cover the bricks that formed the arch of the door.

Figures 5.33–5.35: Staircase (photo at right) leading from the ground floor to the portalito outside Father President's office. Photo at left is the west wall of the staircase's ground level, and middle photo shows the Moorish arch under the landing of the upper-floor level.



Interior spaces

Staircase

The staircase is within a small area, 9.6 ft. wide and 26 ft. long, located south of the sacristy. The stair area is connected to the sacristy through a rectangular door and to the courtyard through an arched door in its west wall. The stair is located at the east end, providing vertical connection to the portalito (103 B) in the upper floor. The stair is structurally linked to the north wall, and works as a flying buttress to resist thrust of the vaulted sacristy room. The area of room 103 B is visually divided into two spaces by a Moorish arch placed under the landing of the stair to the

upper-floor level. The walls are rubble stones finished with plaster, except in the west part of the south wall, where the stones are visible. The west part of the south and west wall have been painted recently. Flagstones treads were added to give the stairs a more regular shape.



Figures 5.36–5.38: The portalito, a foyer outside Father President's office, includes a Moorish style window in its west wall (photo above left). Photos below left and above right show the room's south wall.

Portalito (103 B)

The portalito is located at the top of the staircase and it is 9.6 ft wide and 28.6 ft long. It is accessed only through the stair and it serves as foyer space before entering Father President's office. The portalito has two masonry wall openings, one rectangular door in the north wall that connects with the Father President's office and

one Moorish style window in the west wall, which provides a view to the convento barrel-vaulted roofs. Both the east part of the south wall and the east wall of the room are missing. The three walls that delimit it have remains of plaster with some areas of painted plaster. These walls, especially the north one, have several mortar patchings that have been added over the different restoration campaigns. The portalito has a sloped roof built with timber beams and joists.

Father President's Office (103 A)

Father President's office is located above the sacristy, south of the church and north of the portalito. It is 18.2 ft. wide and 26 ft. long, and it has four openings—one rectangular “tribune” door that connects (audibly and visually) with the church chancel, one rectangular window in the west wall, one rectangular door in the south wall that connects with the portalito, and one rectangular window with decorative plaster seating and a transom formed in a clamshell shape. All walls have remains of plaster with some areas of painted plaster, and in the upper part of the walls there are remains of a latex paint applied in the 1980s. The shed roof consists of wood rafters and boards.

Figures 5.39–5.41: The Father President's office includes a tribune door leading to the church (photo lower right) as well as a window with decorative plaster seating and a clamshell-shaped transom. All four walls include remains of plaster. Photo upper right shows the south wall, which has a door connecting to the portalito.



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Study of Previous Assessments and Projects

Introduction A comprehensive conservation effort involving four San Antonio Missions was launched in the 1970s by the NPS together with ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property), when David Battle from NPS and Giorgio Torraca from ICCROM visited the missions and advised in situ conservation of architectural and decorative features of the site.

Commencing with Giorgio Torraca's recommendations, the NPS embarked on a preservation program that would include monitoring and maintenance, historic research and building materials analysis and special projects on the four San Antonio missions (Bass & Rivera, 1994).

In 1988, the first decorative plaster conservation works were carried out after a two-year investigation program. A team of Italian mural conservators and their American assistants cleaned and consolidated some interior surfaces of the convento and aesthetically reintegrated the decorative scheme with paints, covering graffiti and filling areas of lost color.

This work was repeated, with similar materials but by different individuals, in the 1990s and in 2001.

This report presents a description of the main condition assessment documents produced since the 1980s as well as reports on conservation works that are carefully analyzed, both to spark the most suitable process of investigation to assess the actual condition of the structures and to propose appropriate treatment guidelines.

On the following pages is a list of the available unpublished reports identified and consulted for the present study. Any item on the list concerning the convento is blocked in gray tone.

Table 6.A.1:
Previous Reports of
Condition Assessment
and Conservation
Treatments

Date	Author	Title	Described Location
2015	Judith M. Jacob, Senior Conservator, National Park Service Northeast Region	San Antonio Missions National Historical Park Nuestra Señora de la Purísima Concepción: Record of Observations and Recommendations for Protection of Spanish Colonial Finishes in the Convento Convento	Convento
2012	Prepared by: Conservation Associates, Inc. For: Ford, Powell & Carson, and the Archdiocese of San Antonio	Mission Concepción Exterior Finishes Survey 2011. Mission Nuestra Señora de La Purísima Concepción de Acuña Stucco & Decorative Scheme	Church
2011	Ivan Myjer	Emergency Façade Emergency Stabilization of Carved Limestone and Exterior Renders at the West Front Pediment	Church Façade
2011	Ford, Powell & Carson	Interior Restoration, Completion Report	
2010	Ford, Powell & Carson	Completion Report Plaster Intervention	
2009	Restoration Associates Limited	Missions Concepción, San Antonio, Texas, Documentation of South Eastern Exterior Walls Requiring Masonry Repairs. Edge Stabilization of Exterior Walls Containing Spanish Colonial Plaster located outside Father President's Office	Outside Father President's Office
2009 Sept.	Restoration Associates Limited	Mission Concepción, San Antonio, Texas Exterior Finish Plaster Sample Documentation	Sacristy Library Plaster

**Table 6.A.1: (cont.)
Previous Reports of
Condition Assessment
and Conservation
Treatments**

2008 May	Restoration Associates Limited, LLC Mary C. Jary, Elisa R. Jary, Pamela J. Rosser	Exposing Historic Wall Plasters and Pigments Father President's Office at Mission Concepción San Antonio, Texas Prepared for San Antonio Missions National Historic Park	Father President's Office
2003 March	Ford Powell & Carson	San Antonio Missions: Condition Assessment and Preservation Analysis Volume I	Church
2002		Conservation Treatment— Paint Analysis	Baptistery
2002	Restoration Associates Limited	Conservation Treatment in North Bell Tower	Church
2001		Mission Concepción Barrel Roof Waterproofing. Progress Report	
2001	Restoration Associates Limited	Mission Concepción Library and Convento Conservation Project Report Prepared for San Antonio Missions National Historic Park and Los Compadres	Library
1999 April	Katherine Anne McDowell University of Pennsylvania	Documentation Analysis of Conditions and Emergency Treatments in the Library of Mission Concepción	Library
1998	Angelyn Bass & Kevin McDowell	Emergency Treatments in the Library of Mission Concepción	Library Emergency Treatments
1998 Sept.	Restoration Associates Limited Mary C. Jary Pamela J. Rosser	Condition Assessment and Moisture Measurements. Mission Concepción Library and Convento	Library

**Table 6.A.1: (cont.)
Previous Reports of
Condition Assessment
and Conservation
Treatments**

1997 Sept.	Anthony Crosby	Mission Concepción Library Conditions Monitoring SAAN CONC 104E	Library
1997 April	Anthony Crosby	San Antonio 1988 Conservation Project Completion Report Mission Concepción Con- vento and Mission San José Convento Completion report	Convento
1996	Architects James and Juarez	San Antonio Missions National Historic Park Mission Concepción Cultural Landscape Report Volume 3a	
1993		Mission Concepción Quarry, Adjacent Grotto and Statuary	
1991 March	Diana Motiejunaite (Architectural Conservator, Lithuania IC- CROM), Robert Gonzalez (Mason) and with the edi- torial assistance of Hank Florence	Paint and Plaster Conservation in the Three Rooms at Mission Concepción	Room #1: Portería Room #2: Old Storeroom Room #3: Father President's Office
1990 August	Diana Motiejunaite (Architectural Conservator, Lithuania, USSR), with the editorial assistance of Hank Florence	Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción	Room #1: Portería Room #2: Old Storeroom Room #3: Father President's Office
1990	Quirarte	Emergency Repair Decorative and Applied Art	
1989 May	James B. Oliver (Landscape Architect)	Wayside Exhibits Completion Report San Antonio Missions National Historical Park	

**Table 6.A.1: (cont.)
Previous Reports of
Condition Assessment
and Conservation
Treatments**

1989 March	Anthony Crosby	Cultural Landscape Recommendation Mission Concepción San Antonio Missions National Historical Park	
1988 July 7	Anthony Crosby	Summary Project Report for the Paint and Plaster Conservation Project at San Antonio Missions National Historic Park: A Joint National Park Service, US/ ICOMOS, and ICCROM Undertaking	Library (Eye of God Room)
1988	ICCROM (Carr & Boticelli, conservators)	Concepción Library	
1988		Geotechnical Investigation. Mission Concepción & Kiosk	
1986		Identification and Elimination of site and environmental factors affecting Mission Concepción	
1986	Peggy Albee	Analysis of Paint and Plaster North Atlantic Preservation Center	
1982	Mary Ann Noonan Guerra	The Missions of San Antonio	SA: The Alamo Press

**1988 Summary
Project Report for
the Paint and Plaster
Conservation
Project at San
Antonio Missions
National Historical
Park; a Joint National
Park Service,
US/ICOMOS,
and ICCROM
undertaking**

Anthony Crosby

The National Park Service (NPS) undertook a conservation project of the Spanish Colonial period decorative surfaces in the conventos of Missions Concepción and San José in a cooperative effort with the Southwestern Region, US/ICOMOS, and the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM).

The report described deterioration issues of the structure and conservation works to be carried out in the conventos of Missions San José and Concepción in July and August 1988. The project was funded by Los Compadres de San Antonio Missions, a local organization providing support for San Antonio Missions National Historical Park. The sponsoring organization has since changed its name to Mission Heritage Partners.

The report is organized as follows: Description of the decorative surfaces; Conservation treatments; Appendices.

Appendices

- Appendix A: Study of mortar and paint analysis conducted at the conventos of San José and Concepción, San Antonio, Texas;
- Appendix B: Specification—Lime plaster reattachment
- Appendix C: “Injection Grouting of Mural Painting,” Paris, September 2–8, 1984, ICC, London, 1984;
- Appendix D: Role and Responsibility of the project;
Appendix D (The report has two appendices that are labeled Appendix D): Excerpts from “An Archaeological Investigation of Mission Concepción, San Antonio, Texas” by Dan Scurlock and Daniel E. Fox, 1977 containing Analysis of Painted plaster
- Appendix E: Drawings and Notations of Missions San José and Concepción by Ernst Schuchard.

The causes of deterioration at Mission Concepción were not clear, therefore before any intervention, data collection was undertaken through the monitoring of microenvironment and wall conditions to determine the cause-effect relationship of the decay. Such monitoring occurred over a period of two years. Based on the result of monitoring, two actions were taken: in 1987 the entire exterior surface was repointed and vegetation removed, and the exterior ground surface next to the walls was regraded and paving bricks reset to ensure correct drainage.

The proposed conservation treatments to be carried out in the library and the arcades focused mostly on the reattachment of delaminated plaster through injection of cementitious adhesives in the void.

In the library, the numerous repairs made throughout time created a visual

intrusion in the continuity of the figurative pattern of the decorated walls; therefore, removal of patches was proposed, together with the removal of wax or other materials which were at that time impacting the reflectivity of the surface.

The materials proposed for stabilizations were: 1) Acriloid B72; 2) Barium hydroxide.

Conservation workers did not want to affect the visual quality of the surfaces, therefore the presentation of the surface was considered one of the main conservation goals. Specifications of the materials to be used are included in the document's appendix.

Further details of this conservation campaign as well as the monitoring of the structures is described more in detail in the 1997 report that follows.

1988 Summary Project Report for the Paint and Plaster Conservation Project at San Antonio Missions National Historical Park; a Joint National Park Service, US/ICOMOS, and ICCROM Undertaking

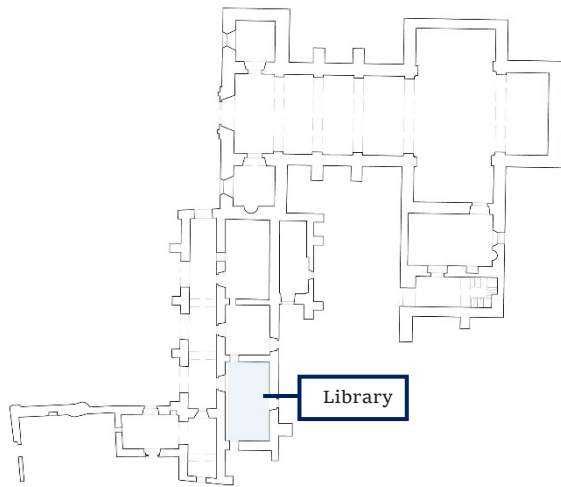


Figure 6.A.3: Mission Concepción library, view looking south, prior to 1988 conservation works. Reprinted from *Summary Project Report for the Paint and Plaster Conservation...*, by Anthony Crosby, 1988, p. 5.

Figure 6.A.4: Mission Concepción, arcade of cloister. Work of consolidation and reattachment. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 55.

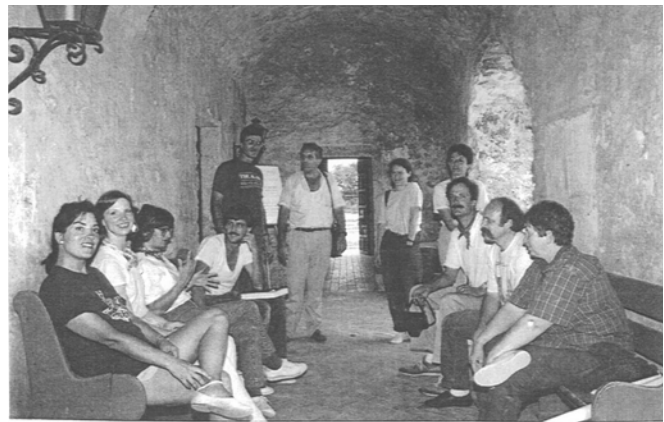


Figure 6.A.1: Member of the Conservation team in August 1988. From left to right: B. Sullivan, S. Sess, C. Jarey, M. Hosti, T. Crosby, C. Boticelli, A. Popple, D. Zari, H. Florence, A. Bohnert and, D. Cox. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. vii.

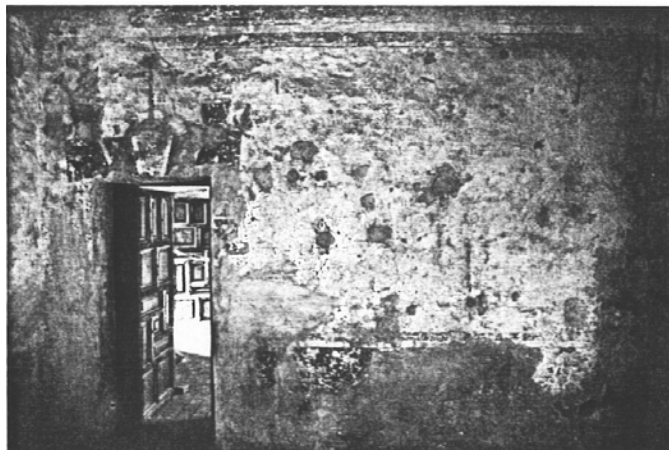
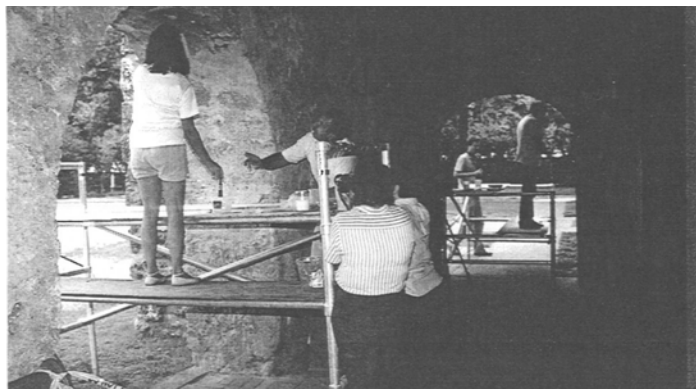
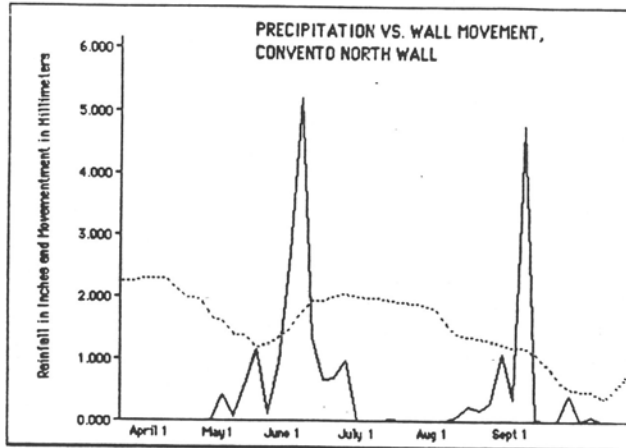


Figure 6.A.2: Mission Concepción library, view looking north, prior to 1988 conservation works. Reprinted from *Summary Project Report for the Paint and Plaster Conservation...*, by Anthony Crosby, 1988, p. 5.





1988 Summary Project Report for the Paint and Plaster Conservation Project at San Antonio Missions National Historical Park; a Joint National Park Service, US/ICOMOS, and ICCROM Undertaking

Figure 6.A.5: A monitoring of the microenvironment was undertaken for two years prior to 1988 conservation works. The chart shows interval wall moisture vs. rainfall in west wall at Concepción library. Reprinted from 1988 *Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 9.



Figure 6.A.6: Vaulted ceiling in the library at mission Concepción with a detail of the “Eye of God,” showing patches and 20th-century repairs. Reprinted from *Summary Project Report for the Paint and Plaster Conservation...*, by Anthony Crosby, 1988, p. 12.



Figure 6.A.7: Roof condition in 1988. A design for roof replacement was carried out in 1988. Reprinted from *Summary Project Report for the Paint and Plaster Conservation...*, by Anthony Crosby, 1988, p. 10.

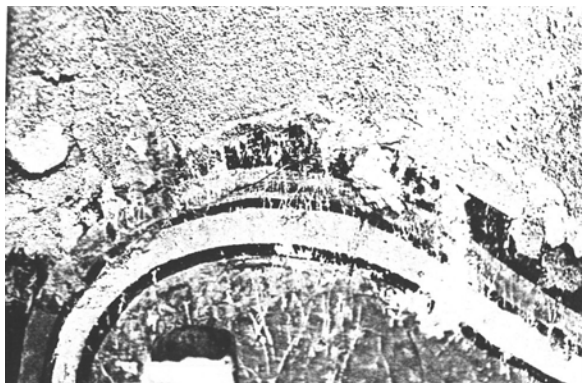
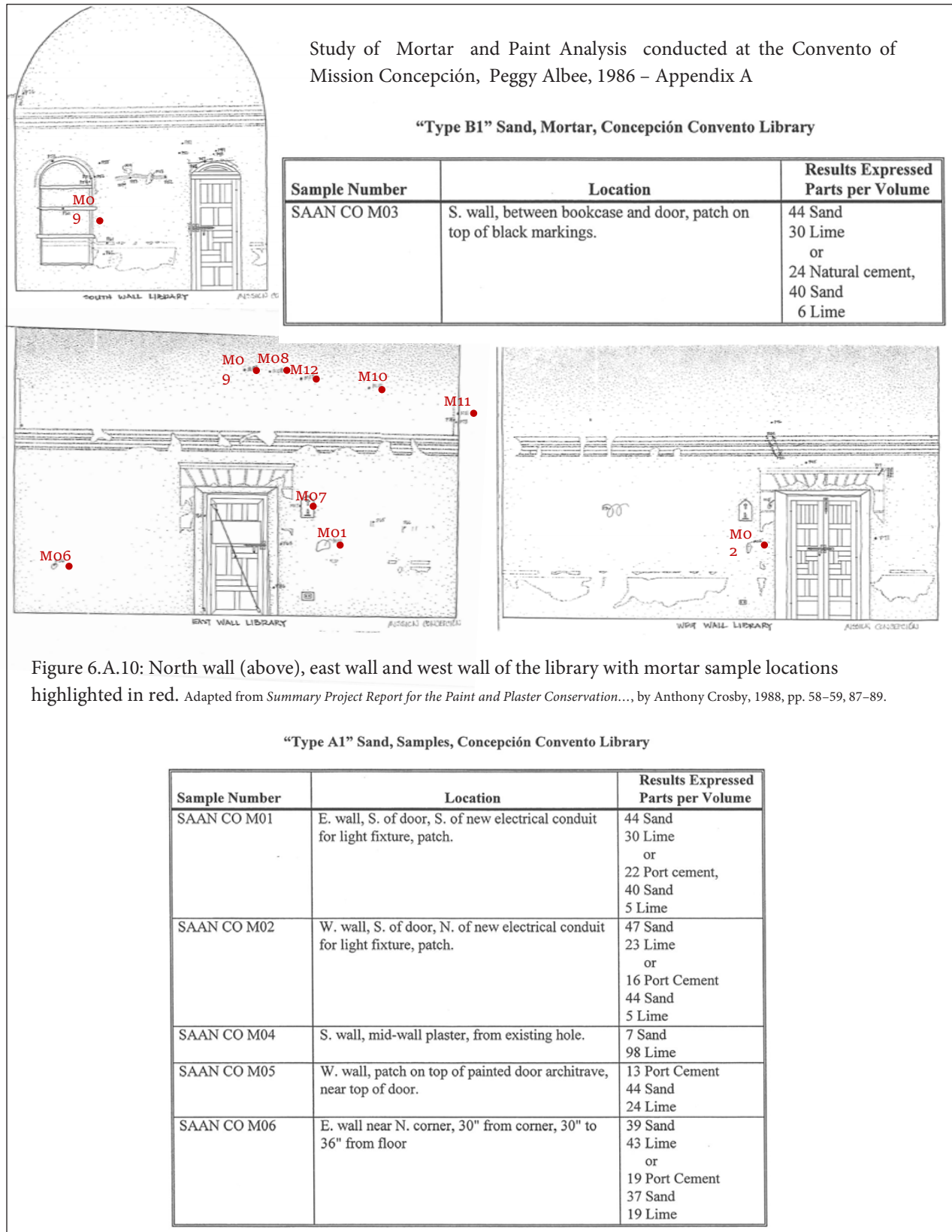


Figure 6.A.8: A painted volute after conservation treatment consisting of reattachment, consolidation, and application of stucco infill. Reprinted from *Summary Project Report for the Paint and Plaster Conservation...*, by Anthony Crosby, 1988, p. 15.



Figure 6.A.9: Example of reintegration of color carried out by the conservator. Reprinted from *Summary Project Report for the Paint and Plaster Conservation...*, by Anthony Crosby, 1988, p. 15.

1988 Summary Project Report for the Paint and Plaster Conservation Project at San Antonio Missions National Historical Park; a Joint National Park Service, US/ICOMOS, and ICCROM Undertaking



1988 Summary Project Report for the Paint and Plaster Conservation Project at San Antonio Missions National Historical Park; a Joint National Park Service, US/ICOMOS, and ICCROM Undertaking

“Type C1” Sand, Mortar, Concepción Convento Library

Sample Number	Location	Results Expressed Parts per Volume
SAAN CO M07	E. wall, west of electrical light fixture, 5'-6" from floor	26 Sand 76 Lime
SAAN CO M09	Barrel vaulted ceiling, E. side at center.	38 Sand 71 Lime
SAAN CO M12	Barrel vaulted ceiling, E. side, 12" S. of door jamb, halfway up the vault.	32 Sand 94 Lime

“Type D1” Sand, Mortar, Concepción Convento Library

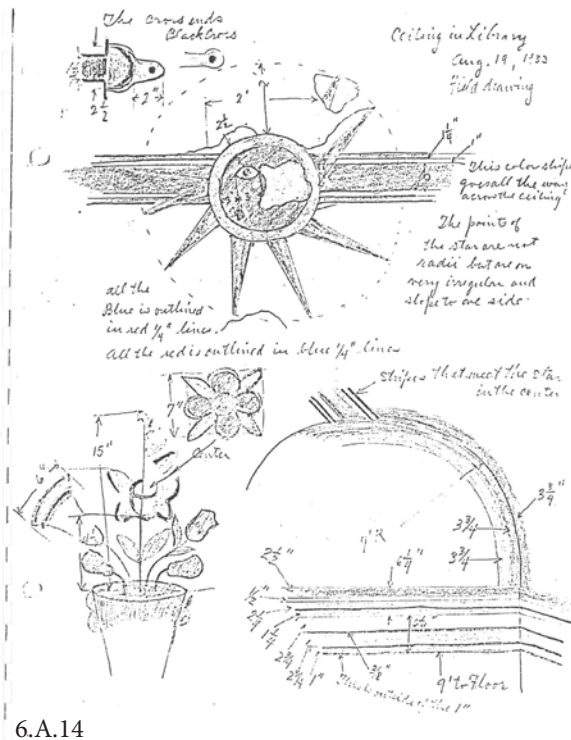
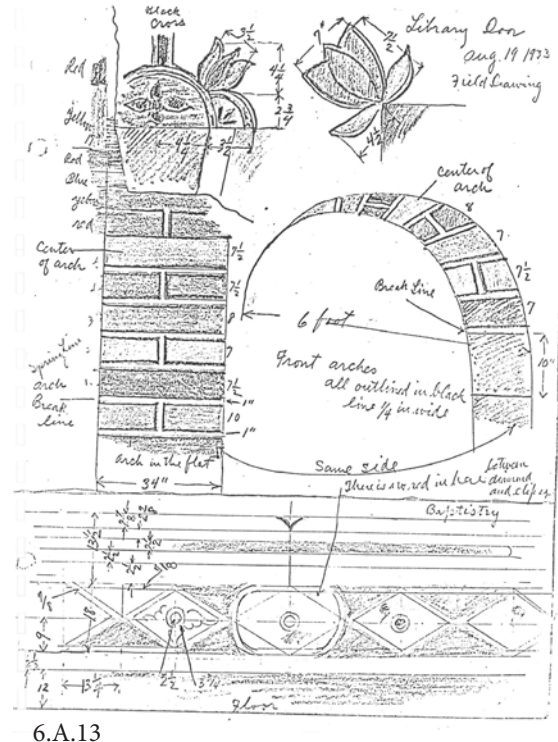
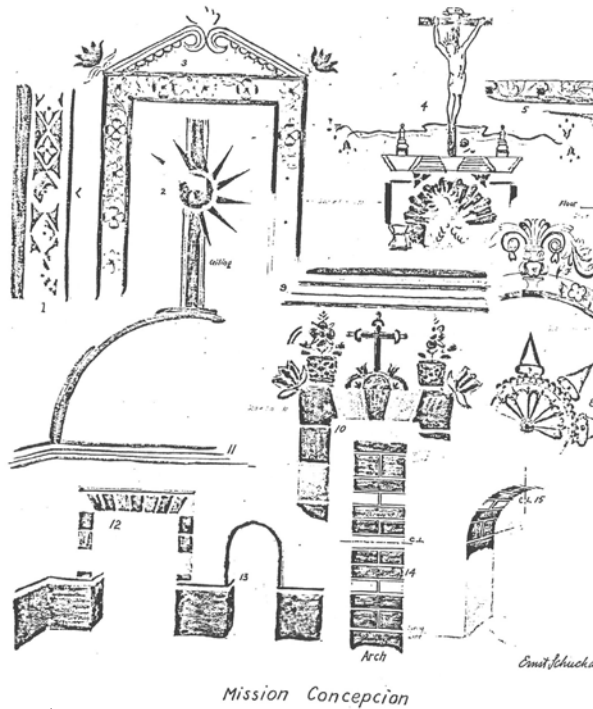
Sample Number	Location	Results Expressed Parts per Volume
SAAN CO M08	Barrel vaulted ceiling, E. side, to S. of center.	36 Sand 48 Lime
SAAN CO M10	Barrel vaulted ceiling, E. side, one quarter distance from south wall, near plaster edge line.	37 Sand 49 Lime
SAAN CO M11	S.E. corner where barrel vault meets S. end wall, just above spring line.	36 Sand 45 Lime

Figure 6.A.11: Reprinted from *Summary Project Report for the Paint and Plaster Conservation...*, by Anthony Crosby, 1988, pp. 60–61.

Paint analysis was also conducted in the library, to understand if earlier decorative painting existed and to identify the areas of graffiti.

- Two different reds were found. One was described as “burnt sienna” (Albee, 1986, p. 30). The second red was found in samples from north wall, possibly “vermillion or cinnabar” (Albee, 1986, p. 30).
- A paint pastel blue in situ appeared as red under the microscope. However, a clear distinction was made by Schuchard in 1933 as specified in the report. The black particles were interspersed amidst the finer lime-based paint, mixed within the lime.
- Yellow and ochre color was consistent throughout the library and matched Munsell 10YR6/8.
- White stripes appeared to be whitewashed.
- Several areas of the room displayed a coating-like substance over the paint, looking like a wax under the microscope. It was interpreted as a conservation effort.
- Segments of green stripes from the south wall were categorized as “graffiti” and were assessed as post-historic.
- Turquoise fragments of graffiti were also considered post-historic.
- Paint analysis showed that no decorative work was hidden beneath the existing decoration, suggesting that most of the pigmented application was probably contemporary.
- Samples were also taken from the convento corridor and the room used as ranger’s office: red paint, dark gray paint, were found in the first area, whitewash layer was found in the second room.
- The study and consultation of historic documents—i.e. 19th-century photographs, a 1931 article of *San Antonio Light* describing the decorative painting under layers of whitewash, a thorough research of the Schuchard collection, part of it donated to the Alamo, and an interview with Mrs. Anne Hebdon—is suggested.

1988 Summary Project Report for the Paint and Plaster Conservation Project at San Antonio Missions National Historical Park; a Joint National Park Service, US/ICOMOS, and ICCROM Undertaking



Figures 6.A.12–6.A.14: From Crosby, 1988, Appendix E: “Drawings and Notations of Missions San José and Concepción, by Ernst Schuchard,” also in Crosby, 1997, Appendix B-2. The sketches in the 1988 report are numbered with an associated caption, which provides a brief description and the location of the sketch.

The 1988 report also includes—as Appendix C—the “Fresco Painting of the Missions” written by Schuchard and property of the DTR Library. These drawings could have been useful for identifying the best sampling location in the 1986 mortar and paint analysis campaign. Unfortunately, they were received too late, when the campaign was already taking place.

**1990
Recommendation
for Paint and Plaster
Conservation in the
Three Rooms at
Mission Concepción**

*Diana Motiejunaite
(Architectural
Conservator,
Lithuania, USSR),
with the editorial
assistance of Hank
Florence*

The purpose of this report was to document the condition of wall surfaces of three rooms of the convento in order to create a scope of work for the preservation of the wall art, including conservation, maintenance and interpretation.

The three rooms investigated were:

- 1) Father President's office—room #3
- 2) The old storeroom—room #2
- 3) Portería—room #1

Table of contents:

- Purpose of Report
- Vicinity and Location
- Brief Building History
- Investigation Procedure
- Rooms Described
- Conclusions
- Recommendation
- Sources
- Wall Descriptions

The report included a brief introduction on the history of the structure, a general description of the location of the rooms, construction techniques overview and finishes—made of polychrome painted plaster, considered to be of more utilitarian nature than the one in the church and sacristy.

The investigation procedure included the follow-up correspondence of the conservation works carried out in 1988, interview with the historical park architect and a comparative analysis with other paint decoration in other mission structures in Mexico—and also Spain—and the study of religious symbols. The field investigation included visual examination, cleaning testing areas cleaned with water and mortar sampling and paint layer investigation.

In the portería, the walls with less damage were the north and south elevations, due to their internal location. Moisture problems associated with drainage were described, humidity was also present at the springline of the vault.

The author described the presence of numerous repairs, carried out with different techniques causing “visual intrusion.” She also mentioned that in some damaged areas plaster over masonry had not been replaced. The most damaged walls appeared to be the east and the west ones, with evident moisture problems due to improper drainage, on the east side, and roof problems, especially on the “walkway.” The area close to the west door exhibited salts and discoloration due to mineral deposits moved through water. Due to moisture and to the related

consequent high deterioration rate, most painted surface had disappeared.

An investigation of door frames and niches helped to determine if paint decoration—similar to the one in the library—existed. The conservator assessed:

- All doors had score lines around them—although difficult to detect.
- No cornice line and other painting was found in the vault.
- No wainscot line appeared in the room.
- Painted plaster between the score lines and door frames were dark ochre, black and blue. A stove, located in the northwest corner of the room, probably produced deposits/dirt to make these color traces appear darker than they originally were.

The old storeroom (room #2) was described to be in good condition. Large plaster sections of the lower wall were replaced in 1988, which included the replacement of concrete patches with lime-based mortars. In numerous areas of the room patches were causing “visual intrusion.” Original plaster could be found intact above the doors and around the windows:

- Score lines were visible on the east and west walls, with trace of ornamentation similar to the ones in the portería located in the south door.
- Painted plaster around the south door exhibited brown color inside the score line, a light yellow outside the line, and green.
- Painted plaster near the window on the west wall was also found to be a dark red polychrome.
- Original wall surfaces are rougher with a plaster softer and sandy—similar to the library.

The Father President’s office (room #3) had the interior walls covered with plaster, of which only 40% was original, located in the upper section of the walls, more protected from damage. Original plaster was similar to the other two rooms, but was covered with two coats of modern gray paint, not allowing the study of original polychromy. Also the presence of numerous graffiti was mentioned.

- Bright red paint, probably of a wainscot design.
- A dark brown paint was found around the opening of the church and at the door.
- Presence of score lines, such as the one found on the left side of the door, was also identified.
- On the east elevation, the motif above the window was painted a dark ochre color, with the wainscot design extending to this section;
- The red color in this room is brighter than the one found in the convento’s rooms.

NOTE: All score marks were made in the wet plaster, providing the outline for the painted “architectural” details, appearing as wainscot, horizontal band at the height of the wainscot, and details around the windows and doors.

All background areas—such as the ones above the wainscot, in vaults and in horizontal bands—did not have decorative paint and featured one or two coats of thin wash of ochre color.

The 1990 report concluded with treatment recommendations for the three rooms, including:

- cleaning
- removal of concrete patches to be replaced with lime mortar
- reattachment of friable paint
- exposure of original paint where materials are extant
- consolidants for deteriorated plaster.

The report also addressed the importance of creating a comprehensive interpretation plan, which would have included the presentation of the faded decoration patterns and the restoration works carried out in 1991.

1990 Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción

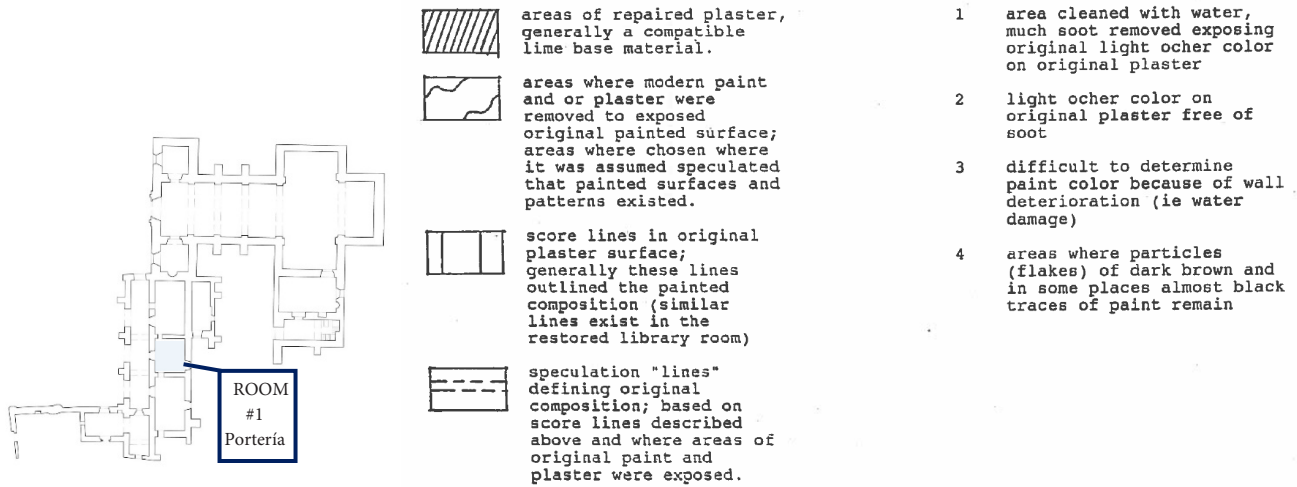


Figure 6.A.15: North wall—room #1

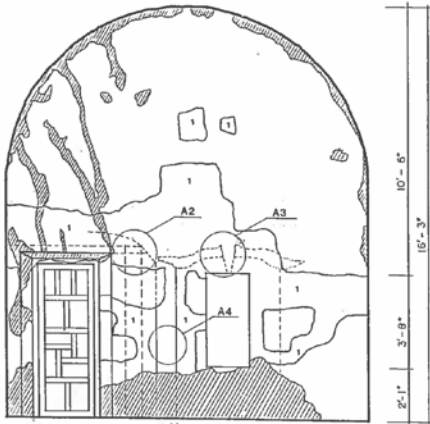


Figure 6.A.16: East wall—room #1

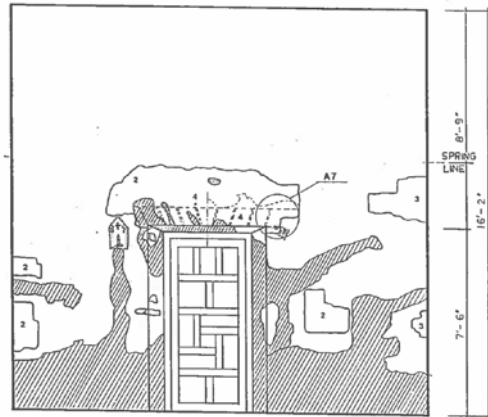


Figure 6.A.17: South wall—room #1

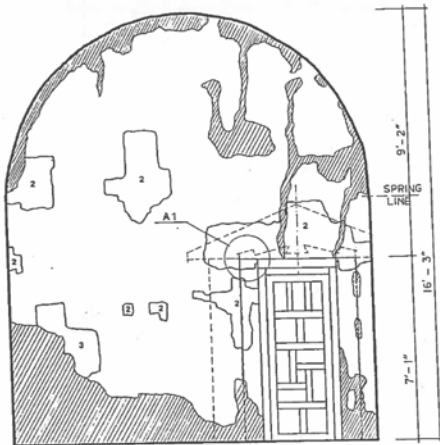
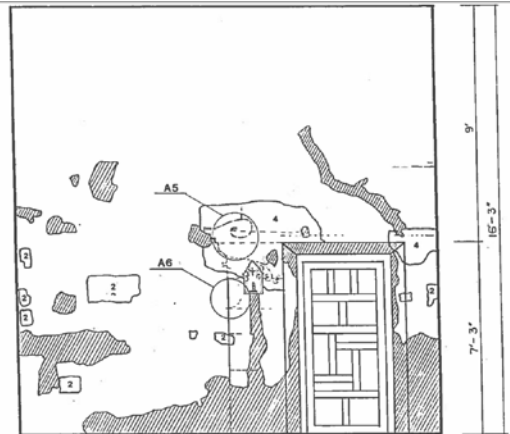


Figure 6.A.18: West wall—room #1



Figures 6.A.15–6.A.18 adapted from *Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción*, by Diana Motiejunaite, 1990.

1990 Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción

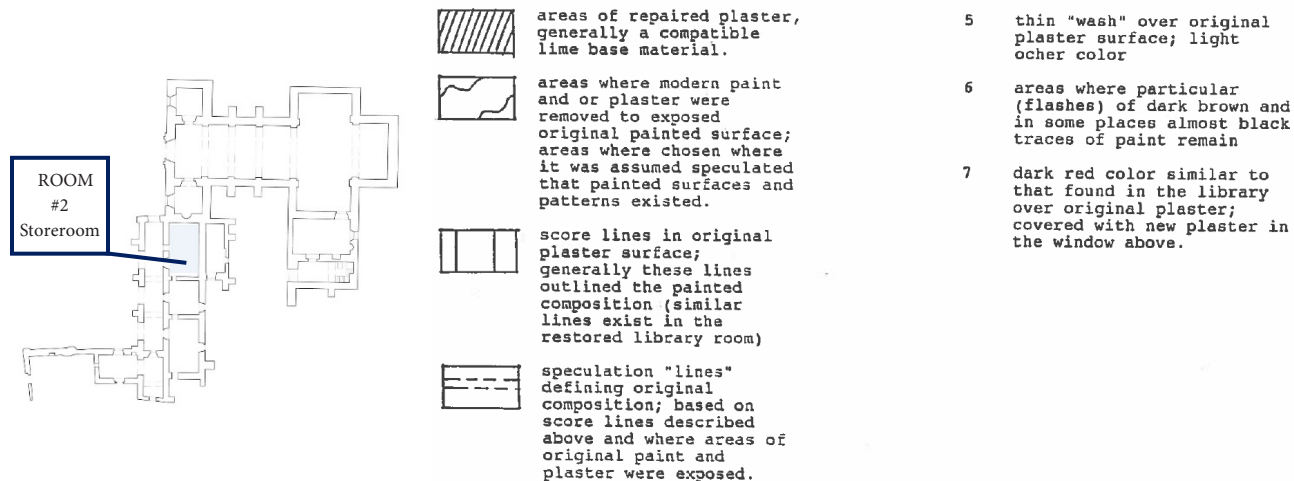


Figure 6.A.19: North wall—room #2

Figure 6.A.20: East wall—room #2

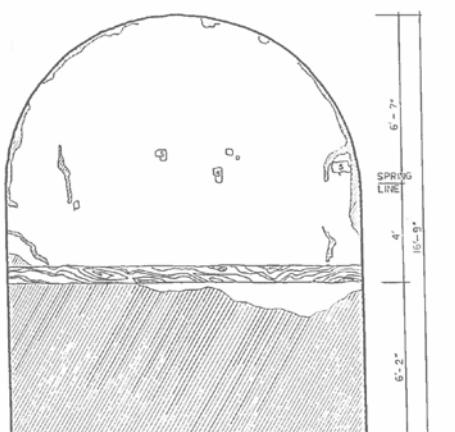


Figure 6.A.21: South wall—room #2

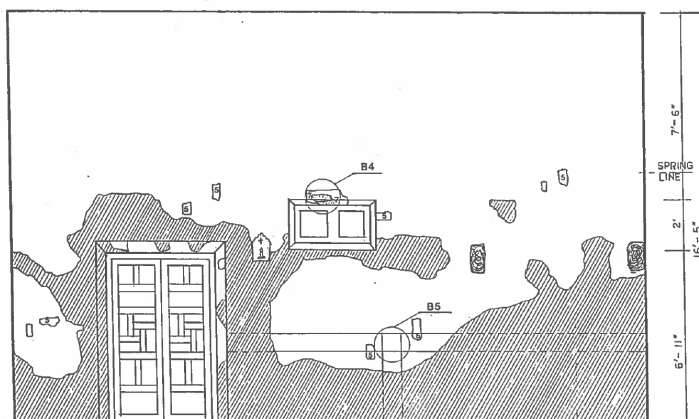
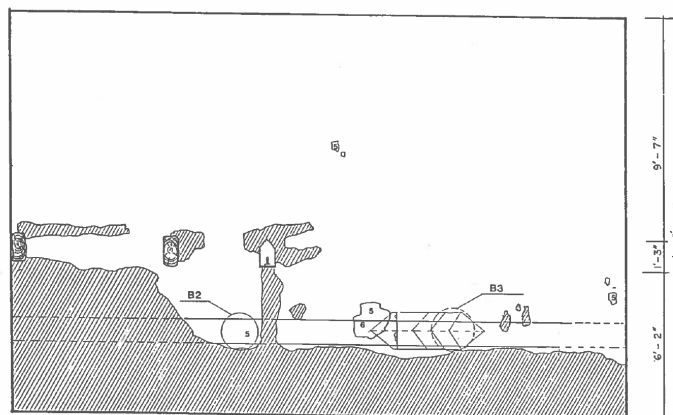
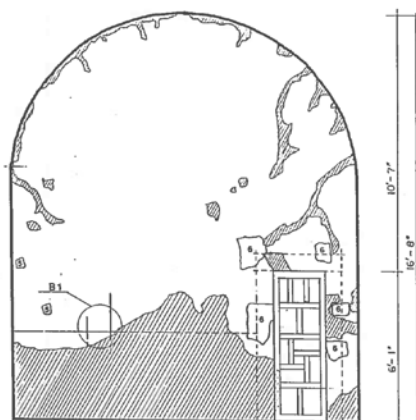


Figure 6.A.22: West wall—room #2



Figures 6.A.19–6.A.22 adapted from *Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción*, by Diana Motiejunaite, 1990.

1990 Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción

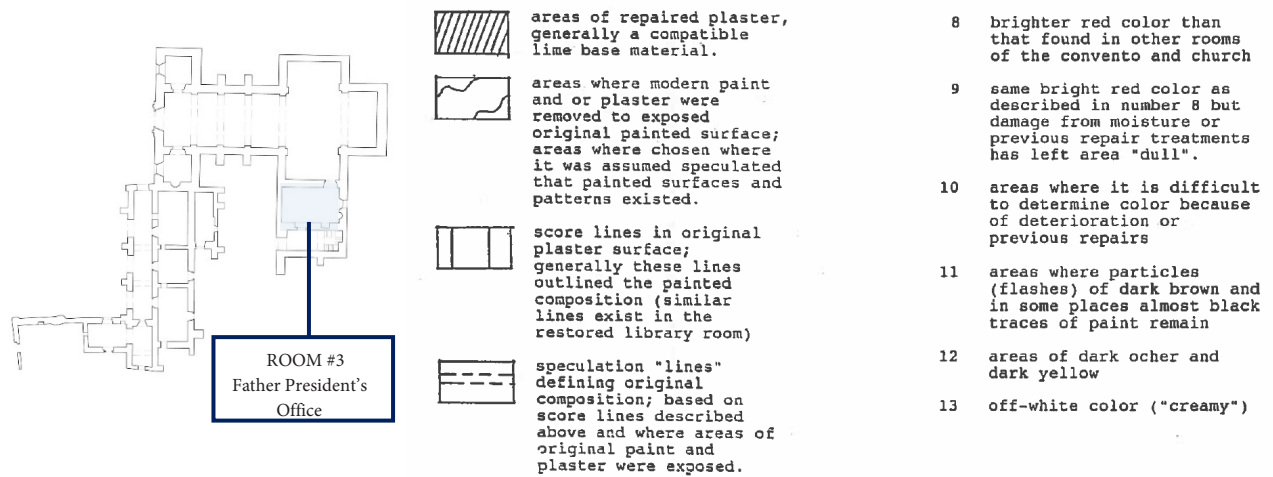


Figure 6.A.23: North wall—room #3

Figure 6.A.24: East wall—room #3

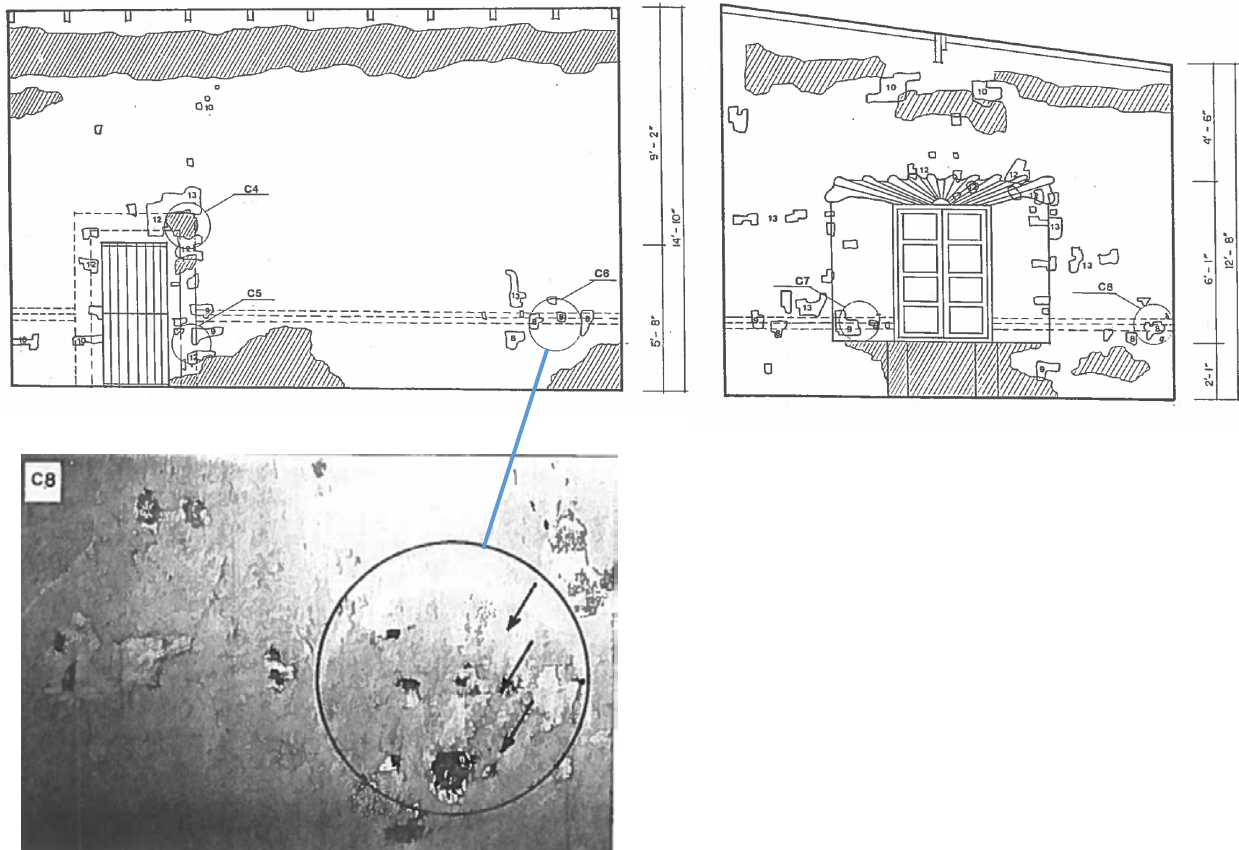


Figure 6.A.25: Marks and colors of wainscot design.

Figures 6.A.23–6.A.25 adapted from *Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción*, by Diana Motiejunaite, 1990.

1990 Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción

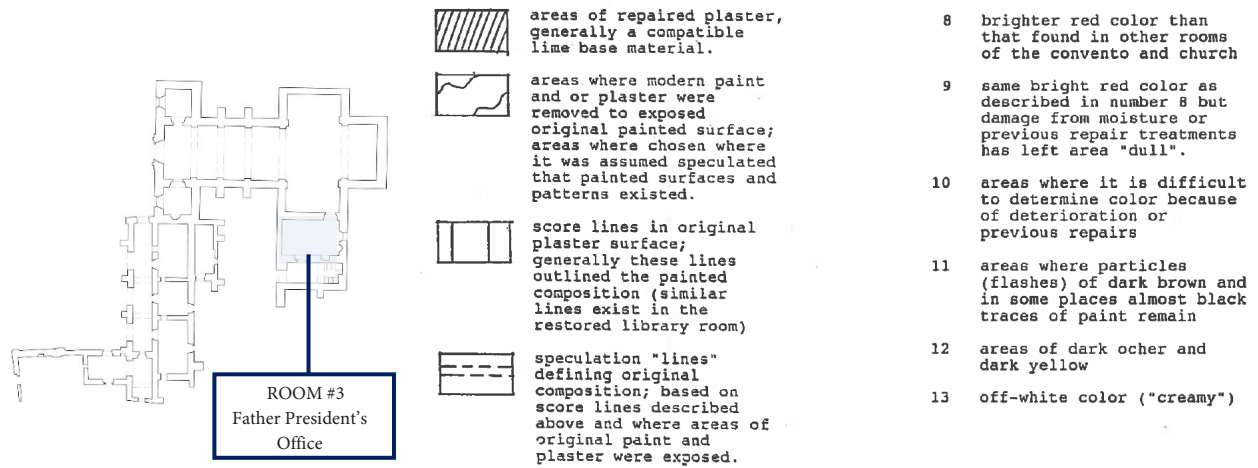


Figure 6.A.26: South wall—room #3

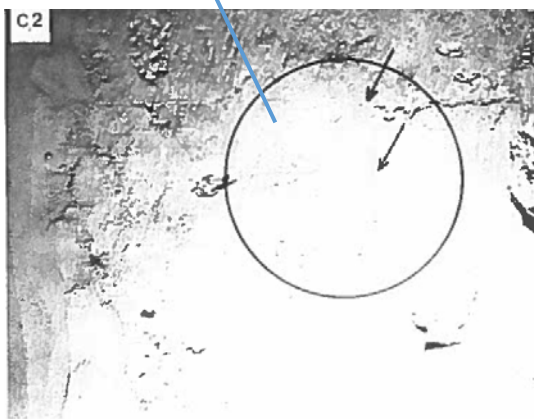
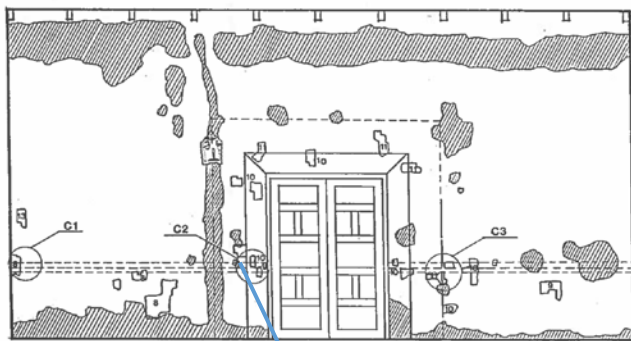


Figure 6.A.28: South wall. In the door alcove, the wainscot design extended to the wood frame (C2).

Figure 6.A.27: West wall—room #3

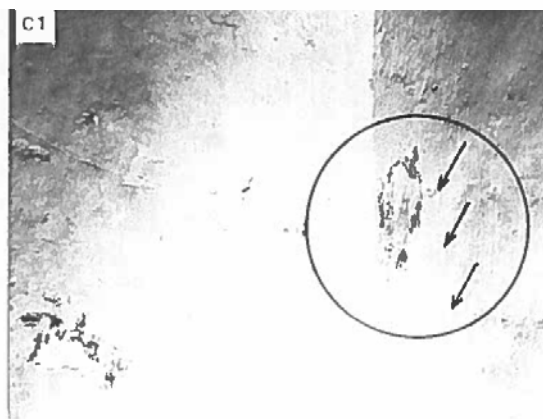
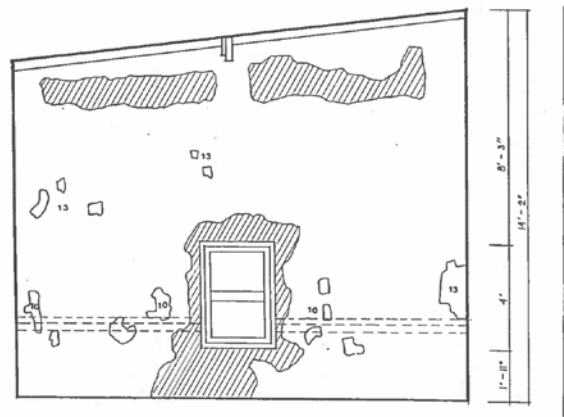


Figure 6.A.29: South wall. Corner of the room showing score lines of wainscot detail and original paint (C1).

Figures 6.A.26–6.A.29 adapted from *Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción*, by Diana Motiejunaite, 1990.

**1991
Paint and Plaster
Conservation in the
Three Rooms
at Mission
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*Diana Motiejunaite
(Architectural
Conservator,
Lithuania, USSR),
with the editorial
assistance of Hank
Florence*

This report presented the implementation stage of the work carried out in 1990, described in previous pages of this HSR. The three rooms, subject of the report, still retained portions of original paint and plaster.

Although in fragmentary state, they provided information on the original appearance and technique of installation. The work focused on two primary tasks: removing from the walls and ceiling surfaces deposits and improper previous repairs and salts; improving the overall appearance of the original paint and plaster finish. This report was produced during the author's participation in a six-month intern program sponsored by the US/ICOMOS.

Table of contents:

- Purpose of Report
- Vicinity and Location
- Method of Treatment
- Investigation Procedure
- Rooms Described
- Source
- Photo Documentation

Treatment methods were organized in phases and organized as follows:

- Cleaning. Three methods of cleaning were used.
 1. Water cleaning with distilled water. Water cleaning with distilled water was carried out on the majority of the surfaces and to all treated areas after other treatments.
 2. Chemical cleaning with a dilute solution (less than 5%) of ammonium carbonate.
 3. Scraping of non-historic whitewashed areas with a sharp scalpel.
- Removal of concrete patches.
- Repair of holes with lime-based patches. Repair mix varied according to location, application and desired final appearance.

Table 6.A.2:
Remedial Treatments
to the Portería

*Adapted from Paint and Plaster
Conservation in the Three Rooms
at Mission Concepción, by Diana
Motiejunaite, 1991*

Treatment	Goal	Treatment description
Cleaning—Water cleaning	Removal of deposits, strains and dirt	Use of distilled water
Cleaning—mechanical	Removal of non-historic paint layers consisting of friable whitewashed areas	Hand scraping of the two layers of limewash with blades and sharp scalpel
Cleaning—chemical		Application through a brush of a solution of dilute ammonium carbonate and water. Sponged out dry with a tissue to remove the soil. This technique was used in the conservation works of 1988
Removal of concrete patches—mechanical	• Removal of materials not compatible and damaging historic plasters • Exposure of historic surfaces hidden by over plastered areas	Removal with scalpels
Removal of soot stains—around the old stove and chimney location		Poultice With trisodium phosphate and bleaching power
Repair of holes created by the removal of concrete patches	• Chemical compatibility • Visual harmony • Separation between new and original work, while allowing the original to stand out	New patching made of: • 3 parts of lime; • 2 parts of white Portland cement. The new repair was applied slightly lower than the original surface
Repair with new plaster	Color matching was achieved through the selection of naturally colored sand	• Plastering: mixture of 5 parts of sand; 3 parts of lime; 2 parts of white Portland cement • Mixture of the lower parts of the wall ('softer'): 7 parts of sand; 2 parts of lime; 1 part of Portland cement (lower part of the portería)
Surface finishing	Improving the aesthetic presentation	Tinting with 'dirty water' (water color base)—to be carried out after the during period

Table 6.A.3:
Remedial Treatments
to the Old Storeroom

*Adapted from Paint and Plaster
Conservation in the Three Rooms
at Mission Concepción, by Diana
Motiejunaite, 1991*

Treatment	Goal	Treatment description
Cleaning—mechanical	Removal of non-historic paint layers	Removal of deposit with a soft brush.
Cleaning—chemical		Application through a soft bristle brush of a Solution of dilute ammonium carbonate and water. Sponged out dry with a tissue to remove the soil. Repeated several times in dirty areas.
Removal of graffiti		Dilute solution of trisodium phosphate. Rinsing with distilled water.

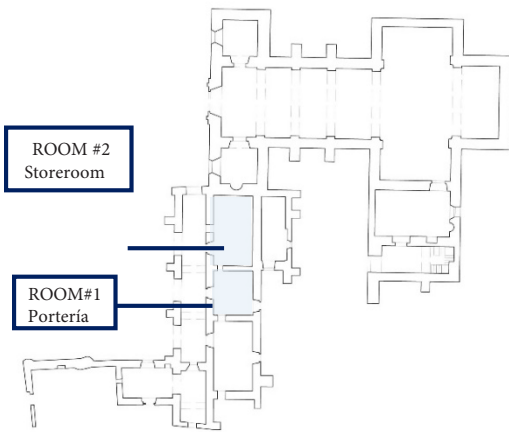
The surfaces that were revealed were “very similar to the areas of the library in texture and body color” (Motiejunaite, 1991, p. 8).

Table 6.A.4:
Remedial Treatments
to the Father
President's Office

*Adapted from Paint and Plaster
Conservation in the Three Rooms
at Mission Concepción, by Diana
Motiejunaite, 1991*

Treatment	Goal	Treatment description
Cleaning—mechanical	Removal of non-historic paint layers	Removal of deposit with a sharp scalpel.
In case of very hard material, it was supported by: Cleaning—chemical		Application of a dilute solution of trisodium carbonate. Rinsing with distilled water.
Removal of graffiti		Dilute solution of trisodium phosphate. Rinsing with distilled water.
Patching of holes and cracks		Repair with same mortar mix explained above.

Treatments focused at removing modern paint from three areas located in the lower west wall, uncovering a wainscot motif of burnt sienna and ochre base color above.



1991 Paint and Plaster Conservation in the Three Rooms at Mission Concepción

Figure 6.A.30: North wall—room #1

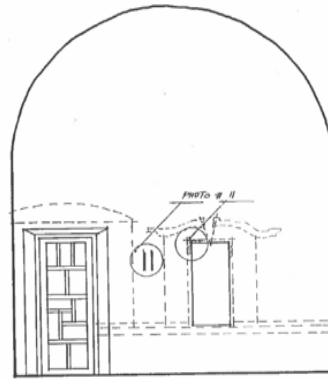


Figure 6.A.30: Room #1. North wall. Whitewash was removed from the North wall and patching of numerous areas added. Soot stains were visible at stove location.

Figure 6.A.31: Room #1. West wall. Traces of wall decoration remained above the door of the west wall. Replastered areas.

Figure 6.A.31: West wall—room #1

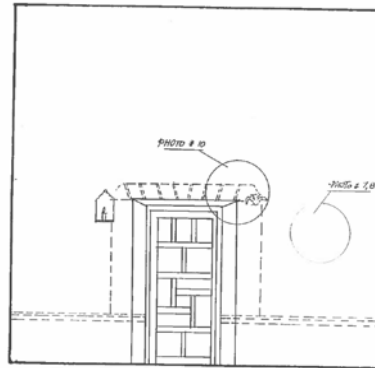


Figure 6.A.32: Room #1. South wall. Limewash and graffiti were removed and various patching treatments were carried out.

Figure 6.A.33: Room #2. Major restoration works were carried out in this room in the 1930s. The author reported major plaster repair works occurred in this room as part of the 1988 project. On the south wall, faint black line drawings in the center of the south wall and lines around the door frame were identified. The finish surface of these walls is smoother than in the portería.

Figure 6.A.32: South wall—room #1

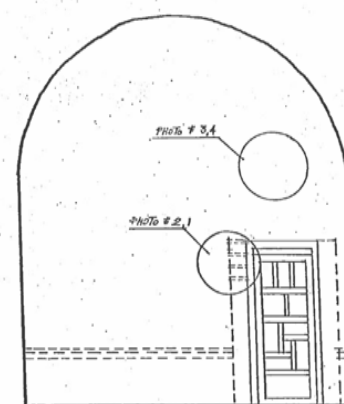
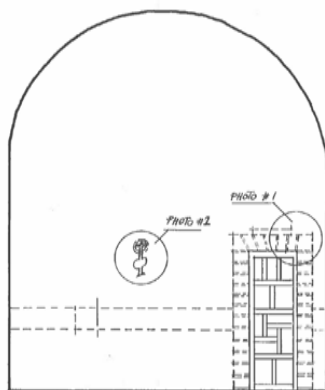
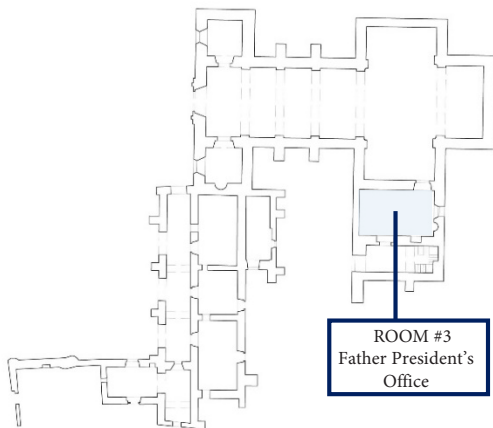


Figure 6.A.33: South wall—room #2



Figures 6.A.30–6.A.33 adapted from *Plaster Conservation in the Three Rooms at Mission Concepción*, by Diana Motiejunaite, 1991.



The 1991 elevations by Motiejunaite—in this page—present an interpretation of the decorative motifs of the room. Walls featured a burnt sienna wainscot and an ochre base color for the remaining areas.

Figure 6.A.34: Father's President office. North wall. The east corner of this wall was cleaned removing the two layers of latex paint, exposing areas of original plaster.

1991 Paint and Plaster Conservation in the Three Rooms at Mission Concepción

Figure 6.A.34: North wall—room #3

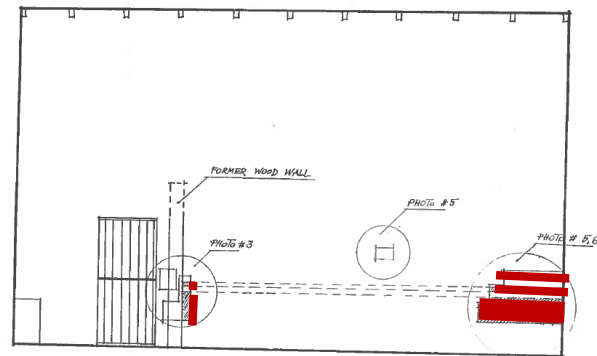


Figure 6.A.35: Father's President office. The cleaning treatment of the east wall exposed remnants of a wainscot with two stripes above it, all featuring red pigments.

Figure 6.A.35: East wall—room #3

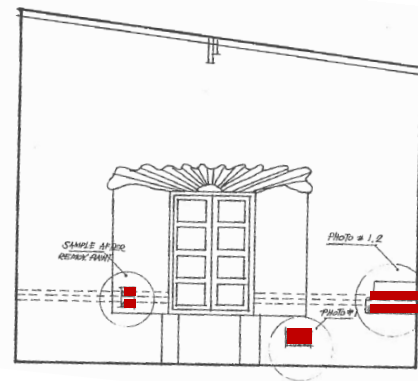


Figure 6.A.36: Father's President office. South wall. Wainscot was detected only on the eastern part. Probably a wood wall was interrupting the decorative motif of the wainscot.

Figure 6.A.37: Father's President office. West wall. Samples of paint removal did not identify remnants of wainscot.

Figure 6.A.37: West wall—room #3

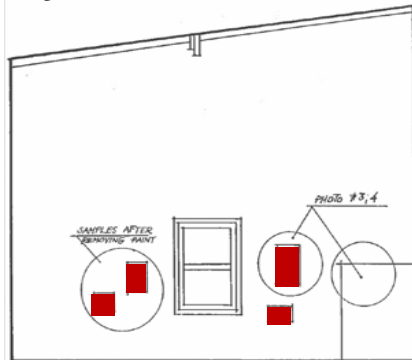
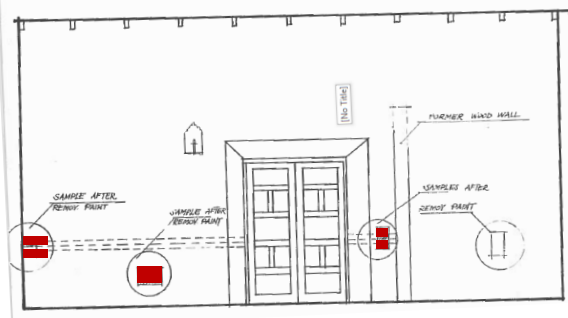


Figure 6.A.36: South wall—room #3



Figures 6.A.34–6.A.37 adapted from *Plaster Conservation in the Three Rooms at Mission Concepción*, by Diana Motiejunaite, 1991.

**1988 Conservation
Project Completion
Report at the Mission
Concepción Con-
vento and Mission San
José Convento**

*Anthony Crosby
Year: 1997*

This report described the conservation works carried out in the conventos of Missions San José and Concepción in July and August 1988, providing the projects' background, purpose, organization, and treatment philosophy.

The report also described the understanding of causes and effects of the deterioration in 1988 and the methods utilized for collection of additional data implemented to understand the cause-effect relationship in the deterioration process.

At Mission Concepción works were carried out from July 18 for four weeks, and focused on the library painted plaster finishes.

The Conservation team consisted of conservators associated with ICCROM directed by Paul Schwartzbaum, Chief of Conservation of the Guggenheim Museum in New York and ICCROM mural painting course coordinator, the NPS project coordinator, Anthony Crosby, and staff from NPS.

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- Introduction
- Description of Resources
- Pre-Treatment Conditions and the Cause and Effects of Deterioration
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Appendices

- Appendix A
- Appendix B: Paint and Plaster Analysis. Mortar Analysis Procedures, Photographs and Color Samples of the Documented Surfaces
- Appendix C: Transcription of the Conservation Team's Field Notes
- Appendix D: Paint Conservation Video Logs—Summary
- Appendix E: 1995 Condition Survey Field Notes
- Appendix F: Documentation of 1996 Library Conditions
- Appendix G: Field Notes of an Investigation of San José Arches in 1986
- Appendix H: Cooperative Agreement between the National Park Service and the US Committee, International Council on Monuments and Sites, October 1996.

Paint and Plaster Mortar Analysis

The report included the paint and plaster mortar analysis (pp. 2–20) undertaken as part of the initial conservation program development, implemented in the 1988 Report.

The analysis of paint, plaster, and mortar was conducted in 1986 by Peggy Albee, Historic Preservation Conservator, North Atlantic Cultural Resources Center.

Pre-Treatment Conditions

A comprehensive documentation of pre-treatment conditions was conducted in spring 1986 using color photography. Additional documentation was added during the conservation process and is located in a project file at the NPS offices. Graphic media consisted of photographs, field notes, sketches, overlays, and video recording.

The author of the report addressed a lack of attention toward the causes of deterioration, while the majority of pre-treatment condition assessment focused on the decay patterns and related treatments, leading to inappropriate interventions.

The author mentioned previous inappropriate interventions such as the introduction of hard stucco to fill the voids, the cleaning of interior walls by scrubbing the surface, and treatments of the surfaces with unknown substances, perhaps wax-based consolidants.

Natural processes of decay were responsible for the majority of deterioration of the library, such as moisture percolating down through the vaults from above, leading also to formation of relatively insoluble salts.

In some areas plaster was in extremely friable condition, especially in the vault; almost 75% of the plaster was delaminated from the masonry substrate. Algae were also present on the library east wall, and vertical streaks were found on the west wall.

Old structural cracks existed in both north and south walls. They were monitored from 1986 to 1988, showing no active movement. The north-facing arch terminating the cloister arcades revealed remnants of plaster on its soffit.

Causes and Effects of Deterioration

In order to understand the deterioration process in the library, an analysis of the condition of the microenvironment was carried out through a monitoring program which took place in 1986 through 1988.

The monitoring program focused on:

1. Ambient relative humidity on the interior and on the exterior of the building throughout the day and seasonal changes;
2. Recording of wall surface temperature to be compared with the ambient relative humidity.

The results revealed that the wall moisture was created not only by rising damp but also by rainwater infiltration mostly on the east wall, producing exponential loss of plaster. Condensation moisture was not one of the major problems, only existing in case of non-porous materials covering the wall.

In 1987 the entire exterior surface of the convento was repointed to prevent continuous access of moisture from the masonry walls. Rising damp, especially in the east wall, remained a problem, with the presence of efflorescence continuously occurring along the interior surface of the east wall.

Conservation Treatments

Treatment Concepts and Overview

The conservation treatments addressed two main issues. The first was the physical, mechanical, and chemical conditions responsible for the consistent loss of paint and plaster; the other issue was related with the final appearance of the decorative plaster and paint.

The cleaning procedure focused on the extent of cleaning that would provide visual harmony on the polychromatic surfaces. Also the issue of the presentation of the room and its decorative features was the most critical in the library, the approach adopted was based on minimal intervention, although the final appearance included the elimination of distracting visual anomalies, such as hard shadow lines created by deep undercuts or holes in the surfaces.

Treatments included cleaning of dirt and stains, removal of salts, removal of hard stucco repairs, reattachment of delaminated plaster, reattachment of paint layers, consolidation of friable plaster, fillings of the voids due to hard stucco removal, plaster edge stabilization, and aesthetic integration.

The reattachment of delaminated plaster was carried out through the injection of cementitious mortar or grouts into the voids located between the plaster and the substrate. Injections were performed with a 60cc syringe. The specific material used for this purpose was the “Ladan” or “Ladon,” a product extensively used by ICCROM conservators. Ladan is a mixture made of natural hydraulic lime, hydrated lime, a minimal percentage of acrylic resin and ground slate as inert filler. The reattachment of paint layers was undertaken using an acrylic emulsion, the Rhoplex. When a more aggressive adhesive was needed, a polyvinyl acetate emulsion was utilized.

Table 6.A.5:
Specific Treatments

*Adapted from Conservation Project
Completion Report at the Mission
Concepción Convento and Mission
San José Convento, by Anthony
Crosby, 1997*

Treatment	Related Decay	Treatment description	Location
Reattachment of delaminated plaster	Delamination detachment	Injection of “Ladan”—mixed in ratio 1 to 1 with water, through a 60cc syringe, often without a needle	Library. Arcade's arches
Cleaning	Loose deposit Dirt and stains	• Brushing with soft bristle brush. • Pre-Consolidation through application on the surface of fiber paper by wetting with water. • Application of paper pulp with aluminum carbonate—applied several times as needed. • Removal of the fiber paper. • Washing of the surface with a sponge.	Library. Arcade's arches
Cleaning—salts (described as “incrustation”)		Mechanical removal using a scalpel	Library
Removal of hard stucco repairs ¹	Patches	Mechanical removal with chisels and hammers, scalpels and knives.	Library
Filling of voids		• Application of a compatible mortar, made of crushed limestone and slaked lime in ratio 2 parts of lime and 3 parts of screened crushed limestone. The lime re-slaked overnight before the crushed limestone was added. • Mortar Lime/aggregate ration for filling holes, cracks, and depressions in the vault was one part of slaked lime and 3 parts of screened crushed limestone.	Library. Arcade's arches
Consolidation of friable plaster		Dilute solution of Rhoplex (3-5 %) through brushing or spraying.	Also north arcade
Plaster edges stabilization	Detachment of edges	Application of a thin bead or edging mortar.	Library. Exterior arcade arches
Aesthetic integration		Presenting the library as the mid-18 th -century craftsmen intended, to the degree possible with the extent of the remaining fabric, though the elimination or mitigation of visual anomalies.	Library
¹ Numerous holes and voids in the masonry and plaster in the library had been repaired with hard Portland cement stuccos and mortars			

Post Conservation Treatment—Condition Survey, 1995

A condition survey was undertaken in May 1995 with the purpose of identifying condition and extent of flaking paint. In the library, decorative paint flaking was identified above the east door, immediately above the door opening. The largest dimension of the flaking was less than an inch in length and approximately $\frac{1}{16}$ inch deep.

A similar loss was also detected on the north door and west door, even if less severe.

Some of the loss appeared to be a result of natural processes, however the author states that some of the loss could have been “prevented by a rigorous conservation treatment program based upon cyclical inspection and preventive conservation maintenance and treatment” (Crosby, 1997, p. 65).

Concerning evidence of wall moisture, physical signs of wall moisture were only seen on the east wall, with efflorescence in the lower portion of the wall, whose surface is mostly made of new plaster added in 1988.

Several localized spots of efflorescence were also identified on north of the east wall door and along the springline of the vault, which the author considers a historically vulnerable area.

A surface moisture survey was carried out with a conductivity meter. The survey indicated a corresponding increase of the surface moisture on the east wall north of the door, and a higher hygroscopicity of the original plaster was noted compared to the replacement plaster.

The overall condition of the decorative plaster appeared to be good, with the exception of few areas characterized by fallen paint. A closer inspection of the surface revealed extensive presence of dust, insects and their nests, and soluble salts that had formed on the surface, as described above. In October 1996, a photographic documentation was carried out, as part of a continuing conservation program.

Note: The report mentioned “an extensive conservation project that had taken place in the convento rooms adjacent to the library and in the father’s president office since 1988.” Reports describing these works were not located by the UTSA team. Also, Crosby’s report mentioned that in 1995 an exterior masonry repointing project took place in the west side at the piers, in the portion of the east convento wall and on the south wall of the audio visual room. Documentation of these projects was not located in the current research effort for this HSR.

The report described the repointing mortar mix, made of two parts lime, one part Portland cement, six parts sand. This 1995 mix was stronger than the

one utilized in 1988 repointing campaign as well as more tan in color. The AV room was also cleaned and stabilized. Also, it is mentioned that the roof of the library was replaced during the late '80s.

Conclusions

The conservation project carried out in 1988 was more complex than anticipated, generating stress on the conservation team due to the short time available to complete the project. Technical decisions were taken by the chief conservator, Donatella Zari, an Italian conservator whose practice was based in Rome.

Recommendations for future conservation work included: clear identification of the scope of work; realistic project schedule; contingency plan for altering the team composition and number of participants; and training program prior to the work.

Recommendations for conservation suggested a program of continual care, including: regular inspections; planned cyclic treatments; and continuing re-evaluation of the conditions, treatment performance, and causes of deterioration.

1988 Conservation Project Completion Report at the Mission Concepción Convento...

Conservation project - Introduction



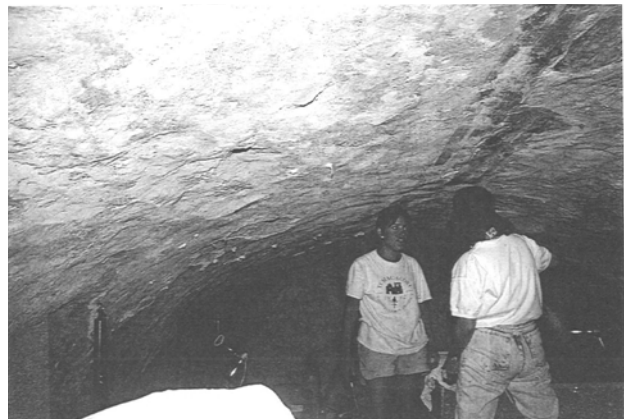
a



b

Figure 6.A.38: a) and b) Detail of the sun face —pre-treatment and post 1988 treatment condition. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, cover page.

Figure 6.A.39: c) Library vault prior to conservation. Conservators B. Sullivan and C. Jary determining plaster delamination. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 47.



c

Figure 6.A.40: d) and e) Library north wall. Pre-treatment condition in July 1986 and post treatment in July 1988. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 62.



d



e

1988 Conservation Project Completion Report at the Mission Concepción Convento...



Figure 6.A.41: Cleaning—salts. Wall cornice prior to and after salt removal and cleaning. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, pp. 48-49.

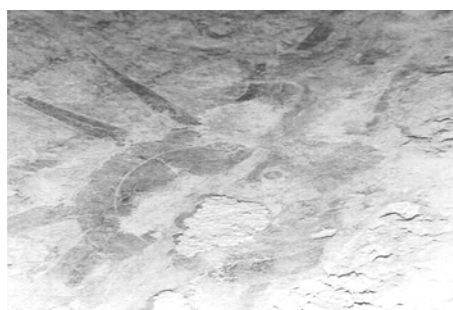


Figure 6.A.43: Cleaning—polticing with aluminum carbonate at sun face in library top vault. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 50.

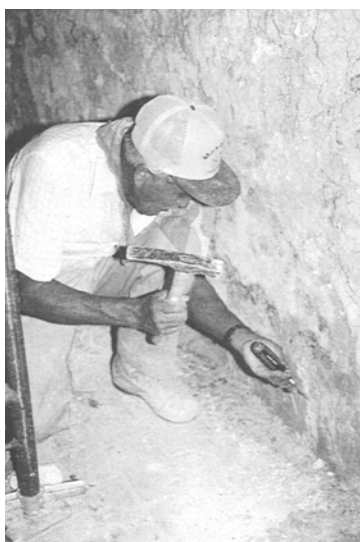


Figure 6.A.45: Hard plaster patching removal in the interior of the library east wall. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 53.

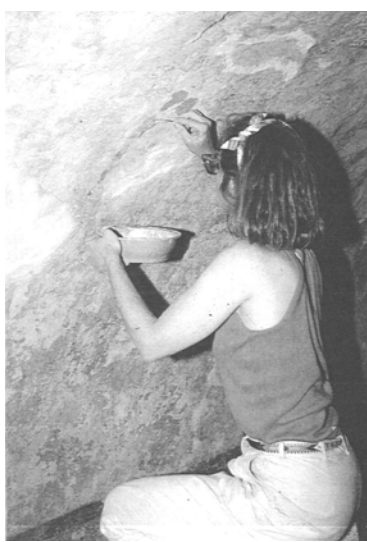


Figure 6.A.46: Filling the voids after hard plaster removal. Integration is carried out with a lime-based mortar, July 1988. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 54.

Conservation Treatments: Specific Treatments



Figure 6.A.42: Cleaning—salt removal through mechanical methods, using chisels and hammers. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 49.

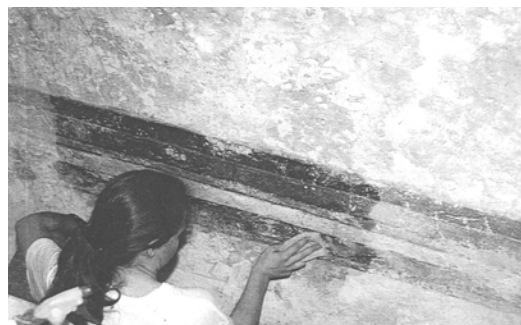


Figure 6.A.44: Cleaning—final phase through washing of the surface with a wet sponge. The cornice becomes more clear on each successive cleaning. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 51.



Figure 6.A.47: Library vaulted ceiling, detail—example of aesthetic integration/mitigation. After overall cleaning and reintegration with new plaster, the areas of new plaster patches are tinted to match color. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 52.

1988 Conservation Project Completion Report at the Mission Concepción Convento...

Prior and post treatment photo documentation

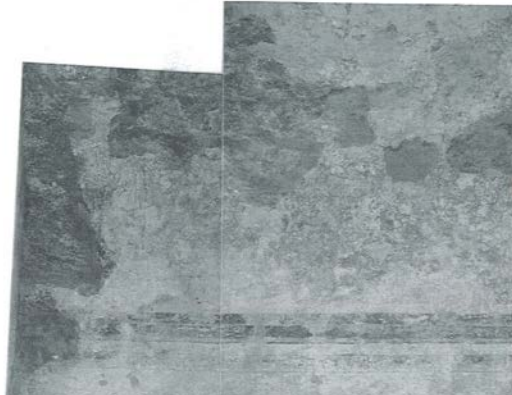


Figure 6.A.48: Library vaulted ceiling prior to treatment. Typical area showing the dark stones at the upper edge of the photograph and the dark areas of earlier repair, July 1986. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 59.



Figure 6.A.49: Library vaulted ceiling—example of aesthetic integration/mitigation. In the final integration treatment, the dark stones were tinted not to stand out from the surface, but to blend with the plaster, August 1988. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 60.



Figure 6.A.50: Pre-treatment condition of north door of the library, July 1986. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 61.



Figure 6.A.51: Post treatment conditions of the north door, August 1988. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 61.

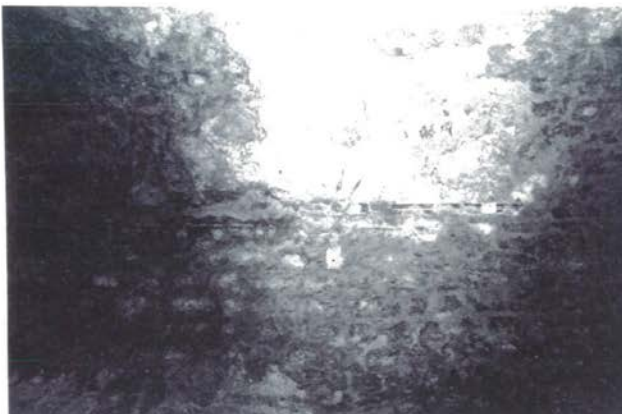


Figure 6.A.52: Pre-treatment condition of the vault at the library, July 1986. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 63.



Figure 6.A.53: Post treatment conditions of the vault at the library, July 1988. Reprinted from *1988 Conservation Project Completion Report...*, by Anthony Crosby, 1997, p. 61.

Mission Concepción
Library Conditions
Monitoring

Anthony Crosby
September 1997

With the support of an Inspection Data Sheet and a condition assessment form, the condition of the library was documented in detail.

The documentation methodology was extremely accurate, still a reference for future monitoring of the condition of the whole convento structure.

The documentation included the mapping of decay wall by wall. Each room elevation was subdivided in 'sectors' through a grid. The condition assessment form included a photo (in each photo there was a scale), and a written description of one of the sector identified by the grid.

Photos were really accurate, perfectly corresponding to the sector under analysis. The Inspection Data Sheet facilitated the identification of decay patterns for each material present on the library walls, described as: Plaster, Paint, and Repair. Another data sheet focused on the rating scale (in a scale 1 to 10) for each decay pattern identified and was supposed to be filled out until the year 2000.

East Wall

Efflorescence was identified on numerous sectors. Two types of salts were observed: 1) fluffy salts, easy to remove; 2) hard salts. The lower part of the east wall, on the north side, featured efflorescence at a height of approximately 1 ft. (linked to rising damp), both on the repairs carried out in 1988 and on the original painted dado. On the south side, efflorescence was located at approximately 3 ft. from the floor and was associated with biological growth and water staining. Water staining was also observed in several areas of the wall. Presence of salts was observed in the area of the painted molding—"not breaking up the surface" on the south side, very hard on the north side. The painted band featured some flaking. The painted door architrave featured discrete areas of loss in the painted wash, salts, and blistering. Above the voussoirs were "pattern cracks" and a large crack. Above the painted band blistering was visible, mostly at the interface of plaster and cement patches as well as pattern cracking. Voids in the plaster, iron, and pins were also observed over the whole wall surface below the painted band.

North Wall

Efflorescence, mostly fluffy, was detected in the lower part of the wall, on the original dado finishing, also in form of haze. Water staining was associated with the efflorescence on the lower eastern portion.

The painted architrave above the door featured some white chalky areas, the limewash was detached from the plaster below, the flaking and loss of the flower

on the side of the door toward north. Cracking was evident throughout the architrave above the door.

The painted band on the west side, above the door architrave, showed erosion in circular patterns.

The worst condition was detected on the north corner around the painted band, with salts and water staining, some with iron (orange) tint and cracks.

South Wall

Water staining and efflorescence were found at the eastern corner lower and middle sector, with cocoons found attached to the wall. Water staining reached the colored band, associated with blistering large flakes, due to water access. The point where water was entering was identified in the exterior drainage at the south end of the library roof. The color band featured the presence of efflorescence. Beyond this area, the whole wall exhibited plaster in stable condition, with only some flaking and cracks, as well as the presence of numerous nails and injection holes.

West Wall

Although fluffy and crystalline efflorescence were identified on the wall lower section (dado), some blind voids were identified on the plaster and on the door architrave. On both sides of the painted posts of the side door, there was abrasion on the blue blocks caused by visitors' contact. Another element to be noted was the presence of white haze due to application of Rhoplex in 1988.

1997 Mission Concepción Library Conditions Monitoring

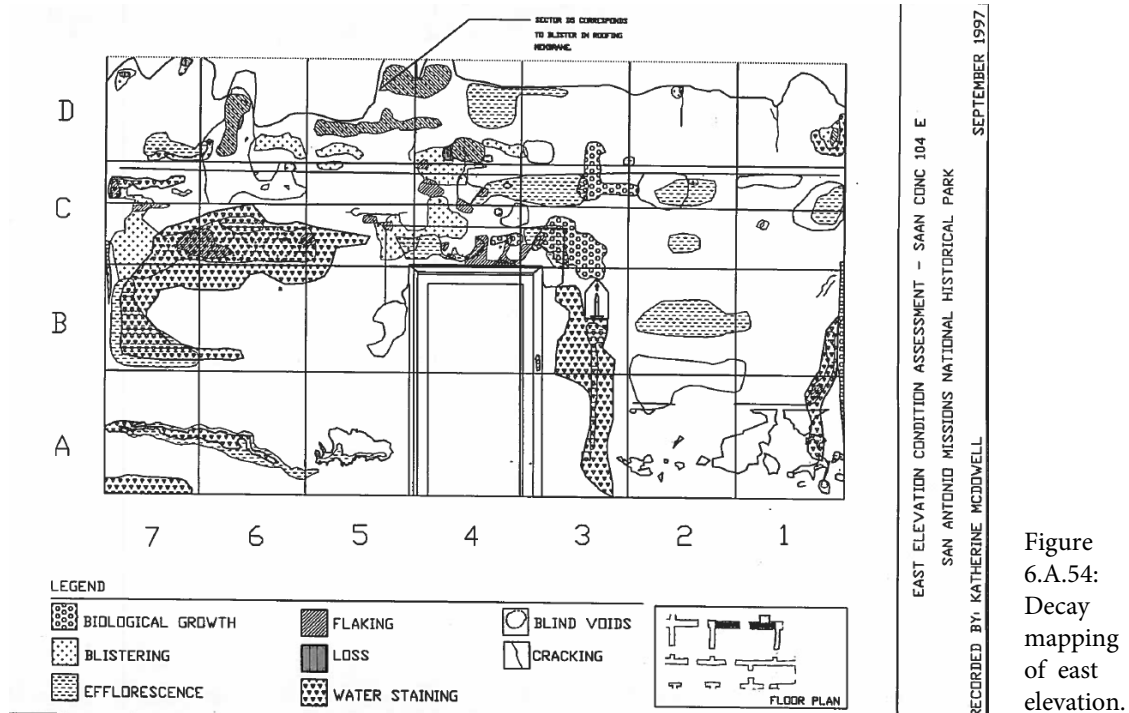
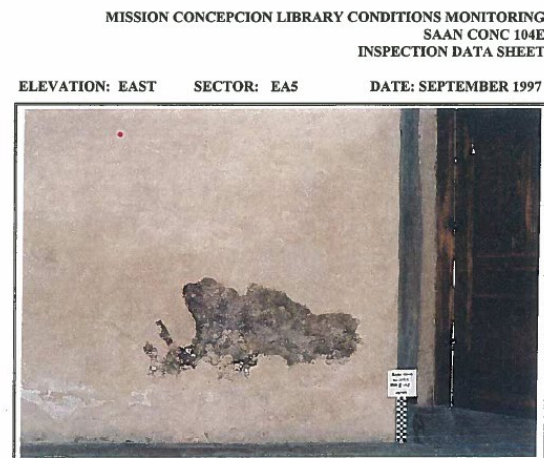


Figure 6.A.54: Decay mapping of east elevation.



CONDITION OF SECTOR EA5:

Salts on the surface have a feathery appearance. These salts occur on both the repair (1988) and the original painted dado. They are different than the salt form above in level C. White webs also occur which may be attributed to insect infestation. During the removal of salts, two types of salts were observed. (1) Fluffy salts which are easy to remove. (2) hard salts, which sometimes came off in sheets, and were more difficult to remove with a brush.

Repairs have done very well. There is no separation at the interface between repair and original material. The efflorescence is not causing damage to the repair plaster. Efflorescence linked to rising damp.

PHOTOGRAPH: Roll 5 Negative 14
8/22/99 - Additional water stains from rising damp.

Figure 6.A.57: Sample of condition assessment form.



Figure 6.A.55: Sector EC4. Minute blisters, pattern cracks and one large crack were identified in this area.



Figure 6.A.56: Sector EB5. Voids (detachment from the substrate) were identified in the area, showing also nails and iron pins. Stabilization was a chronic problem in this area.

Figures 6.A.54–6.A.57 adapted from *Mission Concepción Library Conditions Monitoring*, by Anthony Crosby, 1997.

1997 Mission Concepción Library Conditions Monitoring

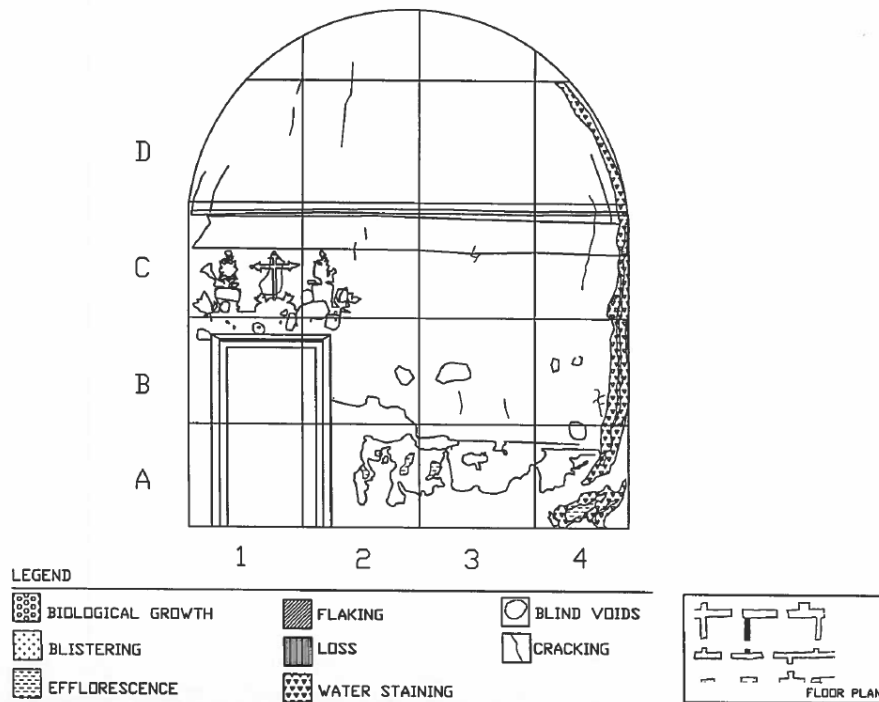


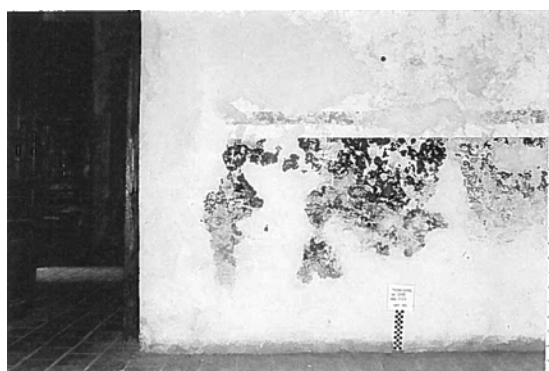
Figure 6.A.58:
Decay
mapping of
north
elevation



a



b



c

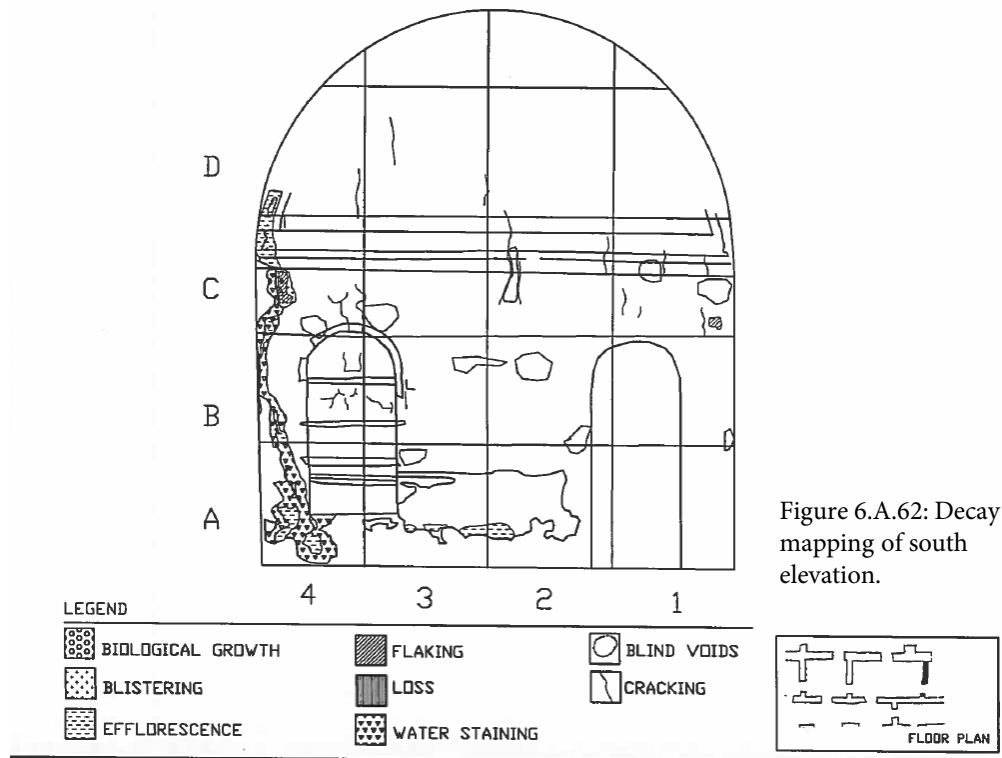
Figure 6.A.59: a) Sector NC1. Painted architrave. Exposed white surface is "chalky to touch" (powdering). Cracking throughout the architrave. The colored band shows erosion in circular pattern.

Figure 6.A.60: b) Sector NB4. Water staining and efflorescence at the corner.

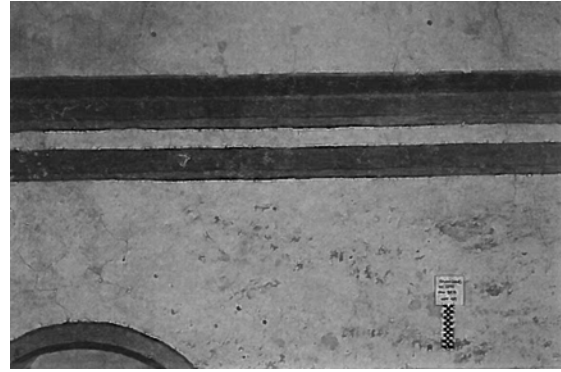
Figure 6.A.61: c) Sector NA2. Efflorescence in form of a white haze on the red dado. Efflorescence was not present on the repair plaster but only on the original one.

Figures 6.A.58–6.A.61 adapted from *Mission Concepción Library Conditions Monitoring*, by Anthony Crosby, 1997.

1997 Mission Concepción Library Conditions Monitoring



a



c



b

Figure 6.A.63: a) Sector SC4. Blistering and large flakes. The entry of water was identified in the exterior drainage at the south end of the library roof.

Figure 6.A.64: b) Sector SB4. Water staining and efflorescence at the corner. The entry of water was identified in the exterior drainage at the south end of the library roof.

Figure 6.A.65: c) Sector SC3. Plaster in stable and good condition with the exception of some cracks.

Figures 6.A.62–6.A.65 adapted from *Mission Concepción Library Conditions Monitoring*, by Anthony Crosby, 1997.

1997 Mission Concepción Library Conditions Monitoring

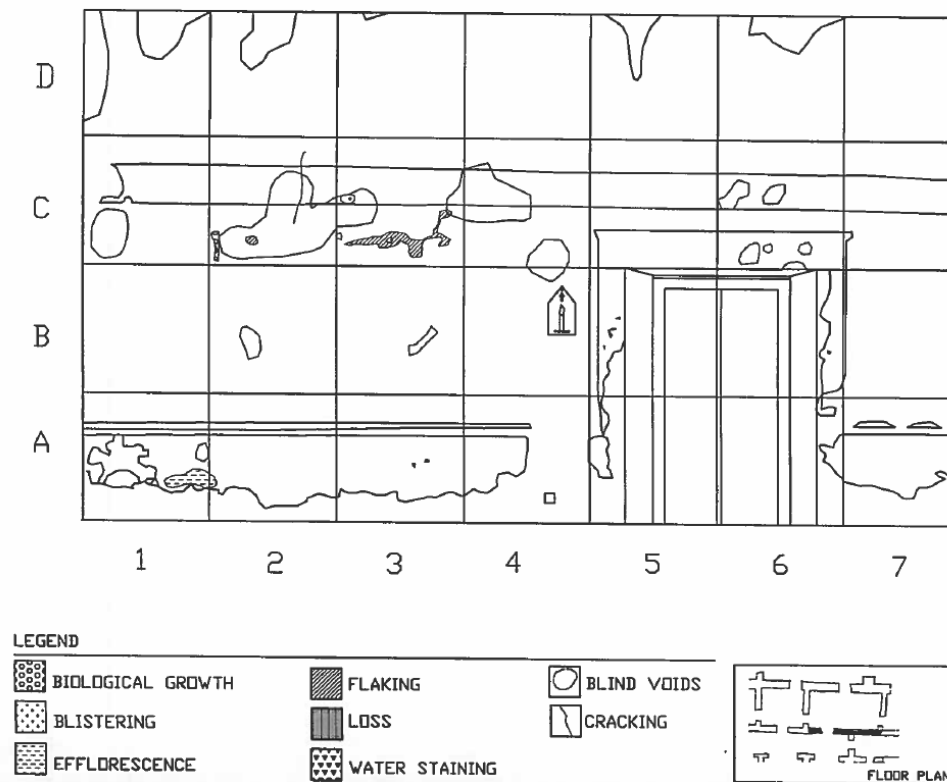
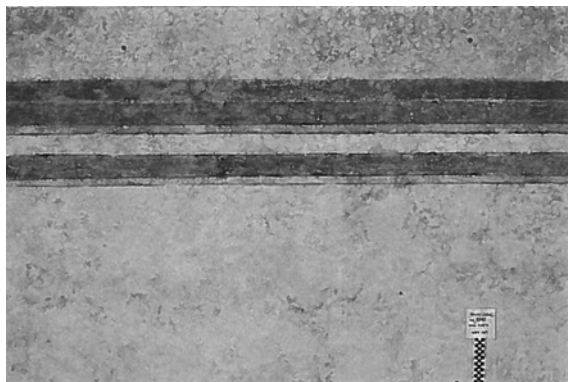


Figure 6.A.66:
Decay mapping of west elevation.



a



b

Figure 6.A.67: a) Sector WC3. Some blistering in the blue band as well as in limited area of the whitewash. Associate with some flaking. Very stable condition.

Figure 6.A.68: b) Sector WC6. Good condition of the painted architrave, with detachment of the plaster from the substrate (large voids).



c

Figure 6.A.69: c) Sector WA1. Good condition of the dado, with white haze appearing throughout—not crystalline.

Figures 6.A.66–6.A.69 adapted from *Mission Concepción Library Conditions Monitoring*, by Anthony Crosby, 1997.

1997 Mission Concepción Library Conditions Monitoring

Sector: EASRating Scale: 0 —▶ 10
None Severe

Mission Concepcion Library--Quarterly Inspection Form								
Date	Efflorescence	Flaking and Detachment	Blistering	Loss	Cracking	Water Staining	Biological Growth	Blind Voids
June 1999								
Notes:								
September 1999								
Notes:								
December 1999								
Notes:								
March 2000								
Notes:								
June 2000								
Notes:								

Figure 6.A.70: Decay rating form used in 1997 report. Adapted from *Mission Concepción Library Conditions Monitoring*, by Anthony Crosby, 1997.

Documentation of Condition Assessment and Moisture Measurements: Library at Mission Concepción Convento	The objective of the project was to document the condition of the Mission Concepción library, focusing specifically on the pre-treated areas of the surface finishes including the “tinted limewash” decorative painting. Wall surfaces were continuing to deteriorate, due to the presence of moisture and soluble salts. The project was carried out in September 1998. As stated in the report, such documentation work was following a previous 1997 assessment by Bass and McDowell.
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*Cissy Jary
& Pamela Rosser,
Restoration Associates
1998*

- Table of contents:
- Introduction
 - Scope of Work
 - Terminology
 - Current Condition Survey
 - Causes of Deterioration
 - Environmental Conditions
 - Recommendations
 - Elevation Drawings
 - Photographic Documentation

The condition survey described the procedures for measurement of the wall moisture and the assessment of the 1988 and 1997 treatments.

Moisture measurement was carried out with the use of Protimeter, a technique that allows conservators to determine masonry moisture content. For the measurement campaign, a grid system reference was utilized, established in 1997 by Bass and McDowell.

The 1988 conservation treatment appeared in very stable condition, no cracking or delamination was detected in the previously re-attached plaster areas. In 1997 a cracking on the ceiling was noted, and Restoration Associates in 1998 did not observe any change.

An analysis of each wall and the ceiling provided a more detailed description of the identified decay patterns and mechanisms. The most threatening conditions were identified in the east wall, with blisters in the northern parts, efflorescence and water staining. The northeastern corner of the north wall also showed effects of moisture, due to poor roofing conditions.

The west wall was the less threatened one, showing on the door architrave some losses of blue painted layer. The ceiling was in good condition too, salts were still present on the Portland cement plaster patches. A few losses were identified on the face of the sun and in the sun ray, with flaking of the pigment-

ed limewash.

The causes of deterioration were water infiltration, migration of salts, and insect manifestation.

A description of the environmental conditions observed rising damp with efflorescence haze formation on the lower wall, (probably exacerbated by poor exterior drainage).

The lower section of the walls were exposed to beneficial cross ventilation, with humidity and moisture trapped in the area of the barrel vaulted ceiling. The vaulted ceiling, therefore, was subject to efflorescence haze, salt crystallization, and insect infestation.

The exterior condition of the east and south walls continued to remain moist and wet even during summer season, with vegetation growth (the authors of the report did not describe the causes).

Recommendations were provided, here re-organized by intervention types: monitoring room climate (5.2); cyclical schedule of moisture measurement (5.3); improvement of vault ventilation with the placement of an elevated fan in the roof (5.4); prevention of insect damage with museum type fogging insecticide (5.7); edge stabilization and fills in case of pigments or plaster (5.1); re-attachment of existing lime plaster on the ceiling (5.8); installation of new lime plaster to the south and east exterior walls, “as historic evidence indicated that the walls were plastered” (p. 7), to help preventing the moisture access (5.6); and replacement of current roofing—membrane roofing should not be used.

Mission Concepción
Library of the
Convento. 2001
Conservation Project
Report

Cissy Jary
& Pamela Rosser,
Restoration Associates
Limited, LLC
2001

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Polarized Light Microscopy Report
Recommendations
References

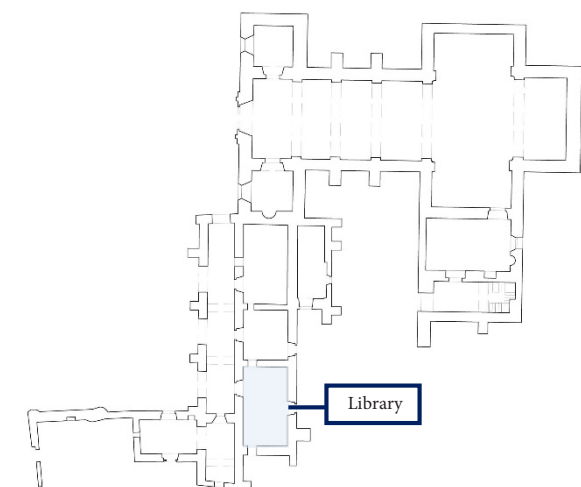
Polarized Light Microscopy Report (not attached)

The Conservator Susan L. Buck of Historic Paint Services, a Division of West Communications, Inc. carried out analysis of paint identification of several samples of green color (#3), blue color (#1), yellow (#1), red (#1) through polarized light. Results are presented in the table below:

Table 6.A.6: Paint Analysis
Adapted from Mission Concepción Library of the Convento ... , by Restoration Associates Limited, 2001

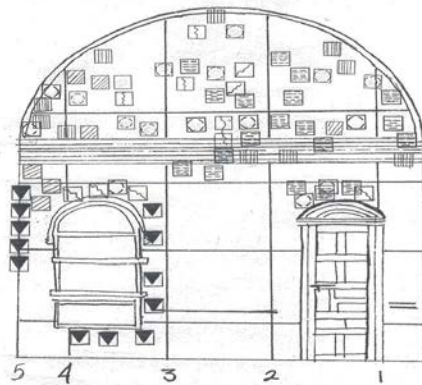
Sample color	Color composition	Material composition	Discoloration over time	Sample location
Green	Green large, pigment, fibers	Verdigris and calcium carbonate	yes	East wall—above the springline
Green				East wall—above the springline
Green				East wall—below the springline
Blue	Black, angular, completely opaque	Charcoal black and calcium carbonate	no	Blue band of the springline
Yellow		Yellow ochre and calcium carbonate	no	Yellow band of the springline
Red		Yellow ochre and calcium carbonate	no	Red band of the springline
Red		Charcoal black, calcium carbonate pigments, iron oxide red (few particles), verdigris (small particles), translucent material—maybe copper resinate	no	Space above the architrave, 10” above the architrave

2001 Mission Concepción Library of the Convento—Conservation Project Report

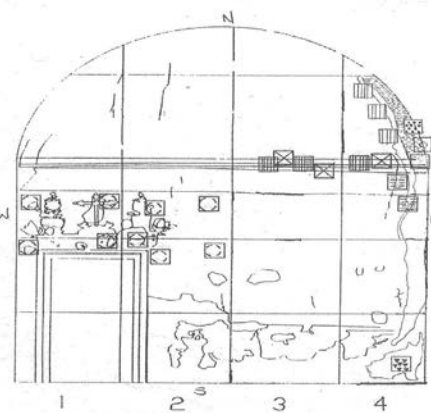


LEGEND

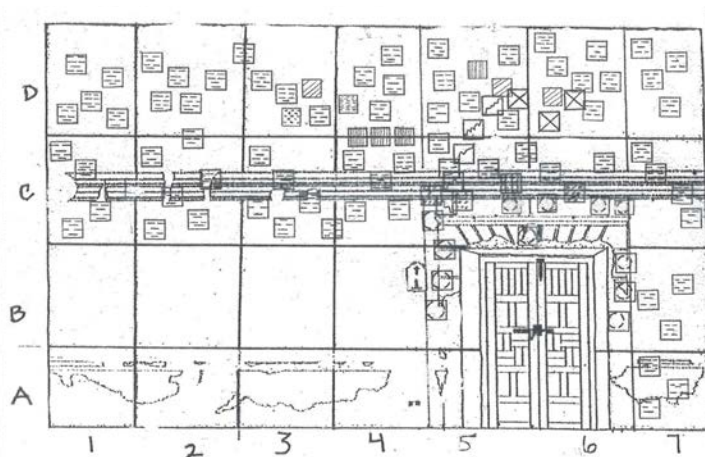
- Biological Growth**
- Efflorescence**
- Blistering**
- Flaking**
- Loss**
- Water Staining**
- Cracks**
- Blind Voids**
- Detachment**
- Newly Discovered Historic Pigment**



E
D
D
C
C
B
B
A
A



1 2 3 4



Images this page adapted from *Mission Concepción Library of the Convento—Conservation Project Report*, by Restoration Associates Limited, 2001.

2008
Exposing Historic
Wall Plasters and
Pigments: Father
President's Office at
Mission Concepción,
San Antonio, Texas

Mary C. Jary AIC,
Elisa R. Jary AIC
& Pamela J. Rosser,
Restoration Associates
Limited, LLC

This report focused on the investigation and documentation of the historic plaster and pigment/paint in the Father President's office. Specifically the scope of the work was to expose designated areas featuring "historic wall art" (p. 1) through the removal of one layer of latex paint and one layer of limewash—assessed to be non-historic.

The area identified for the treatment included:

1. A 36" high wainscot area on the east wall (seashell window) and portions of the adjacent side walls, 81 square feet.
2. The east wall associated with the seashell window including the angle walls and scalloped design at top. 57 square feet.
3. A 2' wide band around the interior church door/window opening including inside of the opening up to the iron bars. This opening has a total of area approximately 28 square feet however, only about 50% of the wall surface looks undamaged or intact. Plan on investigating 14 square feet of this area.

Total square feet for #1, #2 and #3 = 152 square feet

Mike Johnson, National Park Service preservation architect, requested the total number of square feet to expose should be 304 square feet. By increasing the square footage will enable the conservators to expose more historic evidence of the decoratively painted plaster on the walls. (Restoration Associates Limited [RAL], 2008, p. 1)

Table of contents:

- Scope of Work
- Methodology & Test Results
- Procedures
- Investigation
- Photographic Documentation
- Conclusion
- Recommendation

A previous treatment carried out by Diane Motiejunaite in 1991 exposed some areas of decoratively painted plaster in the Father President's office.

Pretesting: A pretesting was carried out on five test areas, starting with the application of Trisodium Phosphate solution which did not result in softening the modern paint as needed.

More successful was the application via brush of a Soybean Ester chemical, with removal in 20/30 minutes intervals using scrapers and scalpel.

Procedure used for the treatment is described in detail in the report.

Table 6.A.7:
Description
of the Walls

*Adapted from Exposing Historic
Wall Plasters and Pigments: Father
President's Office ... , by Restoration
Associates Limited, 2008*

East wall	• The condition of the wall appeared to be very friable. • Wainscot exhibited numerous areas with red pigment. • The overall color of the wall was painted with a thin yellow ochre limewash. • At 48" from the floor level, a 2" incised line of red pigment was found along the perimeter of the wall. • A 36" high wainscot area was painted with a solid red. • In between the two, 2" band of thin ochre limewash. • Fragments of green were found on both sides of the shell window, located 2" above the 2" incised line. • At 44" high from the base of the window, evidence of particles of deep red and blue pigment were found. • The shell had evidence of a yellow ochre layer darker than the one that was applied on the walls. • Numerous patching over time covered the original painted finish.
South wall	• Overall color of the wall was a thin yellow ochre limewash. • At 48" from the floor, a 2" incised line of red pigment was found along the width of the wall. • Fragments of green were found above the 2" incised line on the southeast corner of the wall. • The 36" area of the dado was painted of solid red, with no pattern. • The wainscot pattern followed the layout described in the east wall.
South door entry	• The wall featured many cement patches, previously hidden under the gray paint coat. • The wall color and pattern were the one described for the east wall. • Around the entry door, no decorative pattern was identified.
North wall	• The wall featured many cement patches, previously hidden under the gray paint coat. • The wainscot had evidence of horizontal and diagonal lines in the banding, with red pigment, in such a fragmentary state as to not to be able to determine the pattern. • The wall color and pattern are the one described for the east wall.

The work carried out provided data for a clear interpretation of the original decoration pattern of the room.

Recommendations made by the authors include the removal of cement patches, removal of salts from the walls with poultice, and repatching with a pure lime-based mortar. The recommended mix was 1 part lime putty and 4 parts sand.

2008 Exposing Historic Wall Plasters and Pigments: Father President's Office at Mission Concepción

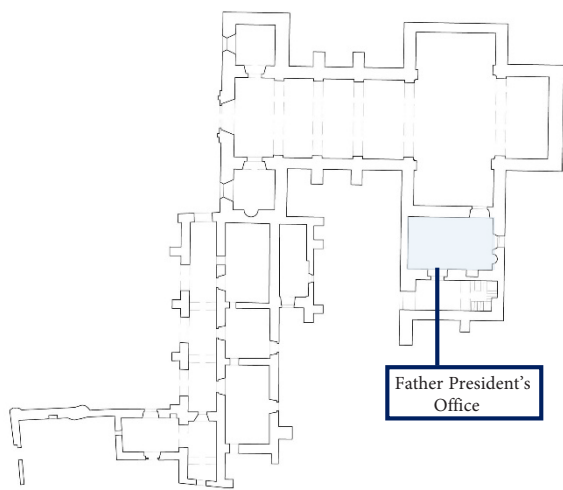


Figure 6.A.71: East wall. Photo-patching of the east wall photographs, documenting the wall's 2008 appearance. Adapted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, pp. 18-19.



Figure 6.A.72: East wall. Sequence (from top to bottom) of a red pigment 2" band with incised lines, a 2" band with an ochre wall color, followed by a red pigment wainscot. Arrows indicate historic plaster losses. Reprinted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 11.

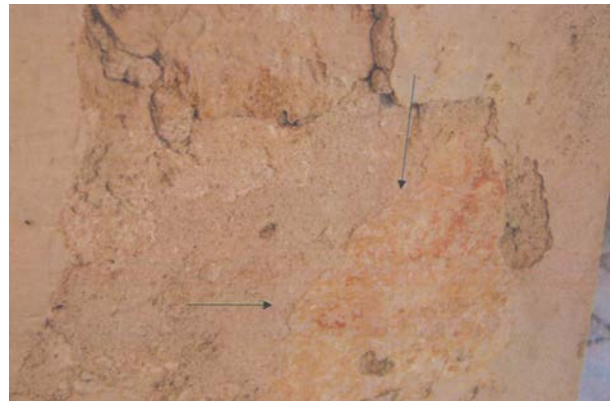


Figure 6.A.73: East wall. Cement patches applied over historic red plaster. Reprinted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 10.



Figure 6.A.74: East wall—36" wainscot with evidence of red pigment, indicated by the arrows. Reprinted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 12.



Figure 6.A.75: East wall. Historic tinted ochre lime wash. Reprinted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 13.

2008 Exposing Historic Wall Plasters and Pigments: Father President's Office at Mission Concepción

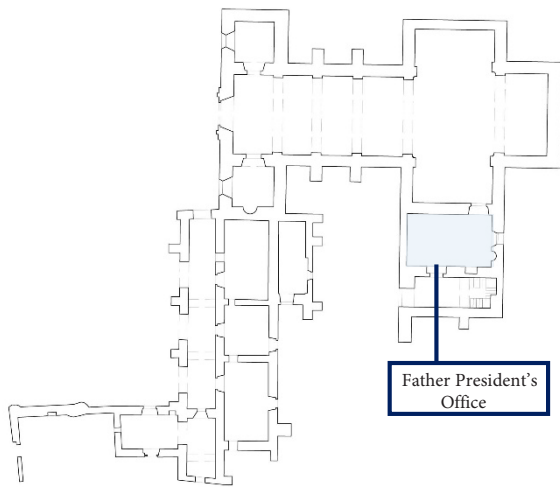


Figure 6.A.76: North wall. Photo-patching of the east wall photographs, documenting the wall's 2008 appearance. Adapted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 17.

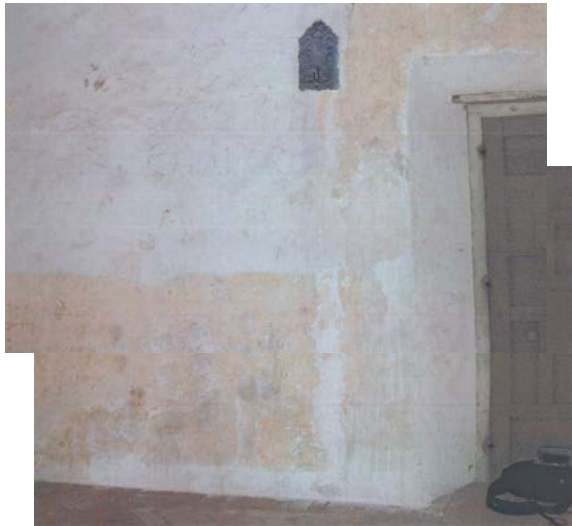


Figure 6.A.77: South wall. Photo-patching of images taken in May 2008. Adapted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 20.



Figure 6.A.78: North wall. Interior door/window. Upper west section. The surface features historic ochre lime wash—with no evidence of incised lines. Reprinted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 13.

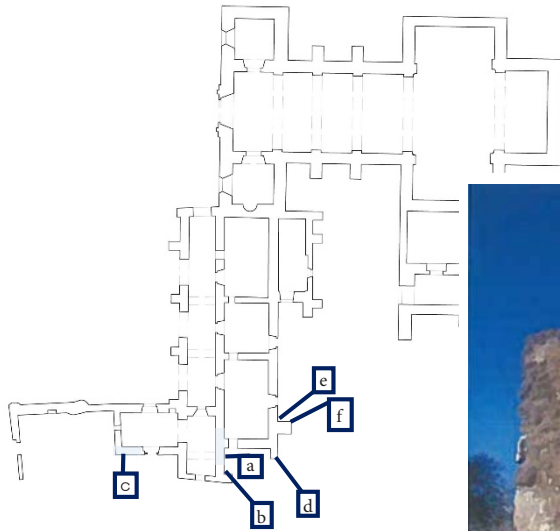


Figure 6.A.80: West wall. Photo-patching of images taken in May 2008. Adapted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 16.



Figure 6.A.79: South wall. Arrows indicate cement plaster and historic plaster loss. Reprinted from *Exposing Historic Wall Plasters...*, by Restoration Associates Limited, 2008, p. 14.

2009	The brief report described repair work executed to correct “masonry problems”
Documentation	(p. 1) on the south and east exterior walls, including the areas where the ex-
of South & East	posed rubble core of the remaining walls and vaults were producing moisture
Exterior Walls	infiltration into the interior room.
Requiring Masonry	Existing mortars were removed, requiring demolition of two hundred (200)
Repairs.	square feet of a hard Portland cement mortar, made of three/layers, deeply
Edge Stabilization	entering the masonry.
of Exterior Walls	The cement mortar was replaced with a lime-cement mortar mixture (in the
Containing Spanish	document described as lime mortar).
Colonial Plaster	A new smoother, more rounded capping was created (similar to the wall
Located Outside	capping built on the Mission San José east and south gates).
Father President’s	Two thousand (2,000) square feet of wall was repointed on the south and
Office	east elevations.
<i>Mary C. Jary AIC,</i>	The report also briefly described the works carried out on the exterior walls
<i>Elisa R.Jary AIC</i>	of the Father President’s office in which conservators worked jointly with the
<i>& Pamela J. Rosser,</i>	masons. Work executed included edge stabilization of fresco fragments and
<i>Restoration Associates</i>	other areas in friable condition (photo documentation identify the areas).
<i>Limited, LLC</i>	The mortar formula “given by Mike Johnson” is mentioned in the report
	and it is composed as follows: 4 concrete sand Keller, 1 Poteet (red clay sand)
	Keller, 1.5 Lime (Type SA or S), 1 Caliche (Pit Run) W.W. White screened ¼ by
	staff.



2009 Documentation of South & East Exterior Walls ... Edge Stabilization of Exterior Walls ...

Figure 6.A.81: a) Emergency edge stabilization. Area is indicated by the arrow. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, p. 4.



a

Figure 6.A.82: b) Emergency edge stabilization of Spanish Colonial plaster. Area is indicated by the arrow. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, p. 5.

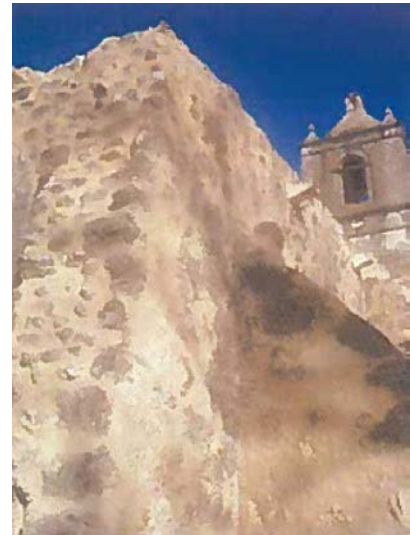


b

Figures 6.A.83, 6.A.84: c) and d) Portland cement was removed and the area repointed with lime mortar mix. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, pp. 5-6.



c)



d)

Figure 6.A.85, 6.A.86: e) and f) Rainwater runs through the canal creating splash on the hard surface, causing damp areas on newly repointed surfaces and damage to the painted surface of the interior. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, p. 7.



e)



f)

2009 Documentation of South & East Exterior Walls ... Edge Stabilization of Exterior Walls ...

Post Treatment Documentation in the so called 'Alcove'

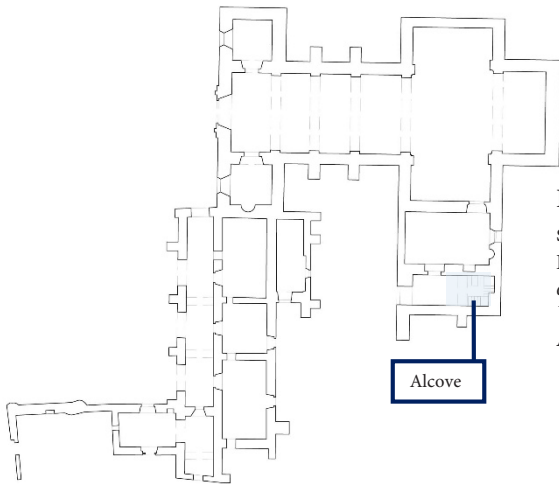


Figure 6.A.87: The top of stair wall was repointed. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, p. 8.



Figure 6.A.88: The stair wall required repointing featuring stone and mortar losses. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, p. 8.



Figure 6.A.89: Removal and replacing of new steps. The photo also shows the presence of a large fracture between the steps and exterior wall. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, p. 9.



Figure 6.A.90: Removal of a pre-existing wooden ramp and replacement of a stone ramp matching the existing floor. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, p. 9.

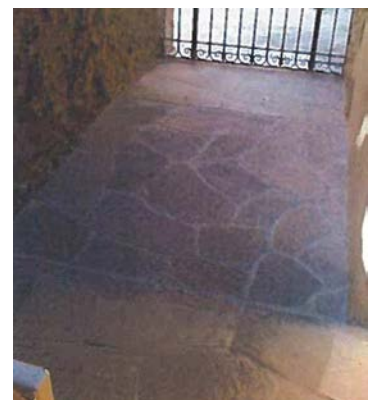


Figure 6.A.91: Areas showing edge stabilization, Portland cement patches overlapping Spanish Colonial plaster and graffiti. Reprinted from *Documentation of South & East Exterior Walls...*, by Restoration Associates Limited, 2009, p. 10-11.

2012
Mission Concepción
Convento
Condition
Assessment and
Recommendations.
Preliminary Report

*Rebekah Krieger &
 Richard Barrow,
 EverGreene
 Architectural Arts, Inc.*

The report provided an assessment of existing conditions and recommended conservation repairs at Mission Concepción convento.

The initial scope of the work was to document, observe, and analyze existing conditions in the library and adjoining hallway or cloister, stairwell, and landing leading to the Father President's office, as well as the Father President's office itself. Documentation and assessment included all wall, ceiling (except post-historic wood ceilings in stairwell, landing, and office), window reveals and door reveals of cloister, library, office, and stairwell.

Recommended conservation repairs focused on stabilizing and preserving historic plaster and masonry with the ultimate goal to preserve as much original and historic fabric as possible. The project also included repointing and repair of the masonry exterior of the stairwell and stairway leading to the office, including wall caps and buttresses. The team identified priorities in the interventions and treatments sequence.

Prioritized repairs were divided into three categories, defined by NPS as follows:

- Critical: repairs needed to prevent immediate or near-term loss of fabric.
- Recommended: repairs to prevent the need for critical repairs in the next five years and in general extend the life of a material.
- Minor: repairs to improve visual legibility or cleaning and maintenance.

Table of contents:

- Executive Summary
- Overview of Building and Site
- Documentation and Analysis
- Recommendations; Bibliography
- Appendix A Matrices.

Appendix

Appendix A: Matrices

Mortar and Render Description

The report stated that analysis of mortar and exterior renders had been performed on samples from Mission Concepción and at Mission San José; however, it was not specified whether or not the authors were referring to the 1986 campaign. These studies concluded the historical mortars and renders at both sites are weakly hydraulic with carbonated inclusions, which supports the hypothesis that they were produced on-site from the same limestone used for masonry. Traditional lime renders and plasters are vapor permeable; they absorb and

release moisture as surrounding humidity levels rise and fall. At Mission Concepción, soft lime plaster is surrounded by harder limestone and cementitious mortar. These materials will always be the preferential route through which moisture will migrate: “Portland cement, asphalt roof membranes, and other contemporary materials inhibit this natural tendency toward equilibrium, trapping moisture and directing it through the historic fabric, causing deterioration of the very materials they were installed to protect” (Krieger & Barrow, 2012, p. 7).

The decorative finishes did not show evidence of being true frescoes, as usually they are described. In the interior, earlier reports on finishes in the library suggested the decorative finishes were actually applied as fresco a secco (pigmented limewash) or paints. Analysis of exterior stucco from the church at Mission Concepción suggested the stucco was dry when colors were applied to it (Buck, 2012).

Bedding Mortar

Field observations revealed the bedding mortar was “oversanded,” meaning it does not have an ideal binder-to-aggregate ratio. Large (3mm to 10mm) pieces of uncarbonated lime, found consistently throughout the convento’s bedding mortar, suggested the lime was used as a “hot mix,” or mixed with water soon after calcining (burning) and applied immediately. Part of the aggregate in the mortar appears to be remnants from the rough dressing of the tufa limestone for walls and vaults.

Methodology for Condition Assessment

The team reviewed earlier reports and other relevant literature. Site observations to identify and confirm materials, and earlier conservation efforts were performed.

High-resolution photographs were taken in the areas of the cloister, library, stairwell, landing, and office, even on surfaces where no plaster was present. The team created a glossary describing the actual condition of the structure which was graphically documented through room-by-room mapping. The condition assessment described the condition of each room.

The cloister contained much of its historical plaster wall coverings, and the majority of this remaining fabric was in imminent threat of deterioration and loss. The cloister contained many small areas of pigment from the first and second campaigns. There were traces of green pigment over a thin finish plaster, small areas of dark red pigments in multiple areas, as well as evidence of a faux

ashlar decorative scheme on the arch of north wall cloister.

Evidence of elaborate polychrome door surrounds—with green, yellow, and red color—could be found above the door in the southern wall.

The faces of the arches in the west wall contained multiple layers of original plaster treated during the 1988 conservation project. In these areas, elimination, detachment, and loss within the borders of the cement mortar applied during edge stabilization were identified. The areas still presenting plastered surfaces were carefully mapped in the drawings attached to the report.

The suggested treatments for this area were the reattachment of plaster with lime-based grout and a subsequent application of a natural hydraulic lime shelter coat, to ensure the cloister's mission-era plaster “remains intact for generations to come” (Krieger & Barrow, 2012).

In the library, the presence of a steel tie was reported, although the date of this intervention was unknown. Cracks and air cracks were also identified. Large areas of efflorescence were located on the east wall and on the northeast and southeast corners, the latter with associated delamination: “Incontrovertible evidence of a persistent and constant water source at the base of the library's east wall is revealed in two footings for the removable steel gate in the east door” (Krieger & Barrow, 2012, p. 12).

Delamination and loss of historic plaster and patching material could be seen in multiple areas of the interior east wall. Cementitious patching material was located below a line of efflorescence, defining the evaporation front delineated by the line of efflorescence. Patching material showed dramatic deterioration with crumbling of plaster and was beginning to damage the adjacent historic plaster.

Also, evidences of deterioration of the 1988 conservation works were reported. Evidence of structural decay was also identified: The wall between the Father President's office and the landing outside had serious structural cracks with failing patches that are partially the result of a failing door lintel. These cracks should be addressed with a structural masonry repair and replacement of the door lintel.

Recommendations

The report developed a set of proposed conservation repairs strictly correlated with the existing conditions recorded in the assessment. Also, associated to existing conditions, described through the use of a glossary of decay, were also assigned values—between 0 and 3—assessing the severity of the decay. Such values were collected in a matrix describing the room-by-room condition. Such

a “three-tier, triage” (Krieger & Barrow, 2012, p. 16) system represents a method for prioritizing repairs.

Treatment Development

The team tested a comprehensive array of method and materials (some of them comparable to previous conservation works) for the reattachment and grouting of plaster and the consolidation and re-adhesion of delaminating plaster and washes, reorganized in the following table:

Table 6.A.8:

Treatment Methods

*Adapted from Mission Concepción
Convento Condition Assessment
and Recommendations ... ,
by EverGreene
Architectural Arts,
2012*

Reattachment and grouting of plaster	- Natural Hydraulic Lime 2 - Dispersed Hydrated Lime in isopropyl alcohol - Rhoplex MC-76 with Ace 60 and Ammonia
Consolidation and re-adhesion of delaminating plaster and washes	- Aquazol in a 50% solution of isopropyl alcohol - Beva Gel - B-72 in acetone

“Replacement of non-vapor permeable modern” materials with natural hydraulic lime-based plaster (“NHL”) and other materials was reported to be recommended, since lime-based materials share performance with existing historic fabric and do not to adversely affect remaining mortar, plaster, and stone substrate.

Critical Conservation Repairs

Cloister

Critical Conservation repairs needed—large areas of plaster, primarily on the ceiling of all three bays, needed reattachment to stone or mortar substrate, which was mostly disaggregating. Also mortar consolidation and grouting was proposed.

Table 6.A.9

Adapted from Mission Concepción Convento Condition Assessment and Recommendations ... , by EverGreene Architectural Arts, 2012

Decay	Treatment/Repair	Location
Friable mortar substrate	Consolidation with limewash or nano limewash	
	Application through spay of sacrificial coating of NHL plaster, called “shelter coat” and made from putty lime	
Delaminating plaster, delaminating wash layers to underlying plaster, delaminating colorful decoration	Re-adhesion of delaminating layer	
Recommended repairs	- Removal of cement-based patching within areas of remaining historic plaster and - Replacement with NHL-based plaster	
	- Removal of cement-based patches and repointing. - Visual reintegration of non-historic graffiti	

Library

Only lower portion of the east wall and east door revealed critical conditions, especially northeast and southeast corners displaying active deterioration. Possible treatments and recommended repair were described as follows:

Table 6.A.10

*Adapted from Mission Concepción
Convento Condition Assessment
and Recommendations ... ,
by EverGreene
Architectural Arts,
2012*

Decay	Treatment/Repair	Location
Hard patches located	Removal of hard patches and integration/replacement with soft lime plaster, NHL based	In the lower portion of the east wall and northeast and southeast corners at the height of the cornice
Hygroscopic salts crystallizing on the wall surface	Addressing air circulation issue	
Highly visible patch with edge separation		Barrel vault ceiling through the sun decoration
Recommended repairs	Removal of cement-based pointing mortar on exterior east wall	
Minor Repairs	• Replacement or visual reintegration of conservation patches that are separating from surrounding fabric • Removal of cement-based patches • Install crack monitors on north wall above door • Install digital climate monitoring system and collect data regularly • Create maintenance schedule and implement dry cleaning of walls and floor surfaces	

Stairwell

Table 6.A.11

*Adapted from Mission Concepción
Convento Condition Assessment
and Recommendations ... ,
by EverGreene
Architectural Arts,
2012*

Decay	Treatment/Repair	Location
Delaminating plaster	Re-adhesion, reattachment to the substrate and grouting	Outer surface of the half-height wall enclosure of the upper stair run under the stairs and in the niches
Efflorescence	Sacrificial NHL plaster Limewash in form of a shelter coat	At the base of the eastern edge of the south niche On the plaster of the south niche
Recommended repairs	• Over paint removal • Removal of cement-based patches and renders; replacement with NHL plaster • Limewash applied	
Minor repairs	• Install crack monitors on interior and exterior; record readings regularly • Visual reintegration of non-historic graffiti • Create maintenance schedule and implement dry cleaning of walls and floor surfaces	

Landing

A serious structural crack above the entrance extended through the wall. This was patched with cement multiple times. Lintel replacement, crack repair through the entire width of the wall, and removal of cement render and patches were recommended.

Table 6.A.12

*Adapted from Mission Concepción
Convento Condition Assessment
and Recommendations ... ,
by EverGreene
Architectural Arts,
2012*

Recommended repairs	• Over paint removal • Limewash applied
Minor repairs	• Removal of cement-based patches • Visual reintegration of non-historic graffiti • Create maintenance schedule and implement dry cleaning of walls and floor surfaces

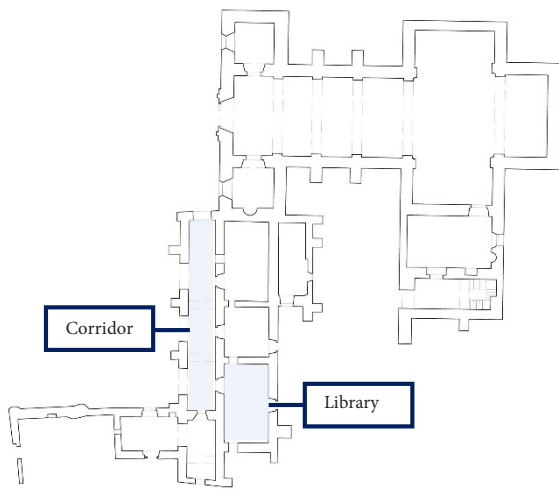
Office

The structural crack described on the landing required the same treatment on the interior of the office above the door.

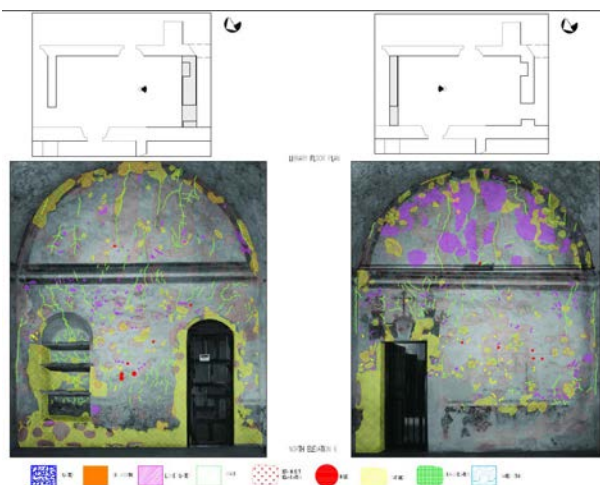
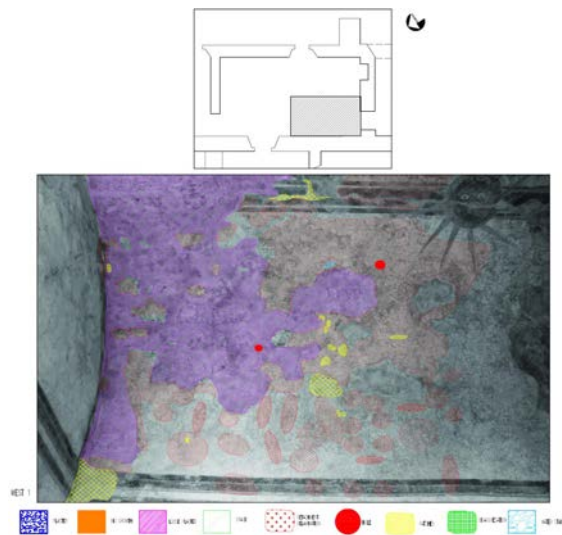
Table 6.A.13

*Adapted from Mission Concepción
Convento Condition Assessment
and Recommendations ... ,
by EverGreene
Architectural Arts,
2012*

Recommended repairs	• Replace roof rafters over landing; repair leaks in roof • Join ceiling rafters to overlapping church rafters in north wall; properly seat rafters in masonry • Remove cement render from interior of stairwell, landing, and office • Over paint removal • Limewash applied
Minor repairs	• Removal of cement-based patches • Visual reintegration of non-historic graffiti • Create maintenance schedule and implement dry cleaning of walls and floor surfaces



The interior areas were labeled and divided into separate units according to their material characteristics and layout: cloister (called corridor in this HSR), library, stairwell (includes lower stair hall and both runs of the stairway), landing, and office.



2012 Mission Concepción Convento Condition Assessment and Recommendations

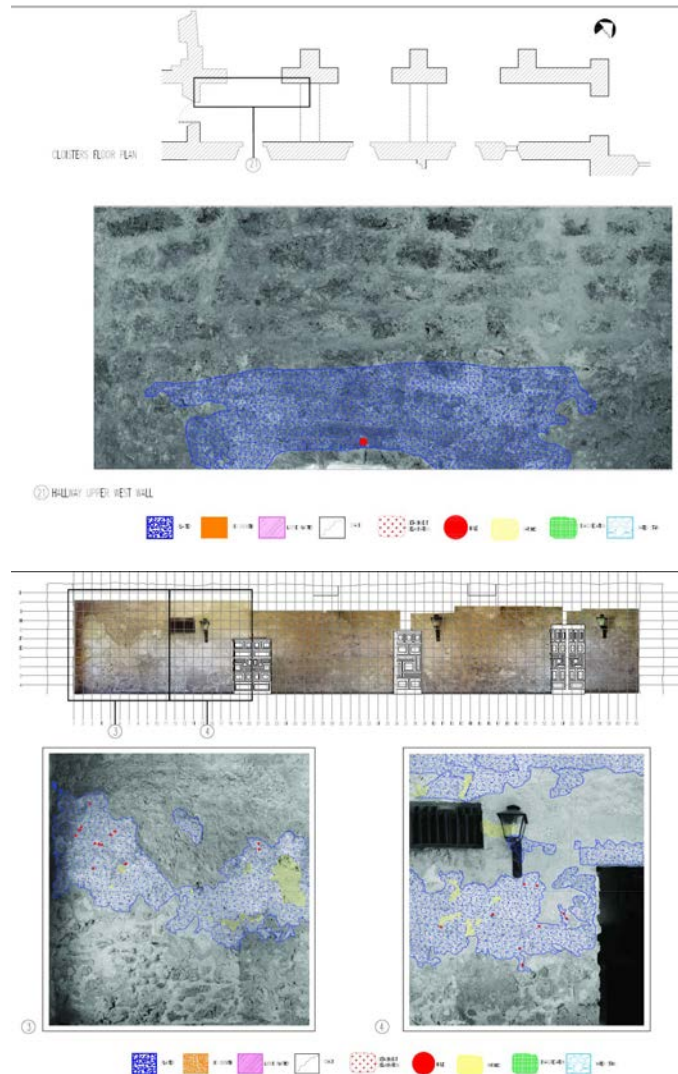


Figure 6.A.92: Example of decay mapping in the cloister wall. Evergreene conservators utilized photo elevation and photo documentation as base for the decay mapping, part of the condition assessment.

Reprinted from *Mission Concepción Convento Condition Assessment and Recommendations...*, by EverGreene Architectural Arts, 2012.

Figure 6.A.93: Example of decay mapping in the library. The vaulted ceiling was divided in four quadrants, elevations were documented with the use of a photo as base for the mapping. A key plan is always associated with the elevation under analysis.

Reprinted from *Mission Concepción Convento Condition Assessment and Recommendations...*, by EverGreene Architectural Arts, 2012.

2012 Mission Concepción Convento Condition Assessment and Recommendations

OFFICE Rating system: 0=not present 1=present 2=moderate or occasional
3=significant or pervasive

CONDITION	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	DOOR REVEAL	WINDOW REVEAL
LOSS	2	2	2	2	1	2
PIGMENT	3	3	3	1	2	1
INCISED DESIGN	3	3	3	0	0	1
DETACHMENT VOIDS	3	3	3	3	2	1
DELAMINATION	3	2	3	3	1	1
EFFLORESCENCE	0	0	0	0	0	0
PATCHING	3	2	3	2	0	3
DISAGGREGATION	1	1	1	1	0	0
CRACKING	2	1	3	1	1	1
HAIRLINE CRACKING	1	2	2	3	0	0
SURFACE HOLES	0	0	1	0	0	1
GRAFFITI	3	3	2	2	2	3
BIO GROWTH	0	0	0	0	0	0
STAINING	0	0	0	3	0	0
PAINT EXPOSURE	Dado	Dado	Dado	Dado	Door Reveal & Surround	Window Reveal & Surround

Figure 6.A.94: Example of matrices created by Evergreene conservators to assess the level of risk and prioritize repairs, subdivided in three categories: critical, recommended, and minor.

Reprinted from *Mission Concepción Convento Condition Assessment and Recommendations...*, by EverGreene Architectural Arts, 2012.

2015
Nuestra Señora
de la Purísima
Concepción Record
of Observations and
Recommendations
for the Protection
of Spanish Colonial
Finishes in the
Convento

Judith M. Jacob

The report presented observation of the site and made general recommendations for future preservation and protection efforts. The structure presented problems of interior flaking paint, and application of a limewash to surfaces was proposed. The preservation and protection of the Spanish Colonial finishes in the convento constitutes a complicated endeavor.

Table of contents:

- Description of Convento and Current Condition
- Brief History of Conditions
- Recommendations for Preservation and Protection of Spanish Colonial Building Fabric.

Numerous factors have played a role in the deterioration of building fabric, both of the masonry mass and of the painted surfaces. Factors include poor quality limestone, inappropriate repair materials, water infiltration, salts, and neglect, also natural weathering and erosion. Previous uses sparked an accelerated process of deterioration, such as the use of the mission for the housing of livestock. In the modern era, the use of Portland cement-based mortars, Portland cement-based paving, and petroleum-based paints has altered paths of water movement and evaporation zones in the masonry mass.

Previous conservation works were mentioned, such as the 1998 conservation works in the library. In 2012, EverGeene, on contract with the NPS, replaced concrete fills in the convento with lime mortar and tile fragments. A sample of a modified limewash, pigmented to a light beige color, was applied adjacent to the pre-1883 sample in the arcade.

The author of the 2015 report proposed the creation of a preservation plan, including both building fabric and landscape interventions in order to ensure the execution of works in a systematic and coherent way. The preservation plan would include:

- Environmental-Monitoring Plan
- Water Management
- Pointing and Fills
- Shelter Coats
- Biofilms and “Cleaning”
- “New” Treatments and Student Projects

Execution of a second paint-removal campaign was proposed, perhaps in the two southern cells, with preliminary testing; for the treatment of biofilms and “cleaning,” the author recommended leaving biofilms as they are and

accepting their black color. Biofilm removal was suggested only for identifying locations of Spanish Colonial finishes.

Additionally, the author provided recommendations for further research and data collection:

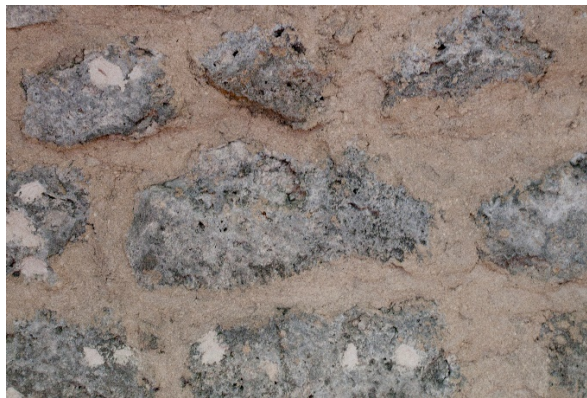
1. Revised Historic Structure Report: The author suggested the completion of James Ivey's draft Historic Structure Report; two in-depth examinations with two resulting reports of the structure's critical changes in the late-19th century and then again during the Works Progress Administration (WPA).
2. Condition History Report: Condition history of the mission with a timeline of construction, repair treatments, demolitions, and disasters, and with a summary of each event. This will include: "early travelers' records, historic photographs, newspapers, maintenance files, treatment reports, and interviews with NPS employees and retired employees. Sometimes the smallest bit of information ('I got my new shoes all muddy') can lead to a much greater understanding of past—and present—condition" (Jacob, 2015).
3. Digital Collection of Historic Photographs: Digital collection of high-quality historic photographs showing close-up details of walls. This will provide information on earlier appearances and together can be used to provide information on rates of surface deterioration, if the documents are assembled in chronological order.
4. Catalog of Historic Graffiti.
5. Collections of Building Components and Extracted Samples.
6. A preservation plan, with room for flexibility, will enable work to proceed in a logical sequence of steps.

Assessment of Current Conditions

Description of the Wall Masonry Surface—Exterior



Figure 6.B.1: Detail of a sedimentary 'tufa' block. Tufa stone is characterized by an oversize porosity. The masonry was repointed with a brownish restoration mortar.



F.6.B.2 Detail of 'tufa' rubble used for the construction of the vaults (from the corridor). The masonry joints were repointed with restoration mortar.

The convento structures are built with load-bearing masonry walls, made of irregular stone blocks, rubble, and lime mortar. The stone construction utilizes barrel-vaulted ceilings in the one-story portion of the convento. The area adjacent to the church sacristy, instead, exhibits a multi-centered arch in the alcove.

The building stone is a coarse, porous limestone "tufa" of sedimentary origin, with a cream color tone. The stone has a coarse texture, supporting only rough-hewn masonry. However, it has a high workability.

This rock features an oversize porosity, with numerous large holes (up to 3–4 cm of diameter—approximately 1 3/4") lined with a fine calcite with a flow-stone appearance as well as small vermicular tubes and cavities (5–10 mm—up to 3/8"), some formed around plant roots (Ewing, 2008, p. 37).

Sedimentary tufa is formed by biological and chemical precipitation of calcite or aragonite from cold, supersaturated surface or ground waters. In particular, this rock was deposited from a spring discharging calcite saturated water, most probably risen from the Edwards Aquifer along an inferred fault zone (Ewing, 2008, p. 37).

The tufa stone was quarried on a site located on the southwest side outside

the mission compound in a quarry which is presently filled, with only one part still exposed in a depression near the parking lot.

The convento walls also feature the use of a fine-grained, compact but friable limestone, characterized by a whitish color and usually denominated as “caliche” or Austin limestone. The Austin limestone is used for ashlar blocks or rubble stones. In particular large stone blocks are visible close to the floor level, on both side of the entrance to the alcove, anticipating the sacristy entrance. This type of stone is also used in the carving of the church facade and for other artifacts of the mission compound.

In a few cases, a whitish limestone rubble, characterized by large round aggregates (3–10 mm) are also found. This stone is defined as “pisolithic limestone,” and the aggregates are river pebbles encased in calcite. These stones feature an interesting type of decay indicated as “differential erosion.”

The mortar grouting on the walls has little/no evidence of the original lime mortar, it is instead characterized by numerous mortar grouting campaigns, with different types of mortars—both for composition (type and size of aggregate, color, hardness, etc.) and pointing techniques.

Modern mortars are also used in the great amount of patching found in the convento. Some of the restoration mortar appears to be lime based and visually integrated with the substrate (therefore chemically and visually compatible), the use of Portland cement based mortars has been identified in numerous areas; repairs executed in recent years by NPS personnel apparently use a cement-lime mix: 4 concrete sand Keller, 1 Poteet (red clay sand) Keller, 1.5 lime (Type SA or S); 1 Caliche (Pit Run) W.W.White, screened $\frac{1}{4}$ by staff (Restoration Associates Limited, 2009, p. 1).

The extensive presence of Portland cement materials (such as Portland cement mortars, Portland cement based paving), together with the adoption of

Fig. 6.B.3: Ashlar stone block made of a whitish fine-grained, compact limestone, also called Austin limestone.



Fig. 6.B.4: Masonry may include some sedimentary limestones, ‘pisolithic stones,’ featuring large aggregates of river origin.

petroleum-based paints that are widely used in the convento's structures may have altered paths of water movement and evaporation zones in the masonry mass.

Description of the Historic Plaster

The Interior Rooms

In the interior rooms, remains of historic plaster and painted finishes are found in the convento's three east cells (storeroom, portería, library), on the corridor walls and on surrounding arches of the corridor; historic plaster is also present in the convento's two-story wing adjacent to the sacristy: at the ground level of the alcove and mostly on the upper level of the same room. The Father President's office is covered on all four walls with historic painted plaster with remnants of geometrical patterns on the wainscot.

The two southern cells (refectory and kitchen) in the one-story convento wing have been resurfaced with a cement-based plaster which is painted white.

Analysis of mortar and exterior renders was completed on samples from Mission Concepción and at Mission San José in 1980s (for the ratio sand/lime identified in the '80s, see pp. 79–80 of this HSR). These studies concluded that the mortars and renders at both sites are weakly hydraulic with uncarbonated inclusions. Mortars and plaster composition supports the hypothesis that they were produced on site, through firing and crushing the same limestone used for masonry.

Weakly hydraulic lime plasters are vapor permeable and soluble in water, making them susceptible to deterioration through exposure to humidity and rain. Salts produce material detachment in the form of granular disaggregation and blistering of the plaster surface.

The Painted Plaster in the Convento's Rooms and in Father's President's Office

Interior spaces in the convento were originally finished with lime based plaster and featured polychrome geometrical 'architectural' decoration. Such interior finishes found in the rooms denominated as the library, portería and storeroom date to approximately 1755–1759.

The Father President's office finishes, however, may be part of a different project carried out after 1759, the year that vaulting construction stopped (this room was covered with a flat roof). Red paint in the Father President's office differs in color tone and composition from red paint found in the convento's one-story structure, supporting such hypothesis.

Plaster in the convento's rooms appears to be very rich in lime and sand

made of small crystalline particles and tan in color.

Traditionally, plaster substrate was laid in two or more layers. The first layer was applied on the wall substrate—the scratch coat—and consisted of sand and lime mixture with sand featuring larger aggregates. Next, a brown coat was applied to establish a flat, plumb surface (also called ‘arriccio’), on which the painted finish was applied.

The corridor exhibits a complex plaster stratigraphy: Remnants of various generations of plaster finishes can be observed on the south wall, where there are clearly visible two layers of plaster. A second layer of brown coat is visible on the top of an older plaster, featuring a painted finish coat. On the top of this plaster’s complex stratigraphy, numerous subsequent layers of limewash can be observed. Splashes of dark gray paint are found, mostly in the north wall, but also in the east wall. The dark gray paint is applied over the layered substrate and can be considered modern (Crosby, 1997a, p. 19). Similarly, in the 1991 in-

terventions on the portería and storeroom, the existing layers of limewash were interpreted as non-historic and therefore removed to reveal the historic plaster finishes. Further studies should be carried out for the corridor’s plaster remnants, made of numerous layers, to better understand such material evidences of the building’s historical phases and use.

Polychrome decoration characterized the painted finishes of the storeroom, portería, library, the corridor’s arcades and Father President’s office. Such polychrome is almost completely lost in the storeroom and portería which still feature wide areas with historic plaster. Remnants of decoration are partially visible in the Father President’s office and, also, in the arcades of the corridor. In the northern arcade it is possible to visually reconstruct the red and yellow “faux voussoir pattern”, also present in the Convento of Mission San José. The library painted finishes are definitively the most intact of the whole convento.

All interior rooms still retaining historic plaster—the library, the portería, the storeroom and the Father President’s office—are characterized by the presence of “score” marks (Motiejunaite, 1990) which were made in the wet plaster to provide an outline for the painted decorative ‘architectural’ patterns. Although the decoration may have disappeared in some of the rooms, score lines are still visible.

Wall architectural decorations are usually defined as ‘architectonic’ (Crosby,

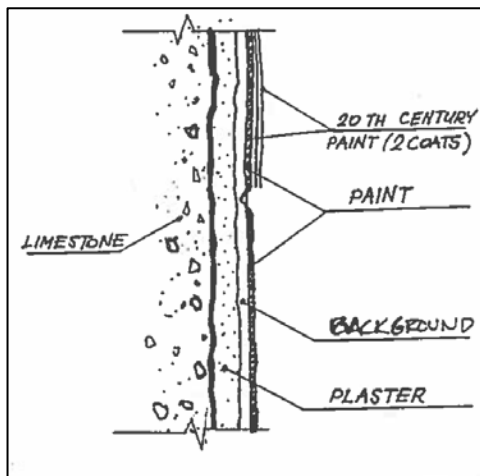


Fig. 6.B.5: Sketch of a typical cross-section of paint and plaster finishes in the Father President’s office.

Reprinted *Recommendation for Paint and Plaster Conservation in the Three Rooms at Mission Concepción*, by Diana Motiejunaite, 1990, p. 12.

1997a) and included ‘faux voussoirs’ on the door architraves and arches, painted cornices, wainscots with horizontal bands at the top and dados, and other unclear decorations around windows and doors. Background areas, or areas that did not received decorative painting, were finished with two coats of a “thin wash of ochre color throughout” (Motiejunaite 1990).

Earlier reports on the finishes of the library suggest that the decorative finishes were actually applied as fresco a secco (pigmented limewash applied on dry plaster) or paints.

Paints are defined as films forming coatings that contain natural mineral pigments, and medium (binder-lime or calcium hydroxide)) and usually applied with a solvent.

Analysis of exterior stucco from the facade of Mission Concepción church confirms the hypothesis of the ‘fresco a secco.’ In case of the church facade, the stucco was dry when colors were applied to it and that the applied decorative elements are indeed paint.

In the extensive mapping of the convento’s walls, the presence of plaster on the exterior walls and in the corridor is recorded along with its associated decay pattern since its condition requires intervention.

Description of Decay Patterns

Biological colonization and associated decay is widely seen on the exterior walls of the whole convento structures—algae, mosses, lichen, and higher plants are all visible on the surface of the stonework. The highest concentration of the dark biofilm is on the walls facing north.

Moisture plays an important role in the biological decay of the convento. Algae can be seen as a dry black surface—or also dry crust in some areas—on parts of the monument in the summer months. The dry crusts change into a moist, spongy layer in the winter. During the winter months, in fact, when rain is common, lower walls of the convento are visibly wet as well as the buttresses on the east elevation. To a lesser extent, the same phenomenon is visible on the buttresses of the west elevation.

In areas that are perennially damp, such as the buttresses on the east facades, greening of the stone caused by algae occurs. Once greening occurs on a surface a positive feedback loop can be established—the algae growth encourages the retention of moisture and hence further greening.

Algae often may work in combination with salts to cause decay. Previous studies on similar decay patterns also proposed that biological action occurring in conjunction with salt caused a greater degree of damage to stone than either would have acting in isolation (Papida et al., 2000). The presence of large pores

and cavities in the tufa may help to prevent salt damage in the tufa blocks, however such damage extensively affects the plastered interior walls of the library, the guest room, and other interior rooms of the convento.

Two sources cause moisture to accumulate near the exterior of the east wall. Water accumulates near the base of the wall during the daily sprinkler watering of nearby plantings. Mist also collects on the library and stairwell exterior walls during waterings. During heavy rainstorms a large puddle forms on the hard cap near the wall.

Additionally, scuppers located on the east exterior of the library direct water just a few feet away from the building, and during heavy rains contribute to the creation of standing water on the hard cap. Water that enters the soil from around the hard cap and flows beneath it will remain there until it reaches a more permeable surface, such as the library wall (EverGreene, 2013).

Further investigations on the biological growth of the exterior walls of the convento should be carried out to understand how lichens are widespread, mixed with the algae and how deep the biological colonization goes into the walls. Lichens may be integrated into the stone surface detaching from the stone and thus bringing surface grains of sand with it.

Glossary of Deterioration

Decay mapping and condition assessment have proved to be useful tools to understand and analyze stone wall decay and for identifying remedial action.

This work includes a detailed mapping of the decay of the exterior walls of the convento, made of tufa rubble or blocks with lime mortar as well as the interior spaces of the convento, featuring various types of surfaces such as painted decorated plaster, painted non decorated plaster and exposed stone walls.

One of the problems inherent in discussing stone decay is finding a common language. In this report, the definition of “stone” includes natural stones as well as mortar, plasters, stuccoes and bricks—all to be considered “artificial stones,” as man-made materials.

This report uses and adapts to the convento of Mission Concepción, the ICOMOS-ISCS *Illustrated Glossary on Stone Deterioration Patterns* under the editorship of Veronique Verges-Belmin (2008) and created by the ICOMOS Stone Committee. The glossary is a significant advancement in the analysis of stone decay glossary, helping define and clarify usage across languages (French and English).

Using the 2008 ICOMOS *Glossary* as a baseline, all decay patterns were organized according to the type of substrate where the decay was identified, such as stone masonry, finished plaster, etc.

The condition assessment presented in this study is the result of a visual assessment, integrated with infrared camera images used to support a detailed photogrammetric survey. Photogrammetry allowed the assessment team to identify irregularities on stone masonry surfaces, cracks, and textures on the wall surfaces. Data collected through the visual assessments were mapped on the wall photo-elevations, using the results of the photogrammetric survey and are specifically described in this study.

Table 6.B.1: Deterioration Patterns Identified on Surfaces of Concepcion Convento

A.	GENERAL DECAY PATTERN		
	A.1. Biological Colonization		
A.1.a	BIOLOGICAL GROWTH	Colonization of stone materials by plants and microorganism such as bacteria, cyano-bacteria, algae, fungi, and lichens. It is widely spread all over the convento's structure.	
A.1.b	MOSS	Vegetal organism forming small, soft, and green cushions of centimetric size. They generally look like dense micro-leaves, tightly packed together.	
A.1.c	VEGETATION GROWTH	Vegetal organism forming small, soft and green cushions of centimetric size. They generally look like dense micro-leaves, tightly packed together.	
	A.2. Discoloration and Deposits		
A.2.a	DISCOLORATION	Change in stone color in one to three color parameters: hue, value and chroma. Present as mostly bleaching, gain value due to chemical weathering.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

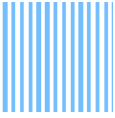
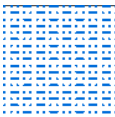
A.2.b 	ENCROUSTATION	Compact, hard, mineral layer adhering to the stone. Surface morphology and color are usually different from the one of the stone.	
A.2.c 	EFFLORESCENCE	Whitish, powdery and whisker-like crystals on the surface, they are mostly poorly cohesive and commonly made of soluble salt crystals.	
A.2.d 	DEPOSIT	Accumulation of exogenic material of variable thickness, characterized by a lack of adhesion to the stone surface.	
A.2.f 	GRAFFITI	Engraving, scratching, cutting or application of paint, ink, or similar matter on the stone surface. Here, some graffiti may be considered historic.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

B.	STRUCTURAL DECAY OF MASONRY		
	B.5. Crack and Deformation		
B.5.a.3	HAIR CRACK	Minor individual fissure, visible by the naked eye, with width dimension smaller than 1 millimeter.	
B.5.b	FRACTURES	Individual severe crack, visible by the naked eye and crossing the whole wall thickness.	
B.5.c	IRON CONNECTING ELEMENT	Presence of iron bars, horizontally crossing the corridor and visible at the naked eye, located at the extrados of the arches. Used to contrast the outward rotation of the structure.	
	B.4. Features Induced by Material Loss		
B.4.e.3	MISSING PARTS/GAPS (STRUCTURAL)	Empty spaces, located in the place of previously existing stones creating structural discontinuity, reduced wall section and hollow places, holes.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

B.4.g.1	MORTAR PATCHING	Area filled with repair mortar, visible at the naked eye due to its color and aggregates.	
B.4.g.2	MORTAR PATCHING WITH BROWN MORTAR	Area filled with repair mortar, characterized by a brown visually color, contrasting with the surrounding masonry wall.	
B.4.g.3	CONCRETE PATCHING	Area filled with repair mortar, with a cement component, featuring higher hardness and low porosity.	
C.	STONE MASONRY		
	C.3 Detachment		
C.3.a.1	DETACHMENT OF THE EDGES	Loss of cohesion of the masonry with the wall substrate, located on the edges of masonry fragments. It may lead to water infiltration and accelerated decay.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

C.3.f 	FRAGMENTATION	The complete or partial breaking up of a stone, into portions of variable dimensions, irregular in form, thickness and volume.	
C.3.g.1 	DELAMINATION	Detachment process affecting laminated stones, corresponding to a physical separation into several layers following the stone laminae.	
C.3.c.1 	DISINTEGRATION OF THE CAPPING	Detachment of aggregates of grains, leading to a loss of continuity of the waterproof surface, producing as a consequence water infiltration.	
C.3.c.2 	DISINTEGRATION OF THE STONE BLOCK WITH LOSS OF MATERIAL	Detachment of grains or aggregate of grains affecting the surface of the stone and can occur in that depth with loss of original material.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

C.4. Features Induced by Material Loss			
C.4.a.1	EROSION OF THE STONE BLOCKS	Loss of original surface on the stone block, leading to smoothed shapes, due to chemical, physical, and/or biological processes.	
C.4.a.2	EROSION OF THE MASONRY WALL	Loss of original surface on the masonry wall, leading to smoothed shapes, due to chemical, physical, and/or biological processes.	
C.4.b.1	DIFFERENTIAL EROSION OF THE STONE BLOCKS	Irregular loss of original surface, with formation of irregularity on the stone surface, found in heterogeneous stones containing harder zones.	
C.4.b.2	DIFFERENTIAL EROSION OF THE MASONRY WALL WITH MORTAR LOSS	Loss of original surface leading to smoothed shapes occurring with different rate between the rubble stone and the joint mortar, which is almost completely missing.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

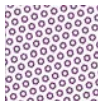
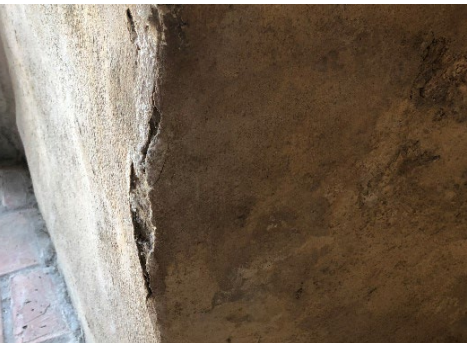
C.4.d.1 	EROSION/LOSS OF JOINT MORTAR	Loss of the mortar located in the joints between stone rubble.	
C.4.e.2 	MISSING PARTS/GAPS (small non-structural):	Empty spaces, obviously located in the place of previously existing stone and joint mortar, not impacting the structural stability. Gaps are hollow place, holes.	
C.4.f 	ALVEOLIZATION	Formation, on the stone surface, of cavities (alveoles) which it may be interconnected and may have variable shapes and sizes (generally centimetric).	
D.	PLASTER FINISHES/ARRICCIO		
	D.3. Detachment		
D.3.a.2 	DETACHMENT OF EDGES	Loss of cohesion of the plaster with the wall substrate, located on the edges of plaster fragments. It may lead to water infiltration and accelerated decay.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

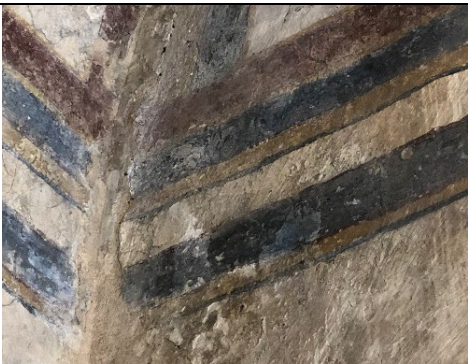
D.3.a.3 	DETACHMENT OF THE EDGES IN PAINTED PLASTER	Loss of cohesion of the plaster with the wall substrate, located on the edges of plaster fragments. It may lead to water infiltration and accelerated decay.	
D.3.b 	DETACHMENT OF SUBSTRATE	Loss of cohesion between the plaster and wall substrate, mostly not visible, but assessed through tapping.	
D.3.c.3 	DISINTEGRATION/ CRUMBLING (LOOSE PLASTER)	Detachment of aggregates of grains from the plaster substrate, generally limited in size (less than 2 centimeters).	
D.3.d 	BLISTERING	Separated, air filled, raised hemispherical elevations on the face of the plaster surface, resulting from the detachment of the outer layer.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

D.3.e	POWDERING	Granular disintegration of aggregates made of finely grained plaster or stucco (considered as artificial stone).	
D.3.g.2	DELAMINATION OF PLASTER LAYERS	Detachment process affecting the plaster corresponding to a physical separation of the various layers.	
D.4. Features Induced by Material Loss			
D.4.a.3	EROSION	Loss of original surface, leading to smoothed shapes and due to a variety of reasons related to chemical, physical, and/or biological processes.	
D.4.a.4	EROSION OF THE PAINTED FINISHES	Loss of original surface, leading to smoothed shapes and due to a variety of reasons related to chemical, physical, and/or biological processes.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

D.4.b.3	DIFFERENTIAL EROSION	Irregular loss of original surface, with formation of irregularity on the plaster surface, due to the presence of harder and larger aggregates.	
D.4.c	MICROKARST	Network of small interconnected depressions due to partial and/or selective dissolution of calcareous surface exposed to water run-off.	
D.4.e.3	MISSING PARTS/GAPS (small non-structural):	Empty spaces, obviously located in the place of previously existing plaster/mortar parts, also denominated as 'lacunae.' Gaps are hollow place, holes.	
D.4.f	MISSING OF PAINTED FINISH	Absence or loss of the superficial layer composing the painted plaster surface.	

Table 6.B.1 (cont.): Deterioration Patterns Identified on Surfaces of Concepcion Convento

D.4.g.2	PATCHING	Area filled with repair mortar to fill gaps or lacunae (missing parts) made of mortar, visually contrasting with the substrate and featuring a rougher texture.	
	D.5. Crack and Deformation		
D.5.a.2	HAIR CRACK	Minor individual fissure, visible by the naked eye, with width dimension smaller than 1 millimeter.	
D.5.b	CRAQUELÉ	Network of minor cracks, also called a crack network.	

Based on the comprehensive visual survey of the condition of the convento structures, a synthetic assessment of each wall was established, using the terms, “excellent, good, fair, poor,” as explained below.

Table 6.B.2: Building Condition Assessment	
Term	Description of building element, system or assembly
Excellent	Perfectly maintained in a condition where all is performing at or near peak capacity. No improvement work is needed.
Good	Well maintained with little evidence of deferred maintenance. All is functioning as designed without any defects disabling performance.
Fair	Maintenance has been deferred. Functionality is limited or compromised. Routine repairs and upgrades are needed.
Poor	Obviously broken, damaged or missing components. Dysfunctional, inoperable, or failing. Beyond repair by normal maintenance methods.

Room-by-room Analysis of Decay Patterns

104 A_Corridor

The corridor of the convento is exposed to the elements through an archway on the north face and the three archways forming an arcade facing west.

The corridor contains much of its historical plaster wall coverings, in a fragmentary state.

From north to south:

- The first section of the cloister, from the north arch to the first vault rib, retains 80% of the historic covering.
- The middle section, between the two vault ribs, retains approximately 10% of the historic wall covering,
- The third section, from the southern vault rib to the south wall, retains 25% of the historic wall covering.

The final finish appears to be a limewash, presently darkened by dirt and deposits. In some areas a dark gray paint appears to be the final finish.

Under the superficial layer of dark discolored wash, the plaster in several areas exhibits numerous layers, other washes in addition to the superficial one can be seen in such numerous layers of the plaster.

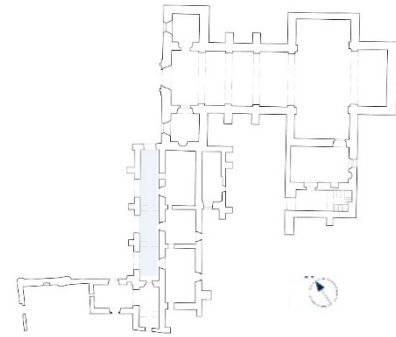
Remnants of painted plaster in the intrados of arches contain legible evidence of the faux ashlar decorative scheme that may have once decorated all of the arch surfaces and door surrounds. Incisions delineate ashlar block and mortar joints. Red, green, and yellow pigments are visible in the blocks and a darker, black or blue pigment in the joints (EverGreene 2013).

Areas of dark red pigment and an incised flower ornament are visible in the dado level of the cloister. Two or more layers of limewash and/or paint follow these earlier Mission-era campaigns.

The east wall, between the northern arch and the storeroom, exhibits some fragments of gray and whitish—probably the white layer is below the gray one—painted finishes (sectors B1, B3, B4, B5, and A4 and A5).

Other remnants of color painted plaster can be seen:

- Around the door of the storeroom (sector B6), a very small fragment of red and ochre plaster is visible on the north post at approximately 4 ft. from the ground level.
- Around the library door (sectors B16 and B17), a very small remnant of painted plaster is located on the left door post at approximately 5'5" (165



cm) from the ground level and one other fragment is located on the right post a little higher. This is associated with a second plaster campaign (date unknown) which has areas of red, green, and yellow pigment consistent with complete schemes of faux ashlar decoration in the adjacent library.

- In the door surrounds leading to the refectory on the south wall, above the architrave (painted on a second layer of plaster).

*Overall
condition:
fair*

North Wall

Overall condition of this wall is fair, with the plaster finish in need of intervention.

Most of this elevation is covered with plaster, exhibiting differential erosion. The overall surface features incoherent deposits. Discoloration of the painted finishes, with vertical streaks, is visible on the top of the arch (sector D 1 and intersecting D2, D3, C2, and C3). There is some edge detachment of the plasters and hairline cracks spread across the wall surface (detachments are located on sector B1, C2, and D2; hair cracks are visible on sectors B1 and D3). Numerous mortar patching allows the continuity of the figurative pattern.

Various small areas around the arch feature missing materials (Sector B1, top of A3 and C2). At the level of the ground, on the east side of the arch (sector A3), an entire stone is missing from the wall surface.

*Overall
condition:
fair/good*

East Wall

The overall condition of this wall is fair, however its surface features historic plastered areas with a complex stratigraphy as well as exposed stone masonry.

The lower portion of the wall until approximately 3 ft. from the ground level is overall in good condition, with replacement of historic materials with numerous campaigns of patching.

The area located on the north section of the wall features a large integration made of small limestone rubble and brownish mortar (section A1 and A2). This portion of the wall has a bench in front of it so it was not possible to assess the condition of the wall behind. The lower portion of the wall next to the door leading to the storeroom features brown patching. The south post of the door leading to the storeroom features some small missing parts on the edges at approximately 2 ft. from the ground level. The door leading to portería exhibits a higher number of missing parts on its lower section, on both of the lintels.

The section of the wall south of the library door features various layers of painted finishes in the plastered areas: Exposed masonry wall areas were painted with one of more layers of limewash, applied directly on the tufa stone. These

limewash layers are characterized by erosion (sections A16–A18, A19).

The middle portion of the wall is the one featuring large areas of plaster, mostly ‘arriccio’, with a high number of fragments of painted finished—only the main ones are mapped in the drawings (sections B1, B2, B3, A4, B4, A5, B5, A6, B60). Such a large plastered area includes one wide brown patching (between sections B3 and B4).

The architrave of the storeroom door also features remains of plaster, with some differential erosion, graffiti, one hair crack, and very well-executed patching which produce a material continuity of such plastered fragment. The central section of the wall exhibits the tufa stone wall with mortar joints and numerous mortar patchings (sections B8, B9 and B10 and part of B11), continuing in the sections B12, B13 and B14, only interrupted by a well-executed patching in the section B3. A vast area surrounding the library door is still covered by historic plaster, both in the middle and higher wall sections, with erosion of the painted finish (B15, B16, B17, B18, part of B19, C15, C16, C17, and C18). This area has a complex history of interventions, featuring various campaigns of plaster, also intersected by numerous areas with limewash applied directly on the tufa stones (B14 and B15). In order to report such complexity in the mapping, special notes have been created to identify the changes of the apparently homogeneous surface.

The uppermost section of the wall is mostly made of exposed tufa blocks, with non-historic, irregularly executed mortar joints with localized detachment of edges in the mortar (sections D3 and surround, between section C4 and C5, C10, C11, C12, C13, D18).

On the uppermost section of the wall the metal plate, the threaded rod and bolt (clearly not modern) of the library tie rod is visible. (Section D 15).

*Overall
condition:
fair*

South Wall

The overall condition of this wall is also fair, similar to the east wall, it is covered by numerous layers of plasters, exhibiting a complex stratigraphy.

The lower section of the wall surrounding the door is characterized by advanced erosion as well as differential erosion of the plaster surface. A large area is still covered by a thick plaster (almost 1 cm), characterized by detachment of its edges on the east side (B1). This large area extends until the door architrave, where a delamination of plaster layers is visible. The plaster is often interrupted by various patches. Plaster remnants on the west portion of the wall are detached from the substrate.

Overall
condition:
fair

West Wall

The faces of the arches in the west wall contain multiple layers of original plaster that were treated during the 1988 conservation project. Also, the wall features a more recent treatment with two or three layers of limewash applied on the wall surface, a “shelter coat” located between the first and second arch on the southern portion of the room.

Such NHL ‘shelter coat’ is a mock-up made with the intention of providing a reversible conservation method for preserving and protecting the remaining historic surfaces from the heavy use from both visitors and parishioners.

Numerous areas of gray patching are visible on the south portion of the second of the above-mentioned arches (A10, B10, C1). The gray patches were also recently executed by EverGreene and are NHL (Natural Hydraulic Lime) based. They were mapped in this HSR as mortar patching. NHL patches are replacing the brick tile patching of voids previously inserted by EverGreene and subsequently removed.

The overall condition of the wall is fair, a preservation plan for this wall is needed based on a clearly identified philosophical approach.

Large areas of historic plaster still in place feature differential erosion and detachment of edges mostly located on the top of the arches (C2, C3, and C4, C5, C6, C7, C8, C9, C11, C12, C13, C14, C15). A large area of historic plaster, located on the north edge of the wall, is characterized by powdering associated with differential erosion (B18, B19, D18, and D19).

Most of the patching on this wall are the one described above, made by EverGreene. Few others made with a brown mortar are also visible (A10, B10, A11, B11, A12, B12, and B15).

Ceiling

The majority of plaster on the vaulted ceiling is missing, with exposed stone masonry regularly laid and featuring non-historic mortar joints. Only the northern edge of the barrel has remnants of scratch coat, with presence of efflorescence and detachment of edges (C16, C17, A18, B18, C18).

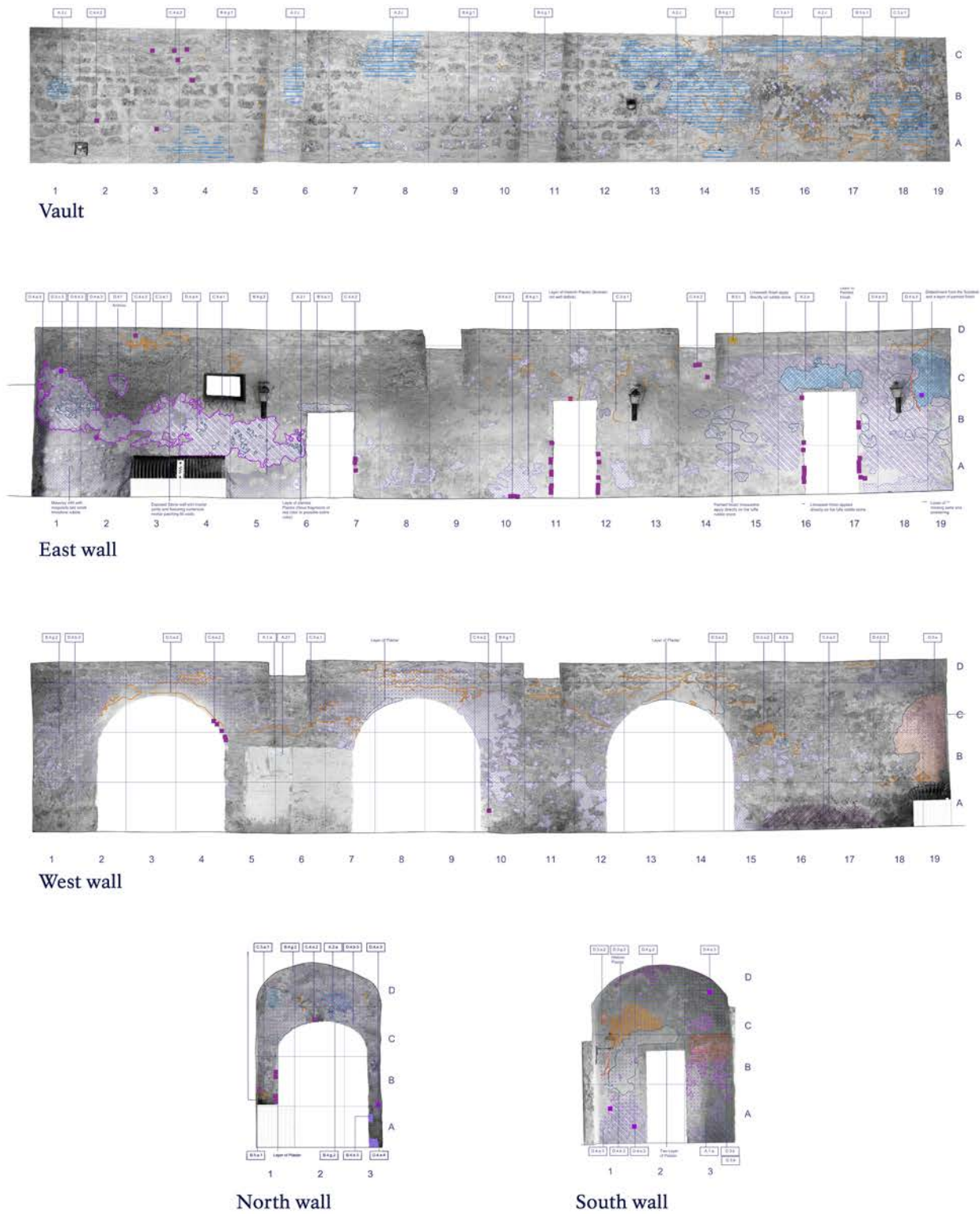
This area also features various small patching. Small mortar patches were also observed in the central section of the vault (from A8, B8, C8 to A12, B12, C12).

The whole barrel vault features wide areas with efflorescence (B1, B6, C6, C7, C8, B13, C13, A14, B14, C14, B15, C15).

Note on the Floor

Brick floors with herringbone pattern were laid in concrete mortar and probably are from the 1960s.

104 A _ Corridor



104 A: (CA_04) Corridor General Photos



Figure 6.B.6: 104 A—View toward southern entry into the corridor. Note the south wall covered by various layers of historic plaster and finishes.



Figure 6.B.7: 104 A—View toward northern entry into the corridor. On the extreme left, the recent NHL (Natural Hydraulic Lime)-based patches are visible.



Figure 6.B.8: 104 A—East wall with door toward storeroom. On the left side of the door, a large remnant of historic plaster is visible, featuring erosion of its superficial finishes.



Figure 6.B.9: 104 A—East wall with door toward porteria. Around the door opening, large areas where limewash was applied directly on the tufa rubble masonry are visible.



Figure 6.B.10: 104 A—Northern corner of the east wall (A1, A2), featuring brown mortar patching and masonry infill with irregularly laid small rubble limestone.



Figure 6.B.11: 104 A—Northern area of the east wall, showing erosion in the historic plaster.

104 A: (CA_04) Openings



Figure 6.B.12: 104 A—East wall (B4, B5, C4, C5). Small window that connects with the storeroom. At the bottom part of the window there is some erosion of the historic plaster.



Figure 6.B.13: 104 A—East wall (A6, A7, B6, B7), door leading to the storeroom. On the left side of the door, a fragment of red painted plaster is still visible. The surrounding areas feature erosion of the historic plaster. The door architrave features extremely well-executed patching, perfectly blended with the surrounding areas. Their execution can be considered a reference point for future interventions



Figure 6.B.14: 104 A—East wall (A11, A12, B11, B12), door leading to the portería. Around the door several types of mortar patching can be found.



Figure 6.B.15: 104 A—East wall (A16, A17, B16, B17, C16, C17), door leading to the library. At the sides of the door there are areas where limewash has been directly applied to the tufa rubble stone. In the architrave of the door there are remnants of historic plaster.

104 A: (CA_04) Vault and North Arch



Figure 6.B.16: 104 A—Vault looking south. The vault features regularly laid coursed blocks and modern mortar joints.



Figure 6.B.17: 104 A—Vault looking north.



Figure 6.B.18: 104 A—Detail of the vault showing mortar patching.



Figure 6.B.19: 104 A—Ceiling detail (B11, B12).



Figure 6.B.20: 104 A—Arch in the north wall of the corridor, remnants of painted plaster (red and yellow).



Figure 6.B.21: 104 A—Arch in the north wall of the corridor detail, remnants of painted plaster (red and yellow). The red and yellow faux voussoir colors are partially covered by a gray paint.

104 A: (CA_04) Details East Wall



Figure 6.B.22: 104 A—Southern part of the east wall (B14, B15), limewash applied directly on the tufa rubble stone.



Figure 6.B.23: 104 A—East wall (B6), left jamb of the door that goes to the storeroom, remnants of painted plaster.

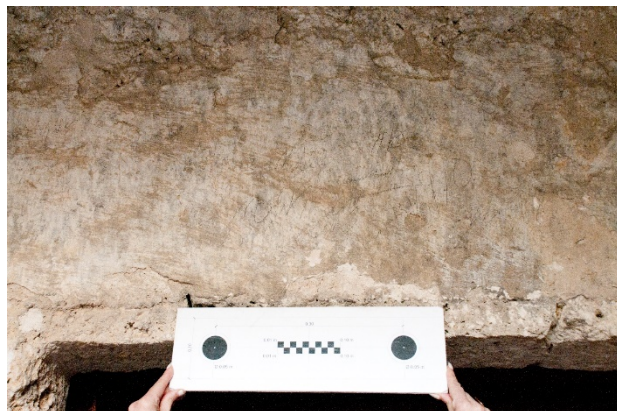


Figure 6.B.24: 104 A—East wall (C16, C17), historic plaster on the library door architrave featuring detachment of edges in its lower part, historic graffiti and historic incised patterns.



Figure 6.B.25: 104 A—Corridor. South wall (B2, B3), at least two layers of plaster are visible in the architrave of the door leading to the refectory. The area with no plaster on the architrave indicates that it was covered by a door frame, probably removed during some restoration work.



Figure 6.B.26: 104 A—Southern corner of the east wall (B18). The wall has different layers of plaster, and it features differential erosion of the painted plaster, detachment of edges, and graffiti.



Figure 6.B.27: 104 A—South wall (A1), left part of the door. At the top of the picture two layers of plaster are observed featuring detachment and differential erosion. At the bottom part of the picture there is limewash directly applied to the tufa rubble stone.

104 A: (CA_04) Details West Wall and General View of South and North Wall



Figure 6.B.28: 104 A—West wall (C10, C11, C12), showing natural hydraulic lime-based mortar patchings that are compatible with the masonry but visually intrusive.



Figure 6.B.29: 104 A—West wall (A10, A11, A12, B10, B11, B12). Different types of mortar patching are visible: brown mortar and natural hydraulic lime-based mortar. Both are visually contrasting.



Figure 6.B.30: 104 A—West wall (A5, A6, A7, B5, B6, B7). Modern concrete patch and wash (left) and shelter coats of three layers (right). There are also natural hydraulic lime-based patchings (upper right corner of the image) which are compatible with the masonry but visually intrusive.



Figure 6.B.31: 104 A—Northern corner of the west wall (A18, B18). Powdering and differential erosion of the historic plaster.

Figure 6.B.32: 104 A—Southern entry into the corridor. The area around the door previously covered by a door frame is clearly readable.

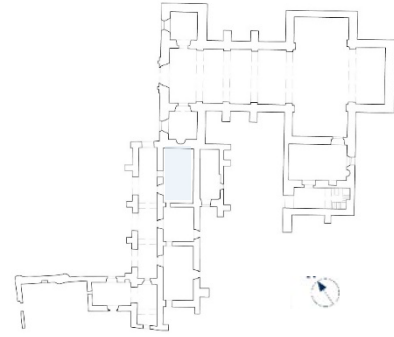


Figure 6.B.33: 104 A—Northern entry into the corridor.



104 B_Storeroom

Much of the wall surfaces of this room has been replaced over time. The remaining historic plaster located mostly on the walls' middle and upper section is similar to what is found in the library, rougher than the modern one with a plaster texture softer and sandy. The barrel-vaulted ceiling has masonry tufa wall exposed, with no remnant of plaster.



In the northern section of the room two loft support beams are located. Wooden beams exhibit some missing parts. Overall their condition is fair, with rising damp evident in the north wall.

*Overall
condition:*

North Wall

This wall is entirely plastered, with NO remnants of 18th-century finishes. Artistic graffiti representing a boat is located on the wall upper section (C2). This wall is adjacent to the church southern tower—dedicated to Saint Michael and used as a baptistery.

The lower section of the wall features evidence of rising damp, with moist areas, which are more visible on the east corner (A1, A2). Efflorescence located at different heights (see B2, B3) is another symptom of wall humidity. Numerous areas where plaster is detached from the substrate were observed in the lower and middle section of the wall (A1, A2, A3, A4, B4) both on the eastern and western side. Also, on the western wall side, plaster blistering and some powdering was observed (B4) on the detached areas. The upper section of the wall features cracks which were filled in with mortar patching (C1, D1, C3, C4, D4). Craquelé (a network of minor cracks) of the plaster was also observed in the uppermost section (D2).

This wall features an interrelated deterioration pattern all connected with presence of moisture entering the walls from the adjacent outdoor areas. Water drainage systems on the adjacent exterior walls and on the floors should be analyzed to manage this wall decay.

*Overall
condition:
fair/low*

East Wall

The overall condition of this wall is fair/low, with evidences of rising damp and efflorescence (A1, A3, A4, A7) of the lower portion of this wall. Plaster was replaced in the whole wall lower section, until approximately 3 ft. (90 cm approximately) from the ground level (A4, A5, A6, A7), and on the northern portion of

this wall plaster replacement arrives up to 6 ft. (approximately 180 cm) (B6, B7). This area in fact is subject to high presence of moisture, which is more visible during winter after rainfalls.

Plaster replacement is also visible under the light fixture due to electrical wiring (B5). Behind the exhibition panel, stains due to moist areas were observed. The middle section of the wall still preserves historic plaster, although its finishes appear to be treated with a later whitish limewash. The historic plaster features numerous detachments of its finishes. The top portion of such historic plaster is filled with a visually contrasting brownish patching, to allow the continuity of the wall surface.

The vault springline features different conditions: areas with remnants of plaster, where mortar joints show wet areas, exposed masonry walls with crystalline efflorescence, as well as mortar joints roughly executed and visually contrasting with the substrate. These conditions are so complex, the area was not mapped.

*Overall
condition:
fair*

South Wall

The overall condition of the south wall is fair, it appears to be in a slightly better condition than the other walls (most probably due to its position). Large remnants of historic plaster can be still observed. The wall lower section features restoration plaster along the entire wall (A2, A3, and A4) with the exclusion of the door right jamb, where graffiti was also observed (A1). Graffiti was also identified on the left side of the door (B2). Beyond these areas, the rest of the wall is covered by historic plaster which appears more deteriorated in the higher section, with differential erosion of the painted layer (C3, C4, D1, D2, D3, D4). Above the door architrave, discoloration of historic plaster, presence of cracks, and a large area of patching was observed.

*Overall
condition:
fair/low*

West Wall

The overall condition of this wall is fair/low, with areas of historic plasters in a state of neglect.

On most of the lower section of the wall, historic plaster was replaced with new plaster (A1, B1, A2, A3) in visual harmony with the surrounding areas (it is not mapped as deterioration) and extended until the door (A3, A4, A5, B5). The window surroundings feature some historic plaster finishes (as well as repairs due to the wiring of the adjacent light fixture) which appear to be discolored (with some voids) and a dark red polychrome can be still observed on the window architrave. However, interpretation of this area is complex, since a

more recent finish can be observed on the lower portion of the window, making the stratigraphy unclear. The southern portion of the wall, in its lower section, features restoration mortar (A7).

Above it, portions of historic plasters may have been protected with lime-wash. This area exhibits numerous detachments of edges and missing parts. On the door architrave tufa stone voussoirs are exposed, only partially uncovered in their lower section.

The stratigraphy on the upper section of the wall, above the springline, is also complex. Here the barrel-vaulted ceiling exhibits remnants of plasters, whitewash, dark gray finishes which may be modern and a visually contrasting mortar grouting which appears to be modern as well. Large areas of craquelé were observed, (D3, D4, D5, C2, C3) in areas with thinner plaster layers.

Ceiling

The tufa stone vault still retains remnants of scratch coat as well as repointing of mortar joints and mortar patching (E6, E7, F6 ,F7)—with associated detachment of edges. A more detailed study of this surface should be carried out to better understand decay patterns.

Extensive areas exhibit presence of efflorescence, in forms of crystals, clearly visible on the west side of the vaults (E1, E2,F2).

A long longitudinal fracture runs in the center of the barrel vault, indicating that, most probably in the past, the structure was moving.

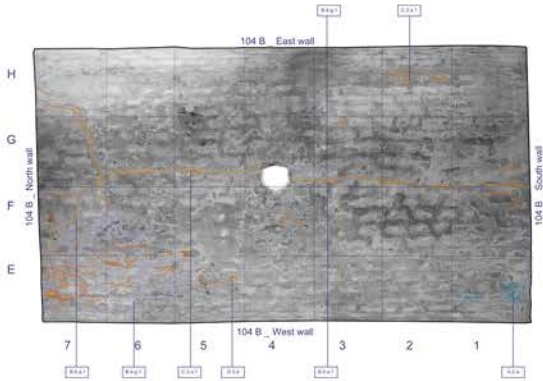
Note on the Floor

The most significant interior alterations to the convento fabric are brick floors laid in cement, possibly on cement slab, which form a vapor-impermeable layer throughout the space. In order to develop a more holistic conservation program to effectively protect the convento from water ingress, probably a different type of floor should be taken in consideration.

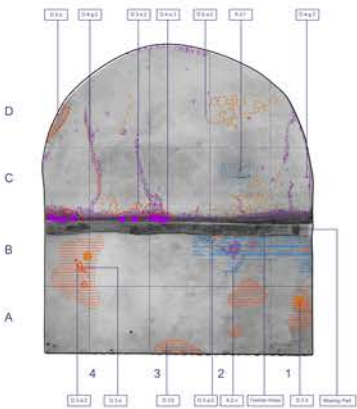
This room, together with the guest room, deserves special attention for understanding moisture migration and proposing related strategies to its mitigation.

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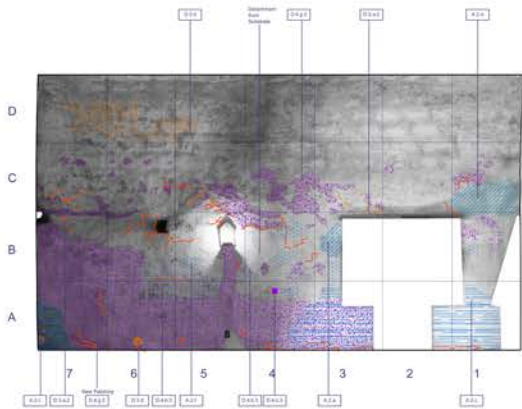
104 B _ Storeroom



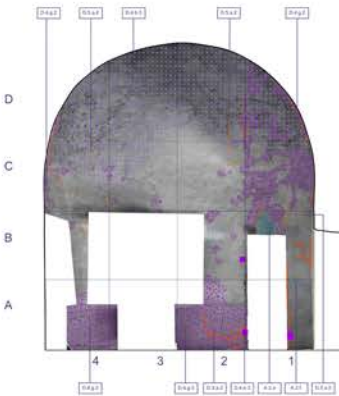
Vault



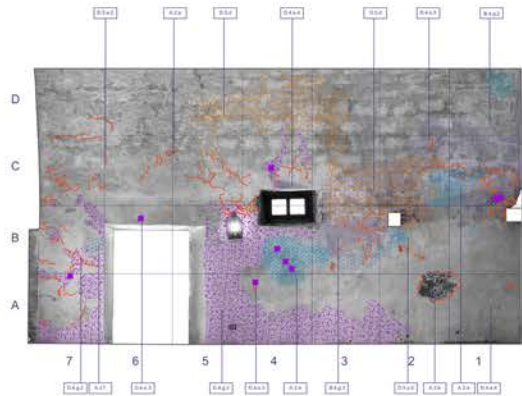
North wall



East wall



South wall



West wall



104 B: (CA_05) Storeroom _ North Wall



Figure 6.B.34: 104 B—North wall general view. The whole wall was replastered probably in the 1930s. It features a nice graffiti (located in the red box placed on the photo by the HSR team) representing a boat.



Figure 6.B.37: 104 B—Northeast corner (A1). This corner connects to the guest room to the right and to the exterior (where the air-conditioning is currently in place) to the northeast, and it features a high level of humidity and efflorescence.



Figure 6.B.35: 104 B—North wall details (B4, C4).



Figure 6.B.36: 104 B—North wall details (C3, C4).



Figure 6.B.38: 104 B—North wall details (bottom photo, B2). Photos showing missing parts and detachment of edges of the historic plaster. In the upper photo we can see the addition of a plaster patching. The lower photo features detachment of edges of the plaster, patching, and efflorescence.

104 B: (CA_05) Storeroom _ East and South Walls



Figure 6.B.39: 104 B—East wall. The bottom part of the wall has been repaired with plaster patching, and it features efflorescence in the left corner.



Figure 6.B.40: 104 B—East wall (B6, B7). Area in between the two timber beams. Plaster patching repair was added until this point, which also features a high level of humidity.



Figure 6.B.41: 104 B—Southeast area of the ceiling (C1, D1). Features efflorescence, repointed mortar joints roughly executed.



Figure 6.B.42: 104 B—Southwest part of the ceiling (H5). Features differential erosion on the remnants of historic plaster and different types of mortar patching.



Figure 6.B.43: 104 B—Southeast corner (C4, D4). Features hair cracks in the corner plaster patching (which was probably added to repair a structural crack), and differential erosion of the historic plaster in the south wall.



Figure 6.B.44: 104 B—South wall detail (D2, D3). The south wall of the storeroom has an extensive differential erosion of the plaster.

104 B: (CA_05) Storeroom _ South and West Walls



Figure 6.B.45: 104 B—South wall (B1, C1). Architrave of the door connecting with the porteria. Historic plaster featuring erosion, hair cracks, plaster patching, and historic incised patterns.



Figure 6.B.46: 104 B—Southwest part of the ceiling (D6, D7). Features differential erosion of plaster stabilized in a previous conservation campaign.



Figure 6.B.47: 104 B—West wall. Featuring plaster patching below the light and at the bottom of the wall, discoloration and graffiti below the window, and small remnants of painted plaster around the small window.



Figure 6.B.48: 104 B—West wall window detail (B4, C4). Detail of the remnants of painted plaster in the upper part of the window.



Figure 6.B.49: 104 B—West wall (B3, C3). Part between the small window and the southern timber beam features craquelé and differential erosion of the historic plaster.



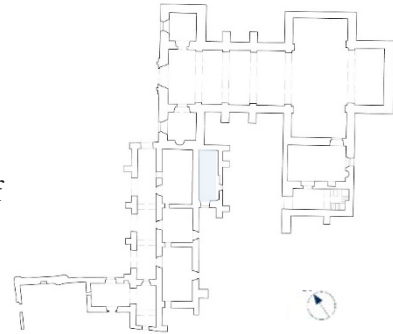
Figure 6.B.50: 104 B—Northwest part of the ceiling (C1, D1). Restoration mortar joints show discoloration due to efflorescence.

104 C_Guest Room

This room is presently used as a storage and closed to the public. The lack of an effective ventilation associated with high levels of moisture ingress through the east and north walls is producing a high level of decay of the plastered wall surfaces.

No specific historic information on the date of installation of the plaster was found. The arch on the eastern wall was enclosed around 1770–1772, therefore the existing plaster may be also dating to the mission era.

The overall condition of this room is very low, however its historic significance is high.



*Overall
condition:
low*

North Wall

The overall condition of the plastered surface of the north wall is low, requiring immediate attention. Plaster is completely missing on the lower portion of the wall and on part of the middle section (B1).

Numerous areas of discoloration reveal moist areas (A2, B2, and intersection of C2, C3, and B3).

At the base level, the wall features advanced erosion of the masonry with loss of mortar and associated efflorescence (A1, A2, A3). The condition of the lower portion requires immediate intervention.

At approximately 3¹/₂ ft. from the ground, existing lime plaster is powdering and crumbling, with associated efflorescence (sectors B1, B2, and B3).

The top of the wall features craquelé of the plaster (D2 and D3). Under a hole located at the top of the wall (of a previously existing oven), an elongated area features discoloration of the paint and erosion (probably traces of the oven). This area retains historic significance and should be the object of specific attention, not only for conservation purposes but also for interpretation. Portions of the same area also features craquelé on the plaster and loss of the painted finish (C2).

*Overall
condition:
very low*

East Wall

The overall condition of this wall is very low.

This wall features the presence of an arch, which was walled during 18th century.

The whole surface is covered with a lime plaster featuring a high level of

deterioration. Plaster is lost on the southern wall lower section (A11, A2, B1) as well as on the northern lower wall section (A6,A7, B6, B7), the masonry wall also features advanced erosion with modern joint mortar. The lower wall section also exhibits advanced delamination of the plaster, presence of efflorescence both in crystalline form and fluffy (A2, A3, B3, B4 and B7) and numerous repairs. One of the repairs involves a fracture under the windowsill (between B2 and B3), which is part of a larger crack starting from the center of the arch, continuing above the window architrave, until the floor. A large patching is also located on the wall lower section (A4, A5, A6, B5, B6).

The wall middle section has a high level of deterioration, with disintegration, delamination, detachment from the substrate and a large blister (B4).

The upper section features the same deterioration patterns but in a less advanced form, with some visible moist areas (B1 and C1), powdering (C2), and cracks (C5, D5).

The west end of the tie of the library continues through the party wall with the hallway and its end is visible just to the south of the cloister's southern rib.

*Overall
condition:
low*

South Wall

The overall condition of the plastered surface of the south wall is definitively low.

The wall lower section features an advanced erosion of the historic plaster with presence of holes, a vertical mortar patching was created for the electric wiring serving the light fixture. Plaster is in state of advanced differential erosion, even more advanced below the vaulted ceiling where numerous holes can be found. In this area also a mortar patching can be observed.

*Overall
condition:
low*

West Wall

The overall condition of the plastered surface of the north wall is definitively low.

Plaster was replaced in the wall lower section (from A1 to A7) , as well as in a vertical area leading to the light fixture (A2, B2).

Efflorescence is spread all over the wall lower and middle sections as crystals (A1 and A2) and as incrustation. Moisture and efflorescence caused an advanced erosion of the historic plaster (B1) and craquelé located on the wall middle section. The plaster is missing in some areas (B4). Numerous patches (B3, C3, B4, C4) allow for the continuity of the plastered surface.

The wall also features some graffiti (B1, C5, C6).

It is important to report that the plaster at the top of the wall is character-

ized by differential erosion with the presence of biological growth (from C1 and D1, to C6 and D6).

Ceiling

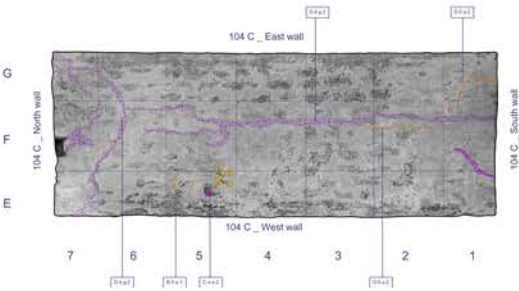
The barrel-vaulted ceiling is still partially covered with plaster, although numerous stones are well visible. Large areas with efflorescence, some fluffy but mostly in form of encrustation, can be observed on the ceiling. A long longitudinal patch in the center of the vault fills a crack due to the vault settlement. Smaller cracks can be seen on the vault west section (E5) associated with a hole.

Note on the Floor

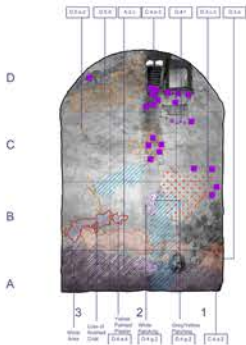
The floor features brick floors laid in cement, possibly on cement slab, like the one in the other interior rooms of the convento.

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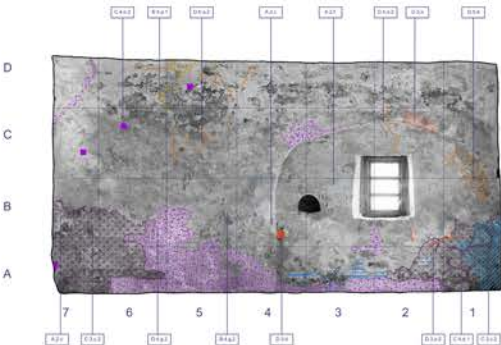
104 C _ Guest room



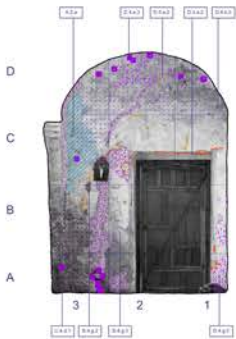
Vault



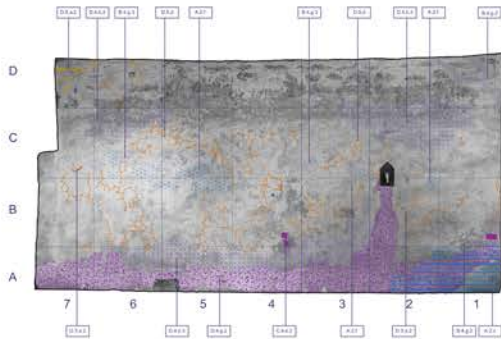
North wall



East wall



South wall



West wall



104 C: (CA_06) Guest Room



Figure 6.B.51: 104 C—Northern corner of the east wall (A6, A7, B6, B7). Surfaces feature a high level of deterioration with loss of plaster and abundant fluffy efflorescence.



Figure 6.B.53: 104 C—East wall (A3, A4, B3, B4). High level of surface decay with efflorescence. Below the window sill are visible two major fractures around which mortar joints were repointed.



Figure 6.B.54: 104 C—West wall (B2, B3). In general the west wall is in better condition than the east, extensive craquelé, detachment of plaster from substrate, and numerous patchings of various dimensions.



Figure 6.B.52: 104 C—North part of the ceiling (E5, E6, F5, F6). The barrel-vaulted ceiling is characterized by a scratch coat partially covering the rubble stones with numerous filled fractures. Its appearance looks non-historic.



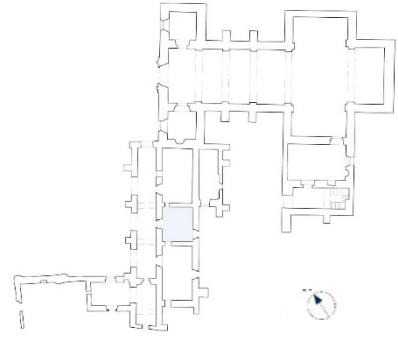
Figure 6.B.55: 104 C—South wall. Patching and filled fractures are observed on a historic plaster featuring a high level of erosion.

104 D_Portería

The overall condition of the room is fair, with no evident structural problems. Surfaces were found in fair condition, although historic colored plaster remnants are covered by a layer of dirt/deposit giving the surfaces an opaque appearance.

Moisture problems have caused damage at the lower wall portions as well at the vault's springline. In these areas original plaster was replaced.

No remains of decorative pattern on the historic plaster was observed in this room. However, changes in color and finishes may deserve attention for an interpretation project.



*Overall
condition:
fair/low*

North Wall

The overall condition of this wall is fair/low. Wall surfaces have dirt which does not allow an appreciation of the original colors of the historic plaster, and visually contrasting mortar patching is detrimental for an adequate appreciation of such historic material evidences.

Plaster was completely replaced in the lower section of the wall (A1, A2, A3) with a concrete patching observed on the east side (A1). Historic plaster, with remnants of a dark (dirt) ochre color is located on the middle section of the wall (B3, B1) with a high level of erosion of the painted finish. A large lacuna of the painted finish, with detachment of edges, can be observed on the east side of the middle section (A1).

The wall upper section features a differential erosion of its original plaster finishes, with associated deposits and dirt. On the architraves, two cracks were filled with a mortar patching (one of them exhibits associated detachment of edge), showing (probably non-active) structural settlements.

The wall upper edge, at the barrel vault connection, is also filled with a brown mortar patching, visually contrasting.

East Wall

The wall is plastered, with large areas still preserving the 18th-century plaster. The lower section of the wall, though, features large areas where historic plaster was replaced, and patching (A1, A3, A5). The middle northern section features erosion of the painted finishes and stains, with detachment of edges (A5, B5). In the door architrave, erosion occurs, with a patching running diagonally toward

the barrel vault, probably filling a diagonal crack. The uppermost portion of the wall features differential erosion of the plaster, with higher level of deterioration toward the springlines. Some patching also allows the continuity of the plaster texture. In the wall middle section, discoloration of plaster due to moisture was observed (B1 and B5).

The upper part of the wall features numerous detachment of edges along lines of discontinuity between modern and historic plaster. On this wall, modern and historic plaster are similar in color but different in texture on the northern side (C1, C2, C3), a brownish modern plaster is instead located on the southern part (C3, C4, C5). Above the vault springline, plaster is lost with the masonry wall featuring roughly executed mortar joints.

*Overall
condition:
fair/low*

South Wall

The overall condition of this wall is fair/low with no relevant structural issues, however with low level of maintenance of the historic plaster.

Around the door incised vertical lines are associated with the execution of the plaster. The top of the architrave and door jambs feature remnants of historic colors (ochre on jambs on the architrave).

The lower section of the wall features large areas where historic plaster was replaced, and patching (A1, A2, A3, A4). Historic plaster in the middle and upper section has a high level of differential erosion. Probably the wall's area above the level of the architrave was refinished with a limewash (C2, C3, C4). The original plaster above the architrave has also a high level of erosion and visually contrasting patching (C2, D2 and C1) are located on both sides. The architrave features a fracture in its center, with mortar fill. At the same height, on the wall some hair cracks are visible (C2) as well as detachment of edges on the wall eastern side (C4, D4). The uppermost section features a patching under the vaulted ceiling (E2, E3) with detachment of the edges separating the historic and the modern plasters.

*Overall
condition:
fair/low*

West Wall

The wall condition is fair/low. Replacement of historic mortar was undertaken in the lower section of the wall, featuring extensive patching with only two areas of historic plaster finishes: the lower portion of the northern door jamb and the northern corner characterized by high level of erosion.

Ceiling

The tufa blocks of the barrel vault feature, for most of the ceiling surface, mod-

ern mortar joints, which partially cover the stone blocks and appear roughly executed. Edges between stone block and mortar joints exhibit efflorescence in crystalline form. This may be a symptom of mortar's low porosity, with water and salt diverted to the stone blocks. Further investigation on the mortar joints' characterization should be carried out.

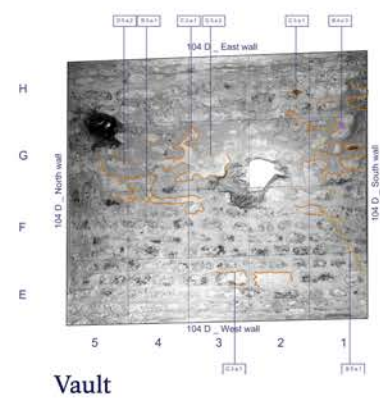
Along the center line of the barrel vault, detachment of edges along the mortar joint were observed as well as some hair cracks toward the southern wall.

Note on the Floor

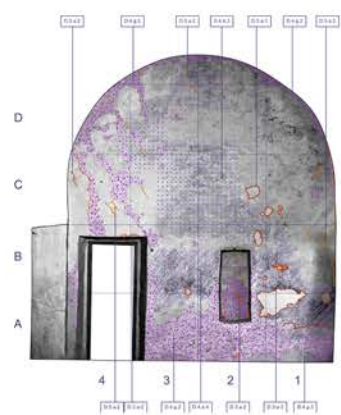
Brick floors with herringbone pattern are laid in concrete mortar, they are more recent than the ones in the corridor.

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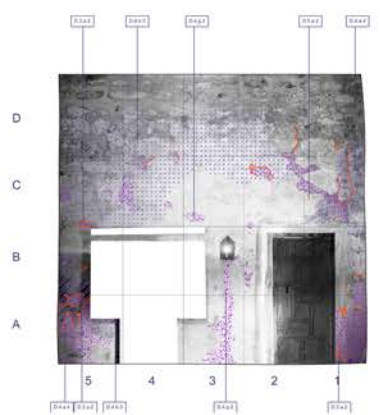
104 D _ Portería



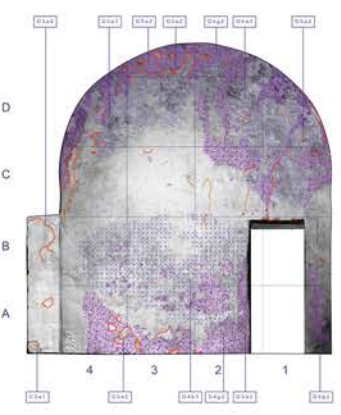
Vault



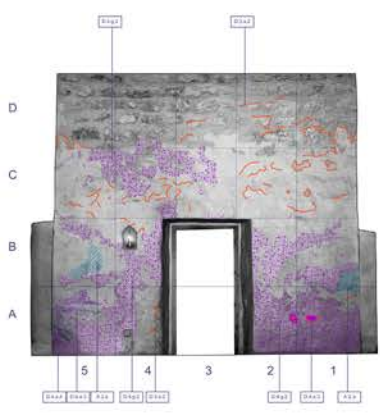
North wall



East wall



South wall



West wall



104 D: (CA_07) Portería _ North Wall



Figure 6.B.56: 104 D Portería—North wall. High level of surface decay with efflorescence. Fractures on the windowsill.



Figure 6.B.57: 104 D Portería—North wall (B4, C4). Architrave of the door leading to the storeroom. Features hair cracks in the patching plaster (probably added to repair a structural crack) and erosion of the painted plaster.



Figure 6.B.58: 104 D—Area between the door and the niche in the north wall (B3) features historic dark ochre colors and vertical black marks with dirt deposit. Small areas of visually intrusive patching.



Figure 6.B.59: 104 D Portería—Niche of the north wall (B2). Features hair cracks and plaster patching inside the niche, and erosion of the painted plaster outside the niche.



Figure 6.B.60: 104 D Portería—North wall, area right of the niche (A1, A2). Remnants of colored historic plaster that is highly eroded and numerous visually intrusive patches.

104 D: Portería _ East Wall



Figure 6.B.61: 104 D Portería—East wall, partially covered by the information banners.



Figure 6.B.62: 104 D Portería—North part of the east wall (C4, C5). Visually intrusive patches are visible, surrounded by eroded historic plaster.



Figure 6.B.63: 104 D Portería—North part of the east wall (D4, D5) features discoloration and differential erosion of the plaster and intrusive brownish patchings.



Figure 6.B.64: 104 D Portería—Ceiling (G2, G3) features remnants of historic plaster with efflorescence and roughly executed brown mortar repointing that partially covers the stone.



Figure 6.B.65: 104 D—East wall (C1), architrave of the door features eroded remnants of colored plaster and a visually intrusive plaster patching.

104 D: (CA_07) Portería _ South Wall



Figure 6.B.66: 104 D Portería—South wall. Historic plaster features large areas with differential erosion, the door architrave has a crack in the center.



Figure 6.B.67: 104 D Portería—South wall left jamb of the door (A1, A2, B2). The remnants of historic plaster feature discoloration and differential erosion. Visually intrusive patchings were added to give continuity to the plaster.



Figure 6.B.68: 104 D Portería—Left corner of the south wall (A3, A4). At the bottom left part of the image, blistering, efflorescence and detachment of the patching are visible. And at the upper right we see historic plaster featuring discoloration, differential erosion, and graffiti.



Figure 6.B.69: 104 D Portería—Upper part of the south wall (C2, D2). Showing plaster patching and discoloration and erosion of the historic plaster.

104 D: (CA_07) Portería _ West Wall



Figure 6.B.70: 104 D Portería—Southwest corner (C1, D1). Features a hair crack that starts at the corner and then extends to the vault, erosion of the painted finish of the historic plaster, and roughly executed brown mortar repointing in the masonry of the vault. Some stones have remnants of whitewash.



Figure 6.B.71: 104 D Portería—West wall, large patching interrupts the continuity of the historic plaster finish.



Figures 6.B.72, 6.B.73: 104 D Portería—Portions of the barrel-vaulted ceiling feature a surface made of roughly cut blocks with modern repointing of the joints. Stone blocks are characterized by a darker color, probably due to biological growth. Traces of whitewash are also presents on various blocks.

104 D: (CA_07) Portería _ West Wall



Figure 6.B.74: 104 D Portería—West wall (B4, B5), intrusive patching with discoloration in the edges and colored historic plaster with historic incisions and discoloration.



Figure 6.B.75: 104 D Portería—West wall, architrave of the door leading to the corridor (C3, C4). It features craquelé and historic incisions in the historic plaster and different types of patching, one brownish in the upper part of the wall and another more grayish in the architrave of the door.



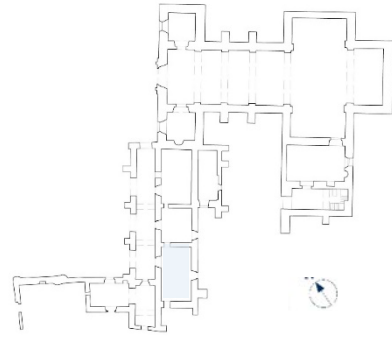
Figure 6.B.76: 104 D Portería—West part ceiling (F4, F5). Roughly executed mortar repointing that partially covers the stones.

Figure 6.B.77: 104 D Portería—West wall area right of the door (A1, A2, B1, B2). Different types of patching. The bottom grayish patching is eroded. The remnants of historic plaster feature erosion of the painted finish.

104 E_Library North Wall

**Overall
condition:
good**

An iron tie has been inserted at the north end of the room and connects east and west walls. The overall condition of the wall is fairly good. The wall lower section exhibits efflorescence on the red ‘dado’—characterized by historic painted plaster (A1, A2, A3) and exhibiting advanced erosion (which can also be indicated as differential erosion) and presence of efflorescence. Salts are “fluffy” (Crosby, 1997b). Efflorescence is not visible on the repair plaster located on the lower wall section (A2, A3, A4), they must be present in form of subefflorescence. Efflorescence is also associated with water staining at the east corner lower section.



On the wall upper section, powdering is occurring on the painted door architrave. Some flaking and loss was observed on the flower motif on the architrave. The painted architrave is characterized by a lacuna (intended as interruption of the visual continuity of the painted image) filled with a well-executed patch, still visible after the 1988 restoration campaign.

Cracking is also evident throughout the architrave.

On uppermost east section of the wall, water staining and salts are evident at the springline (C1, C2), C3 and C4).

The top portion of the wall, under the vaulted ceiling, is visibly eroded with some areas with repairs and superficial cracks (D1, D2, D3, D4 and above).

**Overall
condition:
fair**

East Wall

The overall condition of this wall is fair. The wall features wide areas with replacement of historic plaster, and extensive presence of efflorescence. Efflorescence is linked to rising damp: The southeast corner in particular appears to have active conditions caused by extensive water infiltration. Crystallized salts are forming on the evaporation front of areas becoming wet on a cyclical basis.

Replacement of the historic plaster is located on the lower north section of the wall, until the door (A5, part of B5, A6, A7). Plaster replacement is visually disturbing, different in color from the historic painted wall above. Highest concentration of efflorescence is located along the edges of two patches, one in the lower section, the other one just above it.

Salts appear on the surface also with a feathery appearance (A5, A6, A7). Some areas of the cementitious patching material below the evaporation front

(delineated by the line of efflorescence) shows advanced deterioration and crumbling of plaster.

This area also features detachment of edges. The lower wall section toward the south still retains a large portion of historic painted plaster in the dado, where the chromatic sequence of the wainscot is very visible (dark red, white, blue yellow on the top) (A1, A2, and A3). This area exhibits differential erosion of the painted finish. In the remaining part of the lower section of the wall, replacement of historic plaster was carried out.

The historic plaster in middle section of the wall features delamination (B7), some discoloration due to moisture (B7, C6, and C7), and some localized patches on the southern part.

The “faux vouissor” architrave exhibits some erosion of its painted finish and missing parts on the lower edge. Efflorescence occurs at the level of architectural bands (C4, C5, C6, C7) and on the painted area of the voussoirs. Although paint is flaking in one area of the band, it is still in good condition. Discrete areas of loss in the painted limewash are probably due to salts and water (C1 and C2).

Just above the voussoirs, one large crack can be observed, and also some craquelé. Under the doors are blisters, which have broken the surface, with associated flaking and detachment. Craquelé covers an extensive surface on the upper wall section (C1, D1, C2, D2, C3, D3, C4, D4, C5, D5, C6, D6).

*Overall
condition:
good*

South Wall

The overall condition of this wall is good, still retaining historic painted plaster on the majority of the wall surface, with the only exception of the lower wall section and the door jambs. The lower section of the wall under the large niche features, in fact, replacement of the historic plaster. The historic decorated plaster of the wainscot features erosion of its surface (A2, A3). On the background wall of the niche, large areas with craquelé (on the bottom and on the top A4, B4), as well as some patches were observed.

The middle and upper sections of the wall are in general in good condition, with some areas of loss (on B2 and B3). In particular, the upper wall section is characterized by superficial hair cracks.

The east corner at the cornice level exhibits an elongated patching and the cornice is discolored (due to moisture ingress). Such decay has been mentioned in previous condition assessment reports since 1997 (C4). Other patches on the painted surface are located on the east edge of the vault (D4, E3, E2, C1).

**Overall
condition:
fair/low**

West Wall

The overall condition of the wall is fair/low. In comparison with the east wall, here a larger area of historic plaster is still in place, especially in the lower wall section. This area features erosion of the painted plaster of the wainscot. Erosion was also observed on the faux voussoirs above the door architrave. A crack is located on the center of the door architrave.

On the wall middle section (mostly on B7), a moist area was observed.

A graffiti, incised in the plaster, is located at the center of wall (B4).

The painted cornice features discoloration in some areas, and efflorescence also is altering the color of the area above the door architrave. The uppermost portion of the plaster exhibits craquelé. Detachment of the edges of the historic plaster was also observed where the plaster ends and the masonry wall of the vault starts.

Ceiling

The barrel-vaulted ceiling still preserves large areas of historic painted plaster, featuring also an image of the sun with a face. The rest of the ceiling features tufa blocks, which were treated in the 1988 conservation project. The whole surface was probably finished with limewash or waterwash (estimated here through a visual assessment) in order to create a visual continuity with the plastered surface. This treatment was intended to enhance the aesthetic quality of the painting. The mortar grouting around the tufa appears to be in the background, to purposely create the effect of loss of mortar joints (as can be seen in the mapping). Such condition is fairly different than the other vaulted ceilings. In the 1988 treatment, mortar joints were left as they presently appear and covered with a light finish above described. Such finish is currently only partially in place.

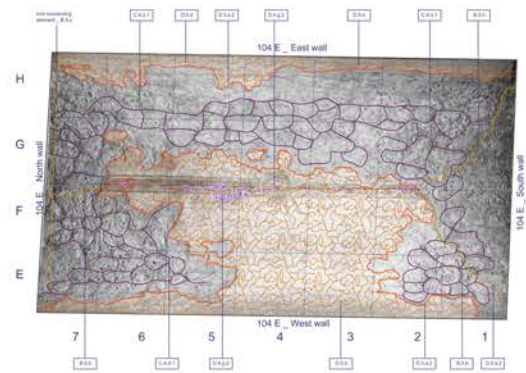
The painted plaster is characterized by extensive presence of craquelé. The plaster edges feature detachment. The longitudinal color band is interrupted by the presence of a crack partially filled in previous restoration. It is important to note that the crack splits into two diagonal cracks directed toward the corner of the room (E1, F2, G2, H1). Here no traces of previous filling were observed. The existing longitudinal cracks should be monitored to determine if movement of the walls and ceiling is still occurring inside the library or outside in the cloister.

Note on the Floor

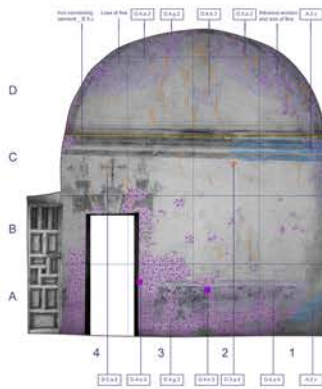
Brick floors have a stretcher bond pattern and are laid in concrete mortar, and possibly are laid on a cement slab. They appear to be more recent than the ones

in the corridor and identical to the ones of the portería and storeroom.

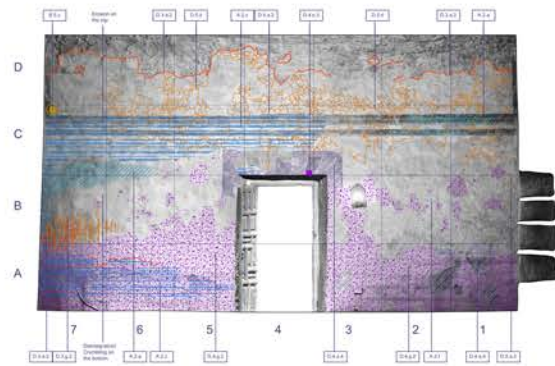
104 E _ Library



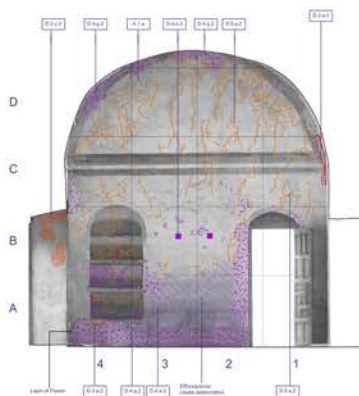
Vault



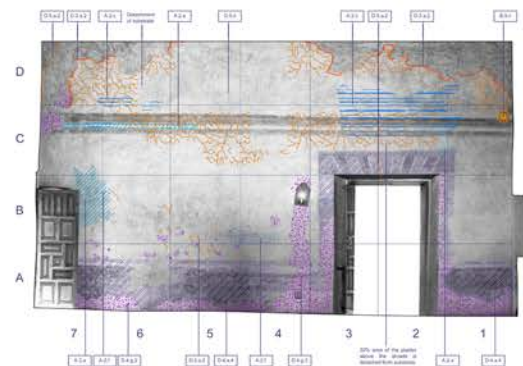
North wall



East wall



South wall



West wall



104 E: (CA_08) Library



Figure 6.B.78: 104 E Library—North wall (B3, B4, C3, C4). Photo showing the painted decorations around the door that leads to the portería. Some non-intrusive patching has been added to give continuity to the plaster.



Figure 6.B.80: 104 E Library—North wall (E3). Upper part of the north wall, connection with the vault. Features hair cracks, patching, and erosion of the painted finish.



Figure 6.B.81: 104 E Library—East wall (A7, B7). Patching in the bottom part that features high level of efflorescence, and the upper part shows craquelé and delamination of the plaster layers.

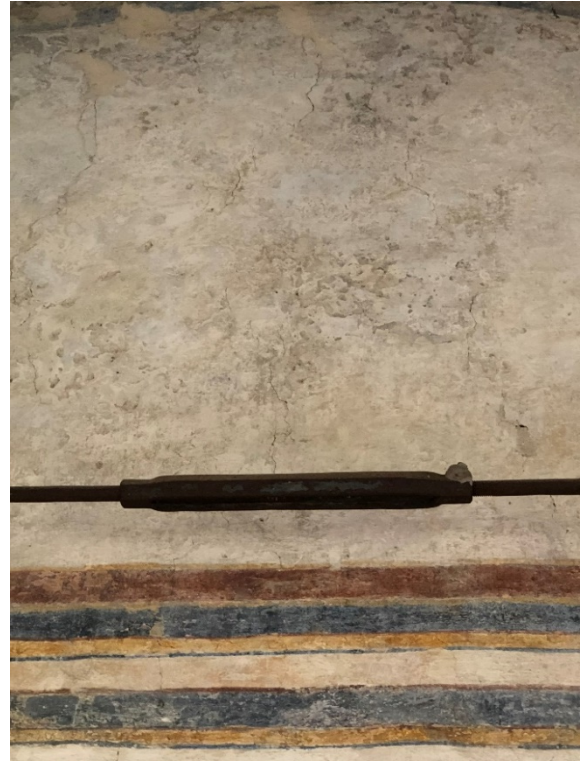


Figure 6.B.79: 104 E Library—North wall (C2, C3, D2, D3). Photo showing some hair cracks and the iron tie rod that connects the east and west wall. Discoloration of the historic painted plaster. Some erosion on the top part.



Figure 6.B.82: 104 E Library—East wall (A5). Features plaster patching surrounding the remnants of historic painted plaster. The painted finish show traces of efflorescence and erosion.

104 E: (CA_08) Library



Figure 6.B.83: 104 E Library—On the ceiling, a crack is visible in the middle of the vault from north to south. The vaulted ceiling surface features several craquelé, detachment of edges, and loss of joints on mortar.



Figure 6.B.84: 104 E Library—East wall. Has multiple patchings. Painted plaster has erosion.



Figure 6.B.85: 104 E Library—Ceiling detail (F4, G4). Detail of the central painted decoration, which is characterized by a filled crack featuring a pinking mortar. A newer hair crack passes across the decoration. Craquelé in the plaster is also visible. Roughly executed mortar repointing covers a little corner of the drawing.



Figure 6.B.86: 104 E Library—Ceiling detail (C3, C4, C5). Decorative painted plaster around the door, representing faux voussoirs, and at the springer line of the vault. A crack in the architrave of the door is visible. Craquelé in the plaster and erosion of the painted finish.



Figure 6.B.87: 104 E Library—Ceiling detail (A1, B1). Decorative geometric lines of painted plaster in yellow and red in the bottom part. Above the wainscot, erosion of the painted finish and well-executed patching, having material and visual continuity with the substrate.

104 E: (CA_08) Library



Figure 6.B.88: 104 E Library—South wall, featuring efflorescence and several hair cracks.



Figure 6.B.89: 104 E Library—South wall (B4, C4). Upper part of the 'bookshelf' niche. It features several hair cracks, including one in the middle of the arch. Discoloration of the historic plaster.



Figure 6.B.90: 104 E Library—South wall (A3, A4). Detachment and discoloration of the brownish patching on the bottom left of the 'bookshelf.' Around and inside the bookshelf there is erosion of the painted finish. All the southeast corner of the library should be an area of concern.



Figure 6.B.91: 104 E Library—South wall (C2, C3). It features decorative colored lines in the springer line of the vault and hair cracks in the historic plaster.



Figure 6.B.92: 104 E Library—South wall (A2). Bottom left corner of the door, showing patching around the jamb of the door and a strong differential erosion of the historic plaster.

104 E: (CA_08) Library



Figure 6.B.93: 104 E Library—South wall, connection of the south wall and the vault. The vault is crossed by a hair crack that goes through the middle, and when it approximates the walls divides in two in a Y shape.



Figure 6.B.94: 104 E Library—South wall (D4), shows hair cracks, discoloration with flow marks, and historic incisions of the plaster. Intrusive brownish patching.



Figure 6.B.95: 104 E Library—West wall, the painted plaster features erosion.



Figure 6.B.96: 104 E Library—West wall, door leading to the corridor, showing patching, craquelé, and erosion of the painted finish.



Figure 6.B.97: 104 E Library—West wall (A6). Bottom area of the wall features geometric decorative painted plaster (red and yellow) with well-executed plaster patching and differential erosion of the plaster surface.



Figure 6.B.98: 104 E Library—West wall (A4, B4). Area on the left of the door. Visually intrusive patching under the modern lamp, historic incisions, and graffiti in the painted finish.

104 E: (CA_08) Library



Figure 6.B.99: 104 E Library—West wall (B6). Its surface features well-executed and visually compatible patching, discoloration and historic incisions of the painted finish.



Figure 6.B.100: 104 E Library—West wall (D5). Craquelé of the historic plaster stabilized in one of the previous conservation campaigns. Intrusive brownish mortar patching.



Figure 6.B.101: 104 E Library—West wall (D6). Craquelé of the historic plaster and roughly executed mortar repointing on the masonry of the vault, partially covering the stones.



Figure 6.B.102: 104 E Library—West wall (C2, C3). Detail of the painted faux voussoirs above the door and painted architectural bands at the vault's springer line. They feature erosion of the painted finish and discoloration.



Figure 6.B.103: 104 E Library—West wall (A1, A2). Area on the right of the door. Decorative painted plaster with faux ashlar at the right jamb of the door. Two types of patching are featured—one visually harmonious that allows the visual continuity of the wall surface and another, with a more grayish tone, that is not visually blended.

104 F_Refectory

*Overall
condition:
good*

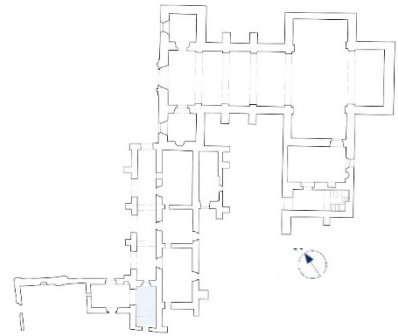
The wall surfaces of the refectory were completely replastered in the 1980s with a mixture that included cement. The plaster is painted with a white/cream color, the texture of the surface is medium rough, not completely smooth like the texture of a historic plaster.

The room is in good condition, with some decay patterns due to moisture in the stones entering from the ground and roof runoff, as well as moisture vapor.

The north wall has a numerous stains due to the low porosity of the wall. In the wall lower portion stains are associated to superficial erosion.

The lower 2 ft. (measured up from the floor) of the four walls of the room exhibit erosion of the paint finish, stains, and moist areas. The south wall is the most affected, in particular the southeast corner. Traces of water infiltration are visible on the uppermost area of the south wall, near the vault. The northeast corner also exhibits numerous stains, which cover all the wall surfaces.

The floor is the same as the library, with bricks laid in cement, presumably on a cement slab, which form a vapor-impermeable ground layer throughout the space.



104 F_Kitchen

*Overall
condition:
good*

Similar to the refectory, the wall surfaces of the kitchen were completely replastered in the 1980s with a mixture that included a cementitious component. The plaster is painted with a white/cream color, the texture of the surface is medium rough, not completely smooth like the texture of a historic plaster.

Overall the room is in good condition, with some decay patterns related to the presence of moisture in the stones, mostly due to rising damp.

The north wall exhibits discoloration and erosion in the lower portion of the wall due to the rising damp. The decay pattern is visible up to approximately 3 ft. from the floor level. The north door is subject to water ingress from surface water flow during heavy rain events. The north wall appears to be in the worst condition. Rising damp is also visible on the south wall, as well as west wall, with dark stains close to the floor or near the south wall door. The whole plastered surface features light stains.



The brick floor is a continuous surface from the refectory, through the large arch opening that separates the two rooms. The brick floor is laid in cement, presumably on a cement slab.

Since the rooms do not feature historic plaster/material, mapping of the surfaces was not considered relevant to this HSR.

104 F: Refectory and Kitchen



Figure 6.B.104: 104 F Refectory—North wall. Modern plaster covers the wall surfaces of the refectory.



Figure 6.B.105: 104 F Refectory—East wall. On the northeast corner, stains due to moist areas are visible, due to the low porosity of the new plaster materials.



Figure 6.B.106: 104 F Refectory—South wall. Erosion of the painted surface and stains are located both on the lower portion of the wall and on the top, near the vault.



Figure 6.B.107: 104 F Refectory—West wall. Stains due to rising damp are visible on the south west corner.

104 F: Refectory and Kitchen



Figure 6.B.108: Room 104 F Kitchen—North wall toward the west corner. Rising damp up to approximately 2½ ft. produced erosion and detachment of the modern paint layer.



Figure 6.B.110: Room 104 F Kitchen—North wall. Stains due to moisture, likely the result of both rising damp and water ingress from the door during rain season.



Figure 6.B.112: Room 104 F Kitchen—East wall featuring an arch opening as a connection to the refectory. Modern surfaces are in fairly good condition.



Figure 6.B.109: Room 104 F Kitchen—West wall.



Figure 6.B.111: Room 104 F Kitchen—South wall.

104 F: Refectory and Kitchen



Figure 6.B.113: 104 F Refectory—South wall. Stain due to water infiltration from the roof and wall.



Figure 6.B.114: 104 F Refectory—South wall. Rising damp in the wall, which produces stains.



Figure 6.B.115: 104 F Refectory—South wall. Rising damp produces erosion of the plaster finishes, associated with stains. Stains produced by the presence of iron and manganese in the water composition.



Figure 6.B.116: 104 F Kitchen. Hair crack in the middle of the arch in between the refectory and the kitchen.



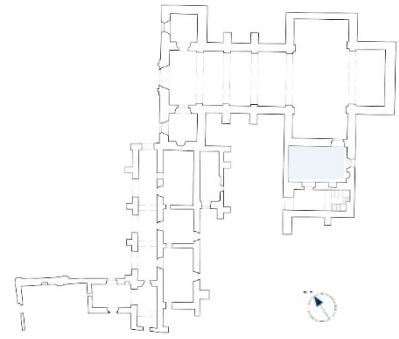
Figure 6.B.117: 104 F Kitchen. Rising damp in the wall, which produces stains and erosion of the surface.



Figure 6.B.118: 104 F Kitchen. Rising damp in the wall, which produces stains and erosion of the surface.

**103 A_Father
President's Office**

The overall condition of the room is poor, with fragile condition of the wall surfaces and possibly active structural issues. This room has a notable architectural significance for the Baroque forms in the shell-shaped architrave of the east window and for its historic plaster featuring remnants of colored decoration on the wainscot area. The historic plaster of this room is similar to what is found in the portería and storeroom. However, according to previous reports (Motiejunaite, 1990; Restoration Associates, 2009), the remnants of red color found here are brighter than the ones used in the one-story convento rooms (see the dado of the library as a comparison).



*Overall
condition:
friable*

North Wall

The wall is adjacent to the church with one opening facing on to the church altar area. The wall's condition appears very friable. On the eastern wall section a large remnant of red color—part of the wainscot—is still visible (A1).

The eastern lower section of the wall (A1) features advanced powdering, missing plaster, and a concrete patching. The patching is located on a portion of what once was the wainscot. The whole wall exhibits differential erosion of the plaster finishes, more advanced in the lower section. Numerous holes can be seen in the wall middle section (at a height of 5'5"—approximately 165 cm) with associated detachment of edges. The middle section of the wall also features historic graffiti (B4, B2 and B1).

Under the ceiling, the uppermost section of the wall, for a height of approximately circa 2½ ft. (a little less than 80 cm), there is a more modern plaster. The separation of the modern plaster's edges from the historic plaster is clearly visible.

Where the wooden rafters pocket in to the wall, there is evidence of lateral movement. Rafters appear to be moving south, creating diagonal cracks below the rafters. More evidence of damage can be seen in the first rafter toward the west (E7), and in the fifth one (E5).

A comparison between 2009 and 2018 points clouds encompassing the entire room showed that the structure has not been moving in the last ten years. This decay will be further assessed and discussed in the engineer's report.

**Overall
condition:
friable**

East Wall

The wall appears very friable.

Remnants of colors are visible in numerous places of the wainscot area, numerous remnants of red pigments can be observed, all characterized by advanced erosion.

The lower section of the wall has advanced erosion of the historic painted finishes, the area of the wainscot exhibits numerous missing parts, with loss of plaster, detachment of edges of the historic plaster and some patching. Middle section of the wall features numerous historic graffiti, also located in the windows' surroundings. The plastered surface also has numerous missing parts and detachment of edges. The upper section of the wall has various cracks, one of them located at the center of the shell shaped window architrave. On the top of the architrave an arched shape patch is visible, probably filling a crack that was forming a natural arch in the masonry. The surrounding surface exhibits discoloration of the historic painted finishes, associated with efflorescence and, on the northern side, differential erosion of plaster. The uppermost portion of the wall, under the ceiling, features a more modern plaster whose edges of separation from the historic plaster is clearly visible.

**Overall
condition:
friable**

South Wall

This wall condition appears very friable/low level of conservation.

The lower section of the wall features advanced erosion of its plaster finishes, with some cement patches on the western section of the wall (A1, B1, A2, B2). This wall has multiple missing layers of plaster finishes/holes with associated detachment of edges (B2, A6).

The east jamb of the door and its adjacent area are characterized by a large patching, extremely well executed and with a paint finish similar to the rest of the wall, due mostly to the electric wiring of the light fixture (A5, B5). Historic graffiti are also located on the wall middle section (B1, B2, B6 and B7).

Cement patches are located on the central part of the door architrave, filling a vertical/diagonal fracture. Two other patches, on both sides of the door architrave are also filling two additional diagonal fractures, showing evidence of structural movements, with the door architrave dropping in the middle. The uppermost section of the wall also features some cracks, starting from the rafters (D2, D5 and D6), also due to the movement of the masonry structure and similar to the north wall.

Under the ceiling, the uppermost section of the wall, for a height of approximately 2 ft. (approximately 60 cm), features a more modern plaster. The separa-

tion of the modern plaster's edges from the historic plaster is clearly visible.

*Overall
condition:
poor*

West Wall

The condition of this wall is definitively poor, probably the most fragile of the four walls of this room. The historic plaster of this wall does not present any traces of a wainscot, like in the case of the other walls. This confirms the proposed reconstruction of the room's decorative patterns by Motiejunaite (1991). The historic colored plaster has a high level of differential erosion starting from approximately 1 ft. above the ground level and extended all along the height of the wall. Such differential erosion is more advanced on the southern section (adjacent to an outdoor space). The wall's lower and middle sections next to the window feature large areas of material loss (A4, B4), revealing the masonry underneath, similar to the north lower section (A1).

An interesting graffiti, depicting 1861 (probably the year of the engraving) is located above the window architrave which is finished with a modern mortar patching (B3, B4, A4). Numerous cracks interrupt the continuity of the historic plaster, located mostly in the wall's southern upper section (C2, D2, C3, C4, D4, C5) but also visible under the window (A3, A4). Another long horizontal crack on the plaster starts from the window's upper corner until the wall's southern corner (B4, B5).

Like in the other walls, the west wall's uppermost section features a more modern plaster. Under the modern plaster edges, three areas have loss of historic plaster, with exposed masonry (D3, D4, D5).

Ceiling

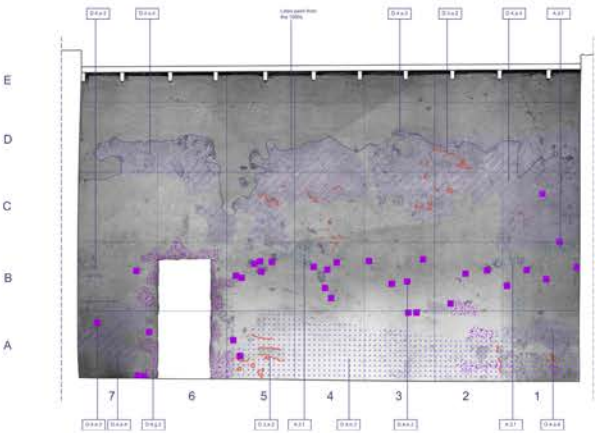
The ceiling has exposed wooden rafters with boards, a more in-depth investigation on the condition of the structural and material condition of the ceiling should be carried out. The wooden planks moved from their original wall recesses, showing that the whole structure of the room moved, with walls rotating out of plane due to wooden rafters pushing outwards.

A recent bat exclusion project was carried out by NPS personnel, filling gaps at the parapet wall, when the bats were seasonally absents.

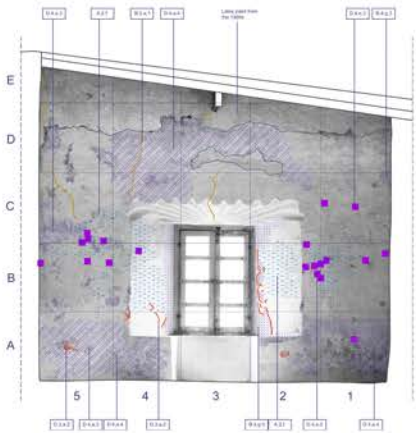
Note on the Floor

Brick floors with stretcher bond pattern are laid in concrete mortar and possibly are laid on a cement slab. They appear similar to the ones in the library. Remains of animal droppings (bats) can be seen on the floor.

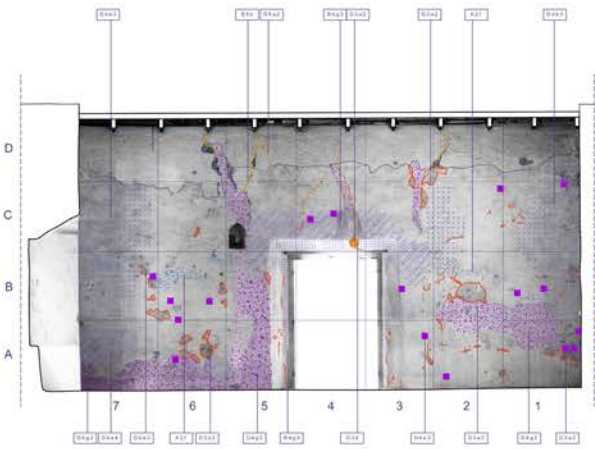
103 A _ Father President's office



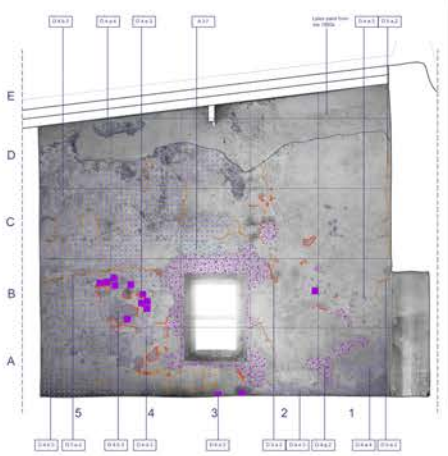
North wall



East wall



South wall



West wall



103 A: (CA_09) Father President's Office General Photos, North and East Walls



Figure 6.B.119: North wall. The opening faces onto the church's transept.



Figure 6.B.120: North wall. Remnant of red pigments are visible on the wainscot area at the northeast corner.



Figure 6.B.121: East wall.

103 A: (CA_09) Father President's Office General Photos, South and West Walls



Figure 6.B.122: South wall, west corner. Diagonal cracks starting from the door architrave are visible.



Figure 6.B.123: Ceiling and part of south wall. Cracks reach the ceiling.



Figure 6.B.124: West wall.



Figure 6.B.125: West wall.

103 A: (CA_09) Father President's Office Detail Photos, North and East Walls



Figure 6.B.126: North wall (B5, B6). The area features numerous missing parts of the plaster.



Figure 6.B.127: North wall (D4, D5). Shows the meeting point of the historic plaster and the latex paint from 1980s.



Figure 6.B.128: North wall (A4, A5, A6). Exhibits missing parts, differential erosion of the plaster and patching on the jamb of the door.



Figure 6.B.129: North wall (A1, B1). Shows the remnant of painted plaster in a red/orange color. The surface features erosion of the painted finish and historic graffiti.



Figure 6.B.130: East wall (D4, D5, E4, E5). A crack is visible in the corner of the wall. Under the ceiling is a large area with latex paint.



Figure 6.B.131: East wall (D1, D2, D3). Exhibits several visually intrusive patchings.

103 A: (CA_09) Father President's Office Detail Photos, East and South Walls



Figure 6.B.132: East wall (B4, B5). Features several intrusive patches, historic graffiti, and painted plaster (red/orange color) on the bottom part.



Figure 6.B.133: East wall, view of the decorative clamshell window openings. Its surface exhibits historic graffiti, a crack in its architrave, and detachment of the patching of the right jamb.



Figure 6.B.134: South wall (B5, C5, C4). Features several cracks, graffiti, and different types of patching.



Figure 6.B.135: South wall (C4, C3, B3). Features several cracks, erosion of the painted finish, and missing parts of the plaster.



Figure 6.B.136: South wall (B5, B5, C5, C6). Exhibits numerous missing parts, graffiti, and erosion.



Figure 6.B.137: South wall (D2, D3, D4). Exhibits a crack starting from the wooden rafter and extending downward.

103 A: (CA_09) Father President's Office Detail Photos, West Wall



Figure 6.B.138: West wall (B4). Features numerous missing parts, a horizontal hair crack starting at the corner of the window, and visually intrusive patching at the jamb of the window.



Figure 6.B.139: West wall (D4, D5). Shows the latex paint added in 1980s and erosion of the historic plaster.



Figure 6.B.140: West wall (D1, D2, D3). Shows the latex paint added in 1980s and erosion of the historic plaster.

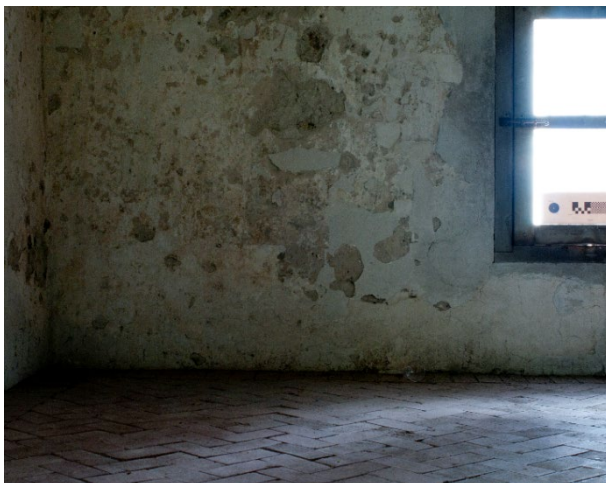


Figure 6.B.141: West wall (A4, B4). Features numerous missing parts, differential erosion of the plaster, and erosion of the painted finish.



Figure 6.B.142: West wall (B3, B2, C3, C2). Features visually intrusive patching surrounding the window, historic graffiti, and numerous missing part of the painted finish and the plaster.

**103 B and C_
Portalito
and Staircase Room
(Ground Level)**

North Wall

Staircase Room: this wall is entirely covered with historic plaster, the date of which is uncertain.

The whole wall appears to have deposits and dirt. The wall lower section appears part of an older phase. It features detachment of edges and numerous missing parts, the overall condition of this lower section is fair, even if structural decay was observed.

Extensive vertical crack patterns are spread on the wall, starting from the center of the door architrave and continuing under the stairs. Some of these cracks were filled with mortar, however a new hair crack pattern was observed.

The plaster features numerous missing parts and, more interestingly, presence of numerous graffiti.

Portalito: The overall condition of the wall is fair/low. It is important to note that a long crack separates steps from the adjacent wall, evidence of the staircase structural movement.

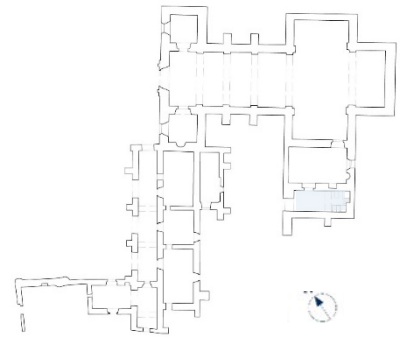
The staircase wall of the portalito features in the lower section large areas of patches and numerous holes. The upper portion still features historic plasters—where numerous graffiti were made over time, some of them definitively historic. Historic plaster extends until the roof.

Above the door architrave, a diagonal crack is filled with mortar patching, which includes also the whole area of the architrave and part of the west jamb. The historic plaster located on the west side of the door is characterized by a complex decay pattern which includes various patches, erosion of the painted finishes, and large areas with historic graffiti. The whole area under the roof rafter is clearly modern era, probably added when roof was changed (1930s).

East Wall

The wall's lower section under the staircase is covered with plaster, probably historic (no data is available) featuring advanced erosion. The area above is filled with mortar patching until approximately 3 ft. The remaining plaster features advanced erosion, disintegration and crumbling of the plaster, with a thick layer of dark material, probably biological growth.

A crack starting under the staircase continues diagonally on the stair wall in the middle section of the room. This crack is contributing to a larger crack pat-



tern, involving both of the floors and the Father President's office and possibly caused by settlement of the southeast corner.

There are several other minor cracks in these same areas as well as mortar patching and some areas with encrustations.

The upper portion of the wall is the one above the multicentered arch. Mortar patches, with associated detachment of edges, on the north and south side allow the continuity of the plastered surface.

The upper level consists only of a parapet, which is a quite modern restoration. Its surface exhibits some missing parts and a differential erosion of a stone block.

West Wall

The visible portion of the wall on the ground level concerns only the area above the door (the other portion is occupied by the closet) which was recently repainted a homogeneous grayish color. The only decay patterns identified are some discoloration and small holes. Additionally, a detachment of edges under the ceiling can be observed.

On the upper level, this wall includes the so-called "Moorish style" window and historic plaster possibly dating 18th century. Advanced erosion of the surface next to the floor as well as numerous small patches of brown mortar can be seen under the window.

Cracks are visible on the north and south corners, the wall above the window features numerous detachment of edges. On this wall numerous graffiti are located next to the window on both sides.

South Wall

The wall's lower section on the ground floor has no plaster and features larger tufa blocks, which date to an earlier building phase. Such blocks are irregularly repointed with modern mortar. At approximately 4¹/₂ ft. the wall surface is plastered (plaster does not appear to be historic). This portion of the wall was reconstructed sometime after the 1890s. Such reconstruction can be observed on the exterior corresponding facade, which features small rubbles, constructed on the top of large tufa blocks. Plaster is irregularly laid on the wall surface, it features numerous holes and very fine hair cracks. The upper section of the ground-floor wall features a mortar patching on the east corner.

The only crack that may be interpreted as structural is located on the stair, starting from the sixth step, and east of the multicentered arch. The east portion of the south wall was reconstructed (probably also at the end of 19th century),

and is made with rubble and finished with mortar, with no plaster finish.

The upper level is mostly covered with historic plaster (probably 18th century like the adjacent west wall), with the exception of the parapet, which was built later with rubble stones. The parapet only exhibits some missing parts.

More complex is the decay pattern of the plastered wall, with numerous mortar patches, detachment of edges and holes. Vertical areas of discolorations are also visible. Two areas with graffiti were also identified.

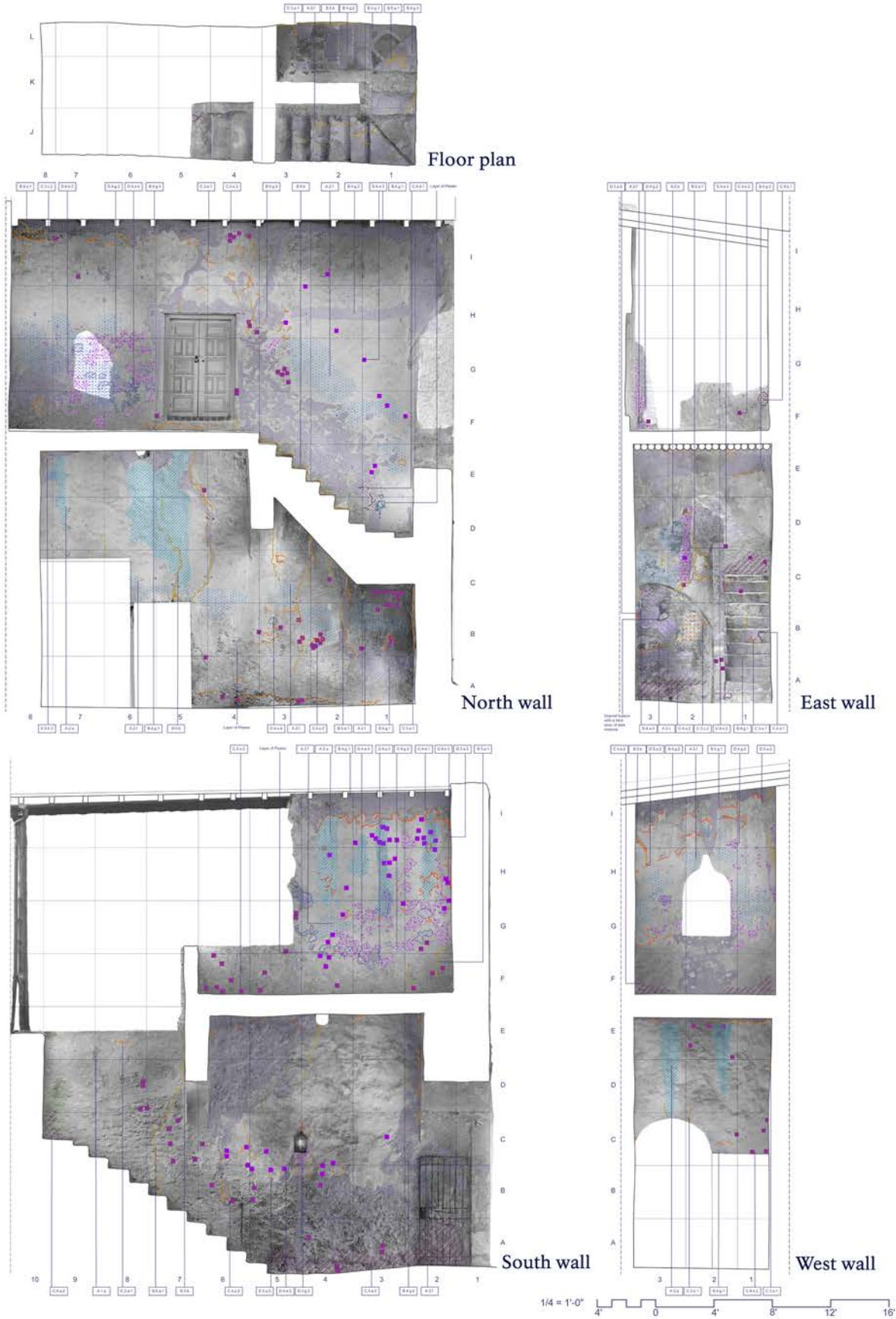
The wall upper sections are covered with modern plaster, detachment of edges follows the profile between old and new mortar.

Note on the Floor

The staircase room is paved with flagstones (date of construction uncertain), similar to the steps of the stair. In the portalito, brick floors with stretcher bond pattern are laid in concrete mortar and possibly are laid on a cement slab, similar to the ones in the library.

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103 B and C _ Portalito and Staircase



103 B: (CA_10) Portalito General Photos



Figure 6.B.143: South wall on the upper floor.



Figure 6.B.144: Wood pillar on the south-eastern corner of the balustrade.



Figure 6.B.145: Ceiling, picture looking east.



Figure 6.B.146: Moorish-styled window on the west wall.

103 B: (CA_10) Portalito General Photos, North Wall



Figure 6.B.147: North wall. West part of the wall, left of the door. The surface features remnant of historic painted plaster (red/orange color), different types of patching, and historic graffiti.



Figure 6.B.148: North wall. Door leading to Father President's office. Features brown mortar patching.



Figure 6.B.149: North wall. East section of the wall, above the stairs. Exhibits several missing parts and brown mortar patching.



Figure 6.B.150: North wall. Area above the door. The door architrave features a filled crack starting from the left corner.



Figure 6.B.151: North wall. Upper east corner. Shows historic graffiti and mortar patching in the shape of a horizontal line.

103 B: (CA_10) Portalito North Wall Details



Figure 6.B.152: North wall. East end. Exhibits brown mortar patching in the left side, missing parts, and historic graffiti.



Figure 6.B.153: North wall. East end, view toward the steps. A crack separates the steps from the wall. Patches of different generations cover the wall surface.



Figure 6.B.154: North wall. Area above the door. Features different types of mortar patching and an old crack that has been filled.



Figure 6.B.155: North wall. Area right of the door. It exhibits different types of mortar patching (one brownish and one grayish), traces of historic painted plaster (red/orange color), historic graffiti, and missing parts.



Figure 6.B.156: North wall. Area left of the door. Exhibits remnants of historic painted plaster (red/orange color) and different types of patching and historic graffiti.



Figure 6.B.157: North wall. Upper left corner. Features a crack going down from the roof rafter, concrete patching on the upper part connecting to the roof, and disintegration of the plaster.

103 B: (CA_10) Portalito West and South Walls



Figure 6.B.158: West wall. Upper left area. Features a crack starting from the corner of the wall, concrete patching in the connection with the roof, and detachment of edges of the plaster.



Figure 6.B.159: West wall. Upper part of the wall. Exhibits a crack starting from the upper point of the window that has been filled, concrete patching on the top of the wall, and detachment of edges of the plaster.



Figure 6.B.160: West wall. Moorish style window. Features different types of patching and historic graffiti.



Figure 6.B.161: West wall. Bottom part of the wall under the Moorish style window. It features different types of mortar patches, the large brown patching is unfinished and visually contrasting.



Figure 6.B.162: South wall. Upper left part. Features brown mortar patching near the connection with the roof and discoloration of the plaster.



Figure 6.B.163: South wall. Upper right part. Shows mortar patching in the connection with the roof and detachment of edges of the plaster.

103 B: (CA_10) Portalito South Wall



Figure 6.B.164: South wall. Middle area. Features well-executed patching that allows for the continuity of the plaster, remnants of painted plaster and graffiti.



Figure 6.B.165: South wall. Left part. Shows the connection of the historic part of the wall (right), with the later addition of the parapet (left).



Figure 6.B.166: South wall. Detail of the parapet. A later addition to the historic construction, the parapet has no plaster and only features some missing parts.



Figure 6.B.167: South wall. Detail of the connection of the wall with the parapet. Features different types of patching, remnants of painted plaster (red/orange color), and historic graffiti.

103 C: (CA_10) Staircase



Figure 6.B.168: Flight of stairs leading from portalito down to the ground floor. Part of the south wall and stone railing shown.



Figure 6.B.171: West wall of the staircase features patches of mortar possibly done in different times.



Figure 6.B.169: East wall of the staircase features brown mortar patching, in generally good condition.



Figure 6.B.170: South wall of the staircase. Brown mortar patching restoration is in generally good condition.



Figure 6.B.172: North wall of the staircase features brown patches that are visually not compatible, graffiti, and parts of missing mortar.

103 C: (CA_10) Staircase



Figure 6.B.173: East wall under the staircase features mortar patching from different time periods.



Figure 6.B.176: North wall has deep fractures filled with mortar. The wall may need stabilization.



Figure 6.B.174: West wall in good condition.



Figure 6.B.175: Modified after the 1850s, the ceiling is made from round wooden rafters, following the traditional Spanish technology of the period.



Figure 6.B.177: South wall features mortar patching of different periods and its partial erosion.

Exterior Elevations

Convento—North Elevation of the Corridor (103 A)

*Overall
condition:
fair/good*

The overall condition of the wall is fair/good.

The lower third of the wall exhibits brown mortar repointing which is visually contrasting with the masonry. There are numerous holes. The upper two thirds of the wall is completely covered with a thick dark patina of biological growth, so dense to prevent the visibility of the masonry. A modern parapet crowns the top of the wall. There is disintegration of the capping.

The intrados of the north arch has remnants of historic 18th century painted plaster. The edges of the plastered fragments, results of 1988 restoration work, remain in good condition. The plaster remnant of this area are clearly eroded, however this plaster in this arch is the most intact of the whole arcade. Here it is possible to understand the geometrical pattern of red and yellow faux voussoirs. Traces of red and yellow colors as well as the line separating the faux voussoir are clearly visible. A more recent gray paint layer (probably lime and water based) was applied over the faux voussoirs' decoration. This layer was not removed during the 1988 conservation works, although not from the structure's period of significant. A holistic preservation campaign for the remnants of historic painted and unpainted plaster should be carried out. The small area of the intrados not covered by historic plaster—with stone voussoirs—exhibits darkening flow marks of biological nature. Further details of historic plaster is explained in the general description of the corridor (104 A).

Convento—West Façade—Exterior

*Overall
condition:
good*

Also called west arcade, the west façade has three arches that lead to the corridor (104 A) and is divided in four bays, with the presence of five buttresses located between the arches. Buttresses have the structural role of resisting the outward loads generated by the stone barrel vault of the corridor. It is important to highlight that all the buttresses of the west façade were reshaped between 1910s and 1930s, and therefore some of the stone masonry appears reworked from reused materials. Some areas of the mortar repointing are very recent.

The overall condition of the west facade is good. An extensive area of the wall is covered with a dark patina of biological growth, which is denser in the uppermost section of the wall and on the buttresses, where the drainage of the rain water channels through the canales. The buttresses also exhibit large areas of moss and plants due to the high level of moisture retained in the stones. The lower portion of the wall's northern end has various holes and erosion of the masonry. Extended areas of the wall were repointed using a visually contrasting brown mortar, which appears to be darker in the bottom area and on

the buttresses. The repointed areas are mostly located in the lower portions of the walls, due to the high rate of mortar erosion from rising damp.

The intrados of the three arches feature several fragments of historic 18th-century plaster, stabilized in the conservation campaign of 1988. The edges of the plaster, stabilized in 1988, are still in good condition. The northernmost of the three arches features a large continuous fragment, partially covered with a gray paint finish, with mild erosion of its surface. The part of the plaster fragment is made of arriccio, with irreversible loss of the most superficial layers. Various mortar patches are visible on the north post of the arch. The south post features disintegration of the plaster remnants.

The plaster in the middle arch is the less intact. Only very small areas (a few centimeters wide) survive. Remnants of paint color are gray and whitewash. The majority of the plaster surface is made of arriccio, in state of erosion, crumbling with some voids in its surface. Various mortar patches are visible on the posts of the arch.

The plaster of the southern arch is also in fragmentary state, although larger portions still have some paint finish, mostly made with a gray color, darker than the one in the other arches. Disintegration of remnants of arriccio is visible on the vertical posts.

**Convento—North
Facade—Exterior**

*Overall
condition:
fair*

Segment A—East Area Corresponding to the KITCHEN (104 F)

The overall condition of the wall is fair. The wall features a dense dark patina of biological origin, denser on the top of the whole wall. The parapet exhibits disintegration of the capping, thus allowing increased permeability of the wall's upper portion.

Some areas of the wall's lower portion, close to the ground, exhibit the dark patina characteristic of high level of humidity. This condition is exacerbated by the presence of grass on the ground and some negative slope down toward the convento's west façade. Concentration of moss and small plants are visible on the eastern buttress denominated as 5 in the drawings. In this corner corresponding with this buttress, the level of moisture is even higher, increased by the water flowing from one of the canales. The area just above the door architrave features multiple missing plaster parts and detachment of the mortar edges. Several mortar patches are located in the surrounds (jambs and head) of the door. The masonry rubble of the wall exhibits delamination and fragmentation of stone surfaces. A diagonal crack starts from the top of the door and goes out to the east buttress (denominated as 6), partially forming the typical crack pattern of a natural arch. Above the door a long flat flagstone is located. This stone

sheds water away from the area underneath, evidently once integral to a small shed roof assembly, now missing. Here the surface does not show any biological colonization, with the original color of the surface intact.

*Overall
condition:
fair/poor*

Segment B—Ruined Wall on the West Side

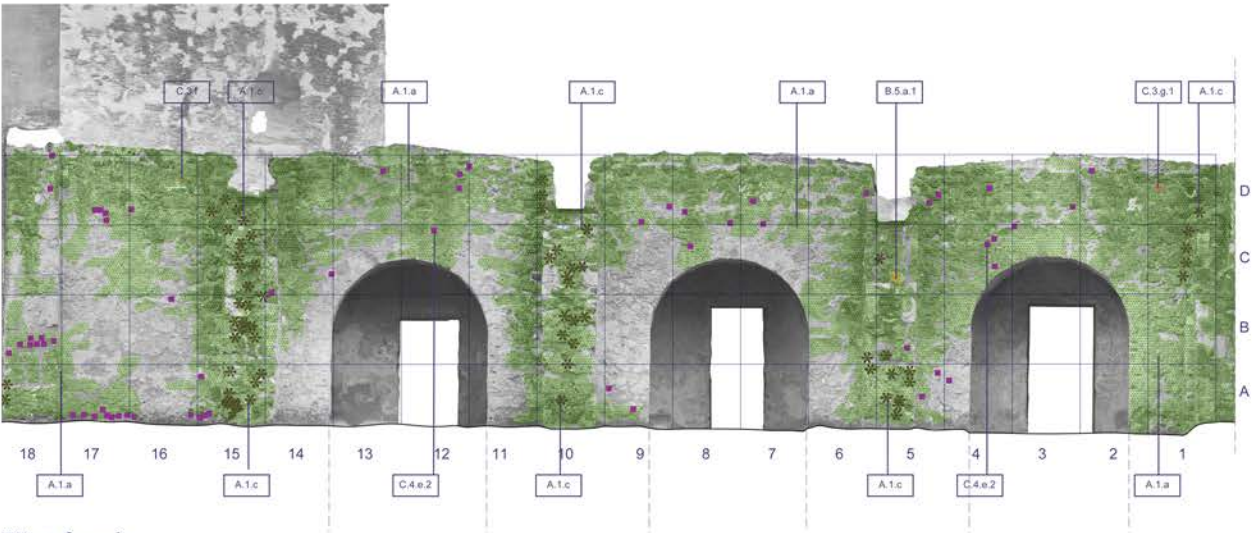
The overall condition of this wall is fair/ poor. This is a free standing wall, its thickness is smaller than the typical walls of the convento. This wall is structurally less stable than the ones connected by roof structures. The majority of its surface is covered by the black patina of biological origin (algae and cyanobacteria), which is denser on the top of the wall. The biological growth on the west side of the wall is colonized across the whole surface. Some areas, mostly on the uppermost portion of the west corner, are also covered with moss. The wall surface appears of different tones of black, lighter on the lower portion of the wall, close to the ground. Disintegration of the parapet and the wall capping is advanced, with consequent high permeability of the wall. The east portion features numerous voids on the masonry surface, mostly associated to areas of failed mortar patching. Areas in the lower portion of the wall are in a state of fragmentation and powdering. Surfaces close to the ground have more advanced erosion.

The west corner is in fragile condition, although the presence of some patches is stabilizing the surface. Advanced disintegration of the surface is visible.

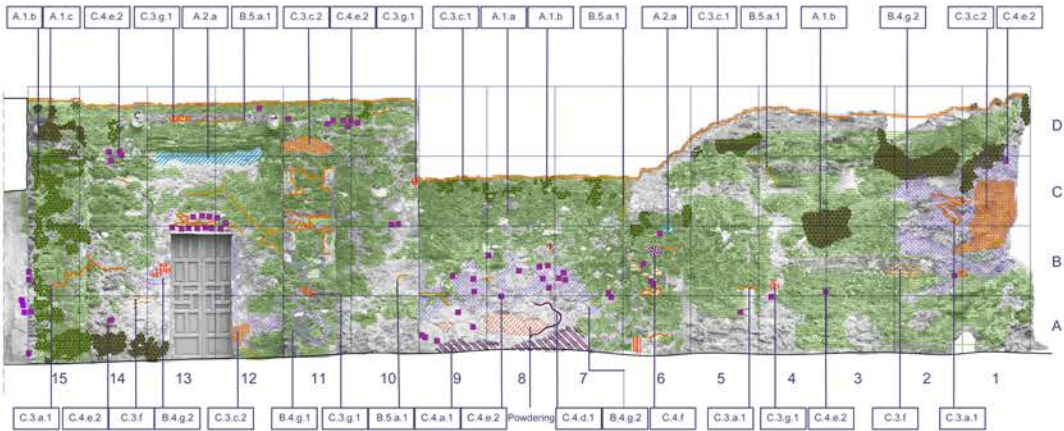
Buttress 7 is covered by black patina in the front and widespread presence of moss. Notable in the masonry construction is the presence of one compact white limestone rubble, featuring large holes. This stone displays a condition described as alveolization. Other stones appears to have delamination on their surface.

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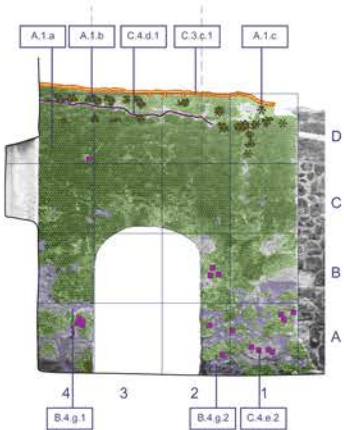
Exterior walls



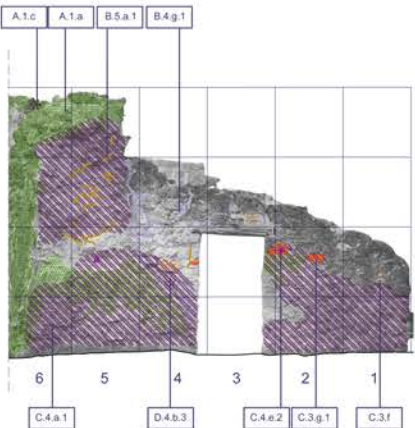
West facade



North facade



North facade of the west corridor



West facade of the south wing



North Façade of the West Corridor



Figure 6.B.178: Exterior north elevation of the corridor. Dark film of biological growth featured on the top part.



Figure 6.B.179: Exterior north elevation. Arch in the north wall of the corridor. Remnants of painted plaster (red and yellow).

West Façade (CA_02), Arcade of the Corridor



Figures 6.B.180, 6.B.181: West wall features five large buttresses between four arched openings into the corridor.

Convento: West Arcade (CA_02)



Figures 6.B.182, 6.B.183: Exterior west elevation. North arch of the west arcade. Remnants of painted plaster with edge stabilization from the conservation campaign of 1988. Detachment of edges of the painted finish.



Figures 6.B.184, 6.B.185: West wall features five large buttresses between four arched openings into the corridor.

Convento: West Arcade (CA_02)

Figures 6.B.186, 6.B.187: Exterior west elevation. Middle arch of the west arcade. Remnants of painted plaster with edge stabilization from the conservation campaign of 1988.



Figures 6.B.188, 6.B.189: Exterior west elevation. South arch of the west arcade. Remnants of painted plaster with painted finish and edge stabilization from the conservation campaign of 1988. Detachment of edges of the plaster layer.

Convento: West Wall Buttresses (CA_02)

Buttresses on the west wall feature recent brown mortar repointing, which is in generally good condition and matches the stone's overall color.



Figure 6.B.190: Detail of a buttress with no evident biological colonization.



Figure 6.B.191: Detail of buttress with evident biological colonization.



Figure 6.B.192: Detail of moss and plant growth.

Convento: North Wall (CA_02)



Figures 6.B.193, 6.B.194, 6.B.195: Northern wall covered in thick layer of algae, plants, and moss. The wall surface also features high level of stone erosion, fragmentation, and delamination.



Figure 6.B.196: Buttress located at the corner between north and west facade is characterized by a rich biological growth, also exacerbated by the presence



Figure 6.B.197: Right jamb of the door, where rising damp and high levels of moisture help the flourishing of biological growth.

Convento: North Wall Buttresses (CA_02)

Buttresses on the north wall are covered in algae film, moss, and plants.



Figure 6.B.198: Infill Austin limestone block. Note the recent mortar repointing.



Figure 6.B.199: Differential erosion of a pisolithic rubble.



Figure 6.B.200: Detail showing moss (above) and a compact limestone rubble featuring alveolization.

**Convento—South
Elevation—Exterior**

*Overall
condition:
fair/good*

Segment A—East Wall Area Corresponding with GUEST ROOM (104 C)

The overall condition of this portion of elevation is fair/good. The wall was originally an interior partition and was part of a corridor similar to the one located on the west side of the convento (see the chronology chapter of this HSR and Ivey, 2018).

The surface of the lower part of the wall is made of rubble stone with modern mortar joints and is definitively in good condition with the exception of some erosion of the stones in the areas close to the floor. Some remnant of the historic plaster can still be seen on the uppermost area of the wall. Detachment of edges and erosion of the surface are visible. Since this portion of the façade is partially protected by a barrel vault in fragmentary state, biological growth is not affecting this area.

The east side of the elevation, instead, which is characterized by a rubble stone wall, exhibits abundant growth of algae and, in wet seasons, moss.

*Overall
condition:
fair*

Segment B—East Wall Area Corresponding with LIBRARY (104 E)

The overall condition of this wall is fair. Conservation work both for ensuring the preservation of its historic plaster and for carrying out an interpretative program of this area. (All treatment recommendations are in Chapter 9.)

The east corner is characterized by a ruined wall, running perpendicular to the façade. The wall is what remains of the collapsed structures of an additional room. It presently has the form of a trapezoidal buttress. Its tufa rubble is covered with biological growth due to the high water absorption of the tufa rubble. On its lower portion, erosion of mortar joints and traces of recent repointing are visible.

The plastered area of the façade corresponds to the library. This area is covered with historic 18th-century plaster in the uppermost area. The historic plaster, once part of an interior room (celda), covers almost half of this wall and is in fair condition, revealing good performance in the face of weather exposure. Yet, there is a visible decay pattern in the black patina of biological growth, with darker “flow marks” indicating the path of rainwater flowing from the vaulted roof. Such aggressive colonization of microorganisms (most probably mostly cyano-bacteria) usually takes place when the plaster surface is disaggregated with consequent erosion, facilitating the retention of rainwater. Numerous hair cracks are located on the west side of the historic plaster areas. Detachment of some edges of the plaster is also visible on the top of the wall, close to the connection with what remains of the collapsed vault. At mid-wall the plaster’s arriccio is extant, with some patching and voids. The center of this area exhibits

some graffiti.

The lower portion of the wall, exposed to rain back-splash and consequent rising damp in the masonry, is characterized by numerous patching, some executed with a brown mortar.

A note should be added here, not strictly related with issues of condition assessment, involving instead a correct interpretation of wall elements. In the mid portion of the wall, two preexisting holes have been filled with patch material. The holes were cavities (pockets) created to support wooden lintels that likely held a sleeping loft since this area was a 'celda' or bedroom. Removal of these inappropriate patches is recommended in Chapter 9 as part of an improved plan for interpretation.

*Overall
condition:
fair/good*

Segment C—East Wall Area Corresponding with REFECTORY (104 F)

The overall condition of the refectory exterior east wall is fair/good. The most visually impacting decay is the deep dark color on the wall surface due to the presence of biological growth, most dense in proximity of the wall coping and less in the lower portion. The distribution pattern of the biological growth may be due to the high porosity of the parapet wall (capping) and insufficient water-proofing. The corner between the façade and the buttress exhibits the highest level of biological growth density.

The lower portion of the wall, adjacent to the ground, features erosion of the stone rubble and moist areas, due to rising damp. The condition is exacerbated by the negative slope of the adjacent outdoor area which allows surface water (from rain) to flow toward the convento's walls.

Some voids are visible on the wall surface as well as loss of mortar joints in some specific areas of the door's west side and above the architrave. Punctual delamination and fragmentation of some stone blocks is visible on sections of the east wall surface.

*Overall
condition:
fair/good*

Segment D—East Wall Area Corresponding with KITCHEN (104 F)

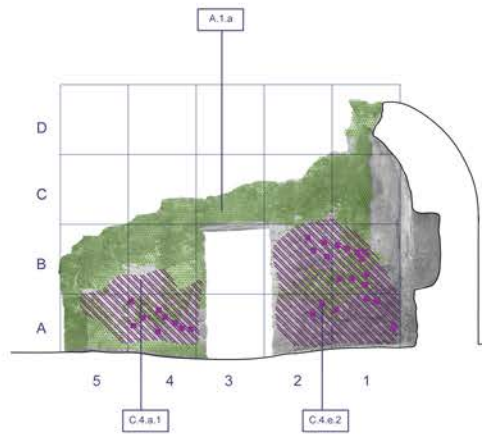
The overall condition of the kitchen exterior east wall is fair/good. The uppermost area of the wall is characterized by the presence of a deep dark biological growth, more concentrated on the top of the wall parapet and on the top of the buttresses. Vegetation is also visible on the top of the central buttress. The west portion of the parapet has some voids and erosion of the masonry. Erosion of the masonry is also featured in numerous localized areas of this wall, and it is almost continuous in the lower portion close to the ground. Limestone in this wall exhibits alveolization.

*Overall
condition:
fair/poor*

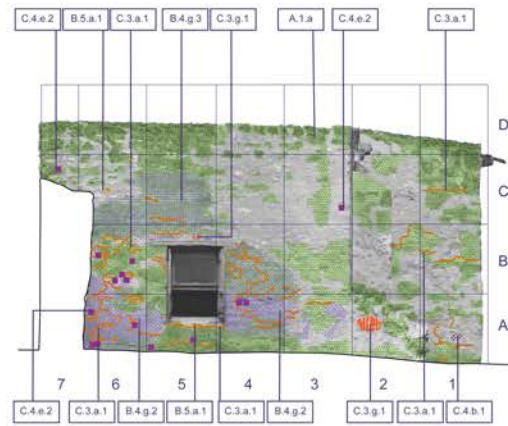
Segment E—Ruined Wall on the West Side

The condition of this wall is fair/poor because of the unstable condition of the ruined northern portion which is characterized by hair cracks, advanced erosion and disintegration of the stone rubble and mortar. The wall is free-standing and also one of the least thick at the convento, measuring circa 16 inches wide. The biological growth is concentrated on the top of the wall and close to the ledge located at a height of circa 4 ft. from the ground (120 cm). This pattern shows that the masonry lacks adequate water resistance from the top. Most of the wall surface features erosion of the masonry, more advanced on the top, less on the middle section. A few of the stones exhibit delamination of their surface and localized voids.

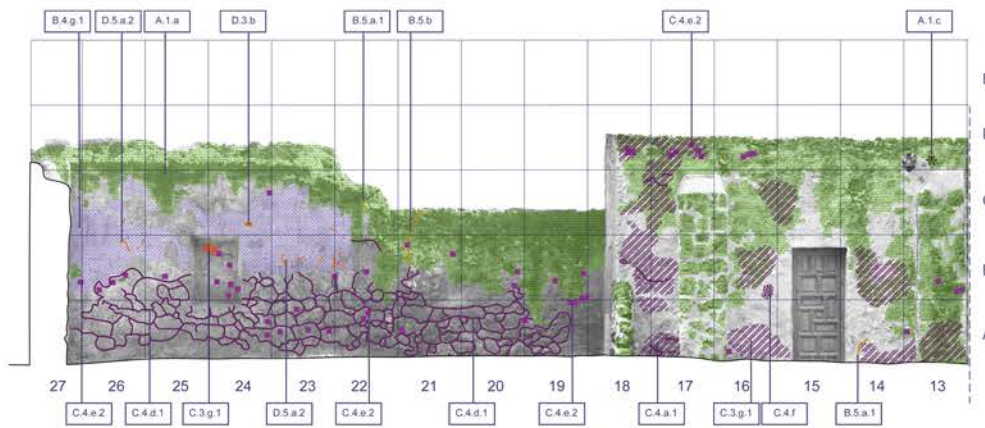
Exterior walls



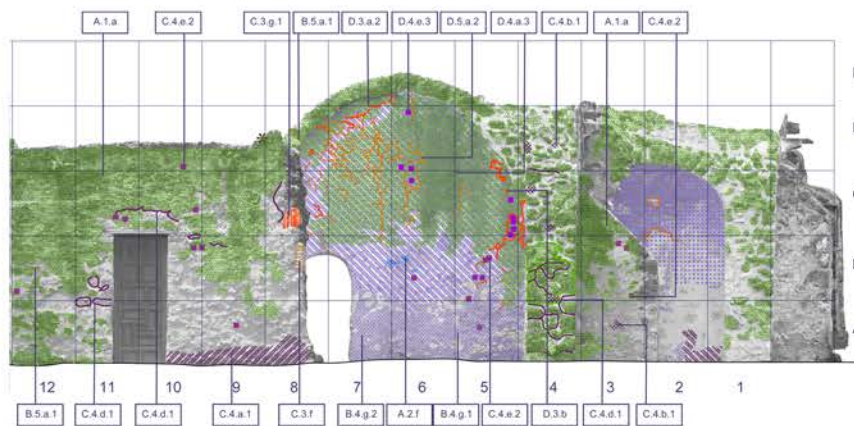
South wing East wall



West wall of the kitchen



South wall west part



South wall east part

1/4" = 1'-0"

Convento: South Wall (Segments B, C and D) and West Ruined Wall (CA_02)



Figure 6.B.201: South wall (segment B), corresponding to the library.



Figure 6.B.202: Segment B close up. The 18th century plaster is covered by a thick patina of biological origin with typical rain flow marks.



Figure 6.B.203: South wall (segment D), corresponding to the kitchen. Features darkening of biological origin with flow marks from the parapet.



Figure 6.B.204: South wall (segment C), corresponding to the refectory. Also features biological growth, with a darker patina on the parapet.



Figure 6.B.205: The west ruined wall has an irregular shape, due to the collapsed vaults. Masonry of the uppermost is in fragile condition.

**Convento—East
Elevation—Exterior**

*Overall
condition:
fair/fragile*

**Segment A—East Wall Area Corresponding to the GUEST ROOM
(North Part)**

The overall condition of this segment of façade is fair/ fragile. Extensive presence of biological growth, associated with vegetation and moss, is mostly concentrated on the buttresses. Vegetation grows seasonally on the south buttress. Its middle portion shows an area where stones appear to have large pores, like they were alveolized. The other buttresses exhibit similar conditions.

The presence of a thick biological colonization of the uppermost area of the wall is due to inadequate rainwater drainage and evacuation away from the walls. The presence of moist areas and erosion of the masonry on the lower portion of the wall up to circa 3.5 ft. from the ground is due to the rising damp. Therefore, the most evident and urgent issue of this wall is its exposure to water, both rising up from the ground and flowing down from the roof.

Another element of note is the presence of remnants of stucco around the small rectangular window. The stucco is fairly well attached to the substrate, featuring some erosion on its surface. Adjacent to the stucco, numerous large brown patches can be seen. The brown patching has an impact on the visual harmony of the wall, however it is not threat to its conservation. Around the large fragment of stucco, it is possible to observe stone voussoirs defining a large arch opening which was walled in late 18th century. Therefore, an improved interpretation and presentation is recommended for this wall in Chapter 9.

*Overall
condition:
good*

**Segment B—East Wall Area Corresponding to the PORTERÍA (104 D) and
LIBRARY (104 E)**

This condition of this façade—in its earliest form an interior wall—is good, featuring numerous recent repairs. The recent repairs effectively improved the wall's condition while achieving an effective aesthetic presentation. The wall features numerous small fragments of historic plaster, sometimes finished with whitewash. The northern section of the wall, partially protected by a surviving remnant of barrel vault, features on the upper portion a light form of biological colonization. The middle portion of the wall retains numerous fragments of historic plaster with a white finishes interrupted by patches, sometimes made with a mortar chromatically not well blended.

Above the door of the portería, just beneath the ruined barrel vault, the recently restored wall features a black patina of biological origin with a typical pattern of water flow marks. All along the ruin of the barrel vault, biological growth has colonized on the stones located on the ragged edge of the vault. The top exhibits a thicker layer of black patina, revealing that it retains moisture

after rain.

The fragment of transverse arch (identified as buttress #14) is in good condition, although its southern face has a thicker dark patina, due to rain flow across the surface. The dark patina is also under the arch fragment's intrados, and the surface there is subject to some erosion and detachment of edges. On the northern side of the transverse arch fragment (#14), some remnants of historic plaster exhibits detachment of edges. Next to the transverse arch fragment, the end of the library's tie rod (including plate and nut) is exposed.

Above the door to the library, fragments of historic plaster are visible. The area of the wall above the library door is in good condition, with only minor darkening due to biological growth, then somewhat denser at the parapet where water flow patterns can be seen. The lower portion of the wall, in adjacency with the ground, features presence of biological growth, together with moist areas, due to rising damp exacerbated by poor drainage flow off the concrete paving.

The buttress (identified as #13) is in fair condition, with darkening due to biological growth, thicker on the buttress's southern face and at the ground level of its northern face, where moss is also visible. The condition of this buttress is good thanks to the effective masonry conservation repairs that were carried out.

The wall's southern section features a dark patina of biological origin, with visible water flow patterns and some repairs of brown mortar in the lower portion of the wall. There is not concrete paving adjacent to this portion of the wall.

*Overall
condition:
fair*

Segment C—East Wall Area Corresponding with REFECTORY (104 F)

The overall condition of this wall is fair. A thick black patina of biological origin covers the uppermost portion of the wall and the section of the ruined wall, with typical 'flow marks' due to rain water. The amount of organic growth reveals a high permeability of the wall/vault capping.

This wall has some remnants of historic plaster, exhibiting in some areas the remains of a whitewash. At the southern (interior) corner, between the façade and the ruined wall segment, fragments of historic plaster are extant with finishes almost intact. Past conservation work is evident, with the reattachment of plaster and the sealing of some edges. Oddly, no work at this area is identified in previous condition reports. Areas of historic plaster are still in state of fragmentation with erosion of the surface, plus detachment of some edges.

There is some detachment of the plaster from the substrate. The area should be inspected by an experienced plaster conservator. Thick black patina covers the uppermost portion of the wall and the extant segment of the ruined wall, with typical 'flow marks' due to rain water. The lower portion of the wall has the

brown patching repair work.

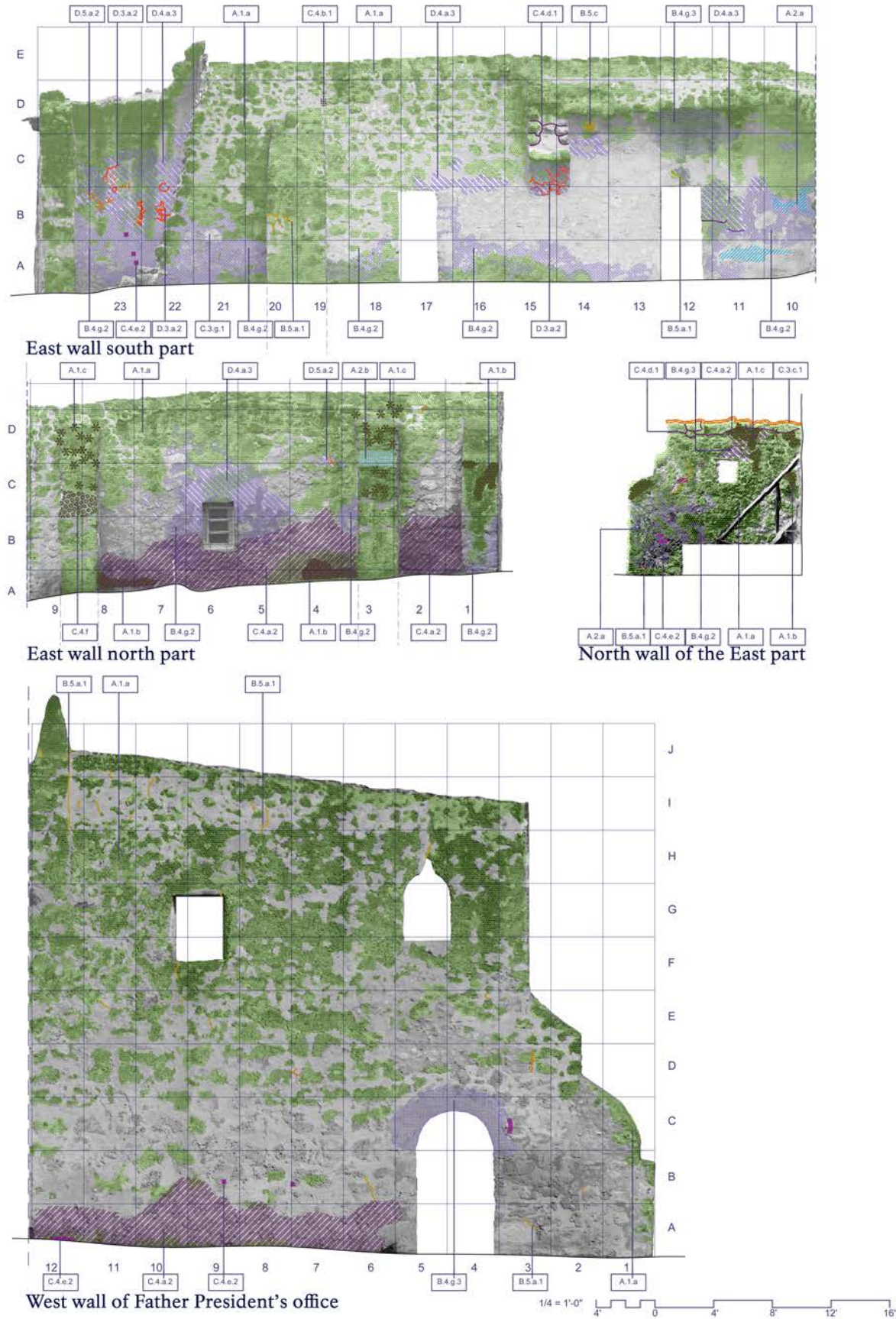
**Convento North
Facade—Exterior
Corresponding to the
GUEST ROOM
(104 C)**

*Overall
condition:
fair/poor*

The condition of this façade is fair/poor, the wall is covered by a thick dark biological patina on most of its surface, mostly concentrated toward the corner with the church tower. This area is also a favorable microclimate for the growth of moss which also grow on the wall. The parapet exhibits disintegration of its capping, its wall surface is characterized by erosion of the mortar joints. The east section of the wall is in fragile condition with presence of voids, hair cracks, erosion of the wall surface and moist areas. The slope of the ground is insufficient for proper water drainage away from the walls. The presence of the external units of the church air conditioning, plus the outflow of condensate water from the system, are external causes that contribute to increase exponentially the decay of this wall as well as the east façade of the guest room.

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Exterior walls



Exterior Walls: East Wall (Segments B and C) (CA_03)



Figure 6.B.206: East wall (segment C), corresponding to the refectory. Features remnant plaster and a thick patina of biological origin.



Figure 6.B.207: East wall (segment B), corresponding to the library. This façade is in fairly good condition.



Figure 6.B.208: East wall (segment B), corresponding to the portería, in generally good condition.

Exterior Walls: East Wall Buttresses (Segments B and C) (CA_03)

Buttresses on the east wall, corresponding to the library and refectory, feature brown mortar patching, which is in generally good condition.



Figure 6.B.209: Brown mortar patching applied on the small tufa rubble.



Figure 6.B.210: More pisolithic rubble, with its typical differential erosion.

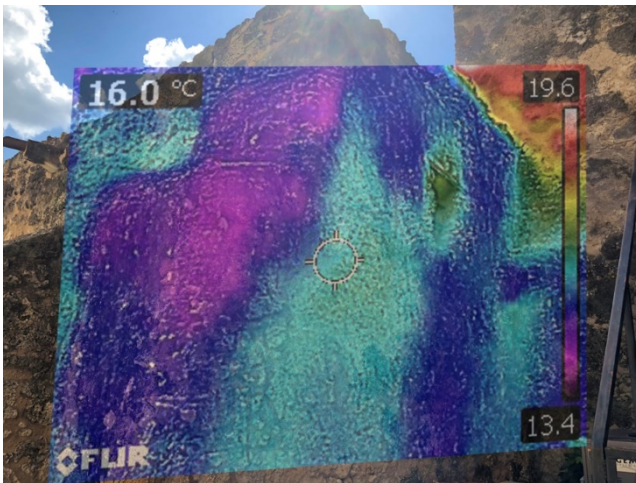


Figure 6.B.211: Detail of a tufa block with darkening of biological origin. The biological colonization of cyano-bacteria appears to infiltrate inside large pores.

Exterior Walls: East Wall (CA_03)



Figures 6.B.212–6.B.214: East wall (segment A), corresponding to the guest room. This wall affected by biological growth, moist areas, stone fragmentation, delamination, and erosion.



Figures 6.B.215–6.B.216: North wall of the guest room. The condition of this wall is critical, with thick layers of biological growth and wall erosion. High moisture contents are enhanced by incorrect water drainage both at the roof and ground levels.

Exterior Walls: East Wall Buttresses (CA_03)

Buttresses on the east wall, corresponding to the guest room, feature darkened brown mortar patching, which does not match the color of the stones and is in need of replacement.



Figure 6.B.217: Brown mortar joints between heavily eroded stones.



Figure 6.B.218: Detail of dark biological growth on tufa block.



Figure 6.B.219: A dark-colored, thick layer of algae and moss completely covers the top part of the northmost buttress.

**Father's President's
Office (103 A) and
Stair (103 B, 103
C)—East Exterior
Elevation**

The façade is in good condition, with no urgent conservation issues. A patina of biological origin darken the wall's surface. The one story wall on the south corner features a dark patina with flow marks, darker on the parapet. The lower portion of the wall was repaired with numerous brown mortar patching. Some voids area visible on the wall surface, as well as some detachment of mortar edges. On the upper level, close to the roof, there is small vegetation growing from the masonry wall.

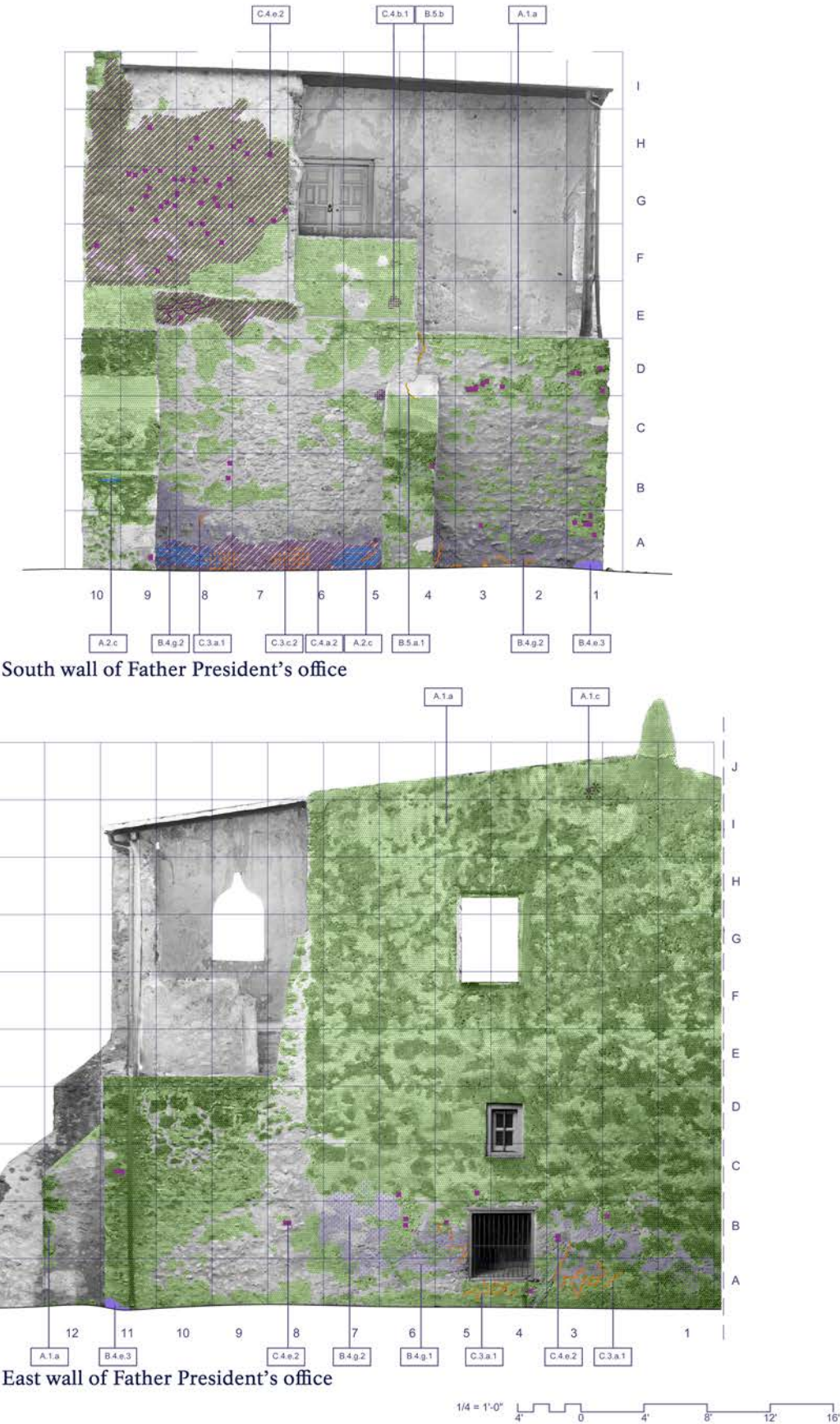
**Father's President's
Office (103 A) and
Stair (103 B, 103
C)—South Exterior
Elevation**

The overall condition of this wall is good.

The biological growth is limited to some areas with a light darkening of the wall surface. The area most affected by the biological growth is the buttress on the west side, as well as the buttress on the center of the façade. The lower portion of the wall is affected by erosion up to circa 1.5 feet from the ground. At some areas the visible erosion is associated with disintegration of the stone surfaces alongside the presence of efflorescence. These conditions are the result of rising damp. The ground level was recently repointed. The only relevant decay is the presence of a crack, starting from the top of the parapet, aligned with the central buttress. Cracks in the area of the stair are numerous and inter-related. The structural conditions are the subject of a separate engineering assessment. The upper level is characterized by erosion of the masonry surface, with presence of numerous voids.

*Overall
condition:
good*

Exterior walls



Exterior Walls: Father President's Office (CA_03)



Figure 6.B.220: Exterior east wall, corresponding to the staircase, features a change in the masonry type, with wall made of small rubble and recently repointed brownish mortar.



Figure 6.B.221: Exterior east wall, which features darkening of biological origin only on the tufa blocks. By contrast, the mortar repointing appears less receptive to biological colonization. Note the recent brown mortar patching on the lower portion of the wall.



Figure 6.B.222: Exterior south wall. This façade is in good condition, recent repointing work can be seen between the two buttresses.



Figure 6.B.223: Exterior south wall.

**Father’s President’s
Office (103 A) and
Stair (103 B, 103
C)—West Exterior
Elevation**

*Overall
condition:
good*

The façade, a beautiful two-story tufa block masonry structure, is in good condition with no urgent conservation issue. A darkening of biological origin characterizes the tufa irregular blocks of this wall. The biological growth does not cover the entire surface as seen in other facades. Instead, growth is restricted to the stone surface, without affecting the mortar joints. The darkening is accentuated on the uppermost area. Water flow marks running from the roof are identifiable, located also under the window of the Father President’s office. The repointing of the mortar joints was made with a pink-brown mortar mix, which may be visually and chemically compatible, however the result of the repointing includes partial and random feathering of mortar over the faces of the stones.

The lower portion of the wall features some erosion of its surface due to rising damp, which is furthered by the presence of grass on the ground and inadequate surface evacuation of rainwater.

The arched entrance to the staircase (103 C) and sacristy features a rough cement finish covering the brick arch, both modern interventions. The area above the arch features an atypical repointing of the mortar joints, made with a white-colored mixture, possibly containing natural hydraulic lime (NHL). A buttress is located on the southern edge of the façade. The buttress’s surfaces, as well as the portion of the wall next to the door, were recently repointed with mortar that differs in color and composition. One is characterized by a brownish-red color, and probably is the NPS mixture, the other one is dark white/gray, and probably is made with NHL.

Exterior Walls: Father President's Office (CA_03)



Figure 6.B.224: Exterior southwest corner.



Figure 6.B.225: Exterior southwest buttress, reshaped after 1890s. Note the different types of repointing material



Figure 6.B.226: Exterior west wall. Arched door of entrance to the staircase. Cement mortar finishing was applied over the bricks composing the arch.



Figure 6.B.227: Exterior west wall. Upper part of the wall features brown mortar repointing, roughly executed, covering part of the stone. The tufa stone has a dark color, due to biological growth imbued into the stone cavities.

Exterior: Roof



Figure 6.B.228: View of the roof of the Father President's office. The overall condition is good.



Figure 6.B.229: View of the roof of the Father President's office.



Figure 6.B.230: Convento roof. View from roof of the church. The asphalt-base roof is still performing correctly, but it has reached the end of its useful life. It requires a redesign to improve rainwater drainage in some areas. The most urgent areas are the north and east.

Exterior: Roof



Figure 6.B.231: Roof of the convento. Roof of the guest room, view from the stair leading to the south tower of the church.



Figure 6.B.232: Roof of the convento. View of the east part of the convento's roof, showing the increased parapet. Photo facing south.



Figure 6.B.233: Roof of the convento. Photo facing north showing the roof of the west arcade and the connection of the convento with the tower of the church.



Figure 6.B.234: Roof of the convento. Photo facing north showing the roof of the portería, the storeroom and the guest room.



Figure 6.B.235: Roof of the convento. Photo facing south, showing the roof of the library.



Figure 6.B.236: Roof of the convento. Photo facing the southwest, showing the roof of the west arcade, the refectory and the kitchen.

Exterior: Roof



Figure 6.B.237: Roof of the convento. Photo facing south, showing the roof of the refectory.



Figure 6.B.238: Roof of the convento. Photo facing west, showing the roof of the kitchen.



Figure 6.B.239: Roof of the convento. Photo facing southeast, showing the southeast corner of the roof of the library.



Figure 6.B.240: Roof of the convento. Detail of the roof.

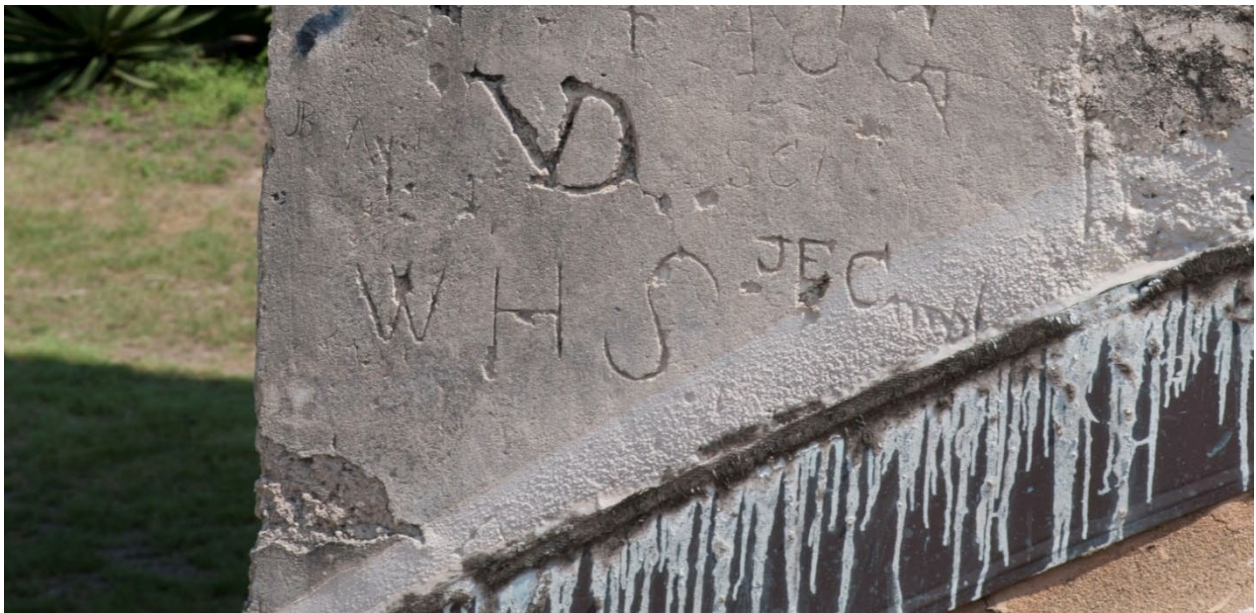


Figure 6.B.241: Roof of the convento. Detail of the connection between the convento's roof and the south tower of the church. Large areas of flashing are no longer attached to the wall of the church tower.

Chapter 7: Historic Preservation Objectives

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<u>and How It Meets the Project Goals for Use of the Building</u>	254
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**A Description
and Rationale for
the Recommended
Treatment and How
It Meets the Project
Goals for Use of the
Building**

Historic preservation is a process of design to manage change with respect for a specific cultural heritage context. At the Mission Concepción convento, as with all cultural resources of historic significance, preservation “treatments” must logically follow a consistent philosophical approach. The approach of this report is based on principles established over the past 100 years and codified in documents promulgated by the U.S. Department of the Interior, National Park Service, per authority of the 1966 National Historic Preservation Act. Principles include: minimal intervention (do no harm), legibility (honesty and distinguishability), matching historic techniques and materials, reversibility, meticulous documentation, and sustainability. Additionally, principles call for rigorous academic methodology in all research, investigation, and findings. In the past two decades of historic preservation practice, principles have evolved to include consideration of intangible values, as well: the dynamic, living heritage of a place with historical connections to cultural systems of human activity.

The mission of the National Park Service is well achieved at the San Antonio Missions National Historical Park (SAAN), where the natural and cultural resources provide ample enjoyment, education, and inspiration to visitors. The park, which comprises four colonial missions scattered along miles of the San Antonio River, “preserves rare examples of internationally important 18th century structures” (NPS, 2016, p. 3). The international significance was cemented into place when the four missions, together with Mission San Antonio de Valero (the Alamo), were inscribed as a UNESCO World Heritage cultural site in 2015.

The San Antonio missions in general retain a high degree of authenticity and integrity in their tangible remains of heritage, or else they would not have been able to attain World Heritage status. Among the San Antonio missions, Concepción is distinguished by the fact that it is least restored or reconstructed. This means it has higher quantities of surviving material from older periods of construction. Consequently, Concepción has higher capacity to convey architectural and construction significance to visitors.

All the missions now serve educational purposes to interpret life on the northern frontier of New Spain in the 18th through 19th centuries. This includes the interactions with indigenous groups that led to a “new society, neither wholly indigenous nor wholly Spanish,” which has “become the predominant culture of South Texas” (NPS, 2016, p. 13). SAAN is fortunate to have a living heritage of people who continue to use the missions for religious purposes in the historic churches as well as for recreation. Living heritage is abundantly evident at Concepción. Moreover, Mission Concepción offers the added value of tangible authenticity in its very stones, surviving exactly as they were assembled in the

latter half of the 18th century.

The preservation treatment specific to Mission Concepción's convento must respect the heritage contexts, tangible and intangible. The nature of the convento dictates that treatments to preserve tangible remains must be foremost, but the intangible heritage, the contemporary value to living people, cannot be neglected. Future treatments at the convento should enhance the experiences of people in addition to the essential preservation of material.

**Preservation
Treatment at San
Antonio Missions
National Historical
Park**

The overarching approach to care and maintenance of the missions by NPS is the "Preservation" treatment per the Secretary of the Interior's *Standards for the Treatment of Historic Properties*.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project. (Grimmer, 2017, p. 27)

The *Standards* go on to provide advice on when to proceed with the "preservation" treatment approach:

Preservation is the appropriate treatment when the objective of the project is to retain the building as it currently exists. This means that not only the original historic materials and features will be preserved, but also later changes and additions to the original building. The expressed goal of the Standards for Preservation and Guidelines for Preserving Historic Buildings is retention of the building's existing form, features, and materials. This may be as simple as maintaining existing materials and features or may involve more extensive repair. Protection, maintenance, and repair are emphasized while replacement is minimized. (Grimmer, 2017, p. 29)

**Preservation
Treatment at Mission
Concepción**

Applying the preservation treatment to the Mission Concepción means placing highest value on material fabric surviving from the period of significance. In this case, all the major physical changes at Concepción happened under control of the Catholic Church, and before San Antonio was elevated to Archdiocese

status in 1926. After that date, the work was not impactful to the physical structure, but rather concerned cleaning, maintenance, roofing projects, and ground surface treatments. Thus, the overall form and appearance of the convento building today is in accord with the pre-1926 appearance.

Mission Concepción did not undergo the extensive reconstructions and restorations pursued in the 1930s at other missions under the leadership of Harvey P. Smith. He was active at Concepción, yes, but nothing had collapsed for him to rebuild. Smith's focus was elsewhere, on the much larger reconstruction project at Mission San José. Consequently, the romantic, ruined appearance of the convento, though cleaned-up under Smith's guidance, was not altered.

Another note of importance to treatment objectives concerns the past uses over time. The convento structures have not been occupied for their original, residential purpose since ca.1920. The church functions re-started by the Marianists in the 1860s have continued, of course, but the convento has sat in partial ruin since the 1920s.

The convento should remain purposely unfinished as a ruin featuring 18th-century Spanish Colonial architecture and paintings. The whole story of the building's evolution through significant historical periods deserves preservation, of course. The major attraction at the convento is the painted plaster surfaces in the library, room 104 E, and so it has deserved the greatest attention to conservation over the years. However, the convento has more to offer. The outward appearance could be slightly enhanced to better align with a ca. 1920 look, plus other, gentle modifications could be done to re-establish and enhance visitor access to the Father President's office, room 103 A, and perhaps even the choir loft of the church.

**Integrity of
Surviving Spanish
Colonial Material**

In conducting research and investigations for this report, the CCS team observed high authenticity in surviving colonial fabric. The convento has all its primary features intact, with painted plaster still attached to walls. There has been some collapse, as well, which conveys historical significance of the mid-19th century, post-secularization period of abandonment. Integrity of later changes, all relatively minor, conveys significance of heritage tourism periods from 1870s to present, as well as the diocesan operations leading up to the opening of the adjacent St. John's Seminary in 1920.

This report recommends retention of integrity for all the periods of historical use and significance through the 1920s. Anything from the 1930s forward may fairly be considered outside the period of significance and thus of lesser value in a treatment decision matrix.

**Rationale
for Individual
Recommendations**

Specific treatment recommendations for the Mission Concepción convento fit within the preservation objectives described above. All objectives and recommended treatments are set forth to be in compliance with the SOI's *Standards for Preservation*. Rationales for individual recommendations are provided below for each type of work recommended.

Structural/Foundations

- There is a potentially serious structural defect at the southeast corner, beneath the stone stairs, room 103 C. SAAN has already engaged a qualified NPS engineer to assess the matter and recommend treatment. At the time of this writing, the report has not yet been issued.

Site Water Management and Drainage

- Water from HVAC condensate which gathers and dwells near the convento is highly problematic. This occurs in the area outside the guest room, 104 C. The HVAC serves the church, not the convento, but the structures are all attached and were built as one. During peak operation, many dozens of gallons of water are generated each day. The condensate water must be evacuated far away from the convento.
- A project to improve the HVAC is underway by the Catholic Archdiocese. If this project allows surface runoff of the condensate across the paved areas adjacent to the library (104 E), then it may only move the drainage problem to an area that is even more historically sensitive.
- Rainwater ponding occurs at the paved area outside the library (104 E). The drainage needs modification for visitor comfort as well as to be sure water is draining properly away from the library.
- Topography around the refectory and kitchen (104 F) must be reworked to better evacuate rainwater away from the walls.
- The south tower of the church is open to the weather. Rain entering through the open fenestration may be elevating moisture levels in the baptistery and convento rooms. The condition exists unchanged since 1755, but improvements hidden within the tower of the church, outside the domain of SAAN management, may be possible.

Emergency Egress and Accessibility Route for Disabled Persons

- Minimal work is needed at several locations where there are transitions from room to room.
- Modifications to meet building code or accessibility standards must not alter the architectural form of the building because such changes would

threaten or destroy historic significance of the property.

Barrel-vaulted Roof Surfaces, Parapet Walls, and Flashing

- The roof material has reached the end of its useful life and must be replaced, including all metal flashing that connects to the south tower.
- Stones were added at the time of the previous roof project to increase the height of the parapet. The added stones alter the historic appearance. Design of the new roof project should carefully consider options to return the wall to the height it had during the period of significance.
- Options for the new roof material must consider the appearance of the roof, which is readily visible on the approach to the front of the church. The roof is very prominently visible from the portalito, room 103 B, as well. The current orange asphalt should not be replicated. The roof material during the period of significance would have been a lime-based mortar wash needing annual maintenance. After secularization in 1824 the roof, no doubt, degraded, and organic growth sprung up. This is confirmed in historic photographs. Design options for a new roof should consider “green roof” alternatives, looking especially at “soft wall capping” of the parapet. If pursued, the soft wall capping should extend across the ruined wall remnants west of the kitchen.

Tops of Free-standing, Ruined Walls

- At a minimum, the treatment approach must reestablish integrity of the existing mortar wash. The mix should not be pure cement, but must be hard enough to withstand service on top of a wall. A clear mastic coating over the top of the cement wash, comparable to that which is performing well on Mission Concepción’s church walls, will improve durability and lengthen the maintenance cycle.
- Zinc (applied in a coating or as solid strips affixed) at the coping might be an option to continually inhibit future biological growth on walls below. The practical execution of this option has not been well explored in journal publications, so efficacy is uncertain. The wall is small in length plus accessible by ladder, so this makes it a possible candidate for modest experimentation.
- Soft wall capping with inclusion of managed organic growth is another option to consider. This option is recommended also for consideration at parapets of other convento walls. Whatever happens, the treatment approach at the convento roof should be coordinated with the ruined wall segments.

A soft wall capping would reinstate a look more in accord with the early-20th-century appearance. This treatment method has been used for many decades at historic sites outside of North America, and recently installed at some walls in Mesa Verde National Park.

Treatment of Exterior Stones

- Gentle, non-abrasive cleaning to remove biological growth is desirable in the near future because the growth elevates moisture and is generally damaging to the stones. This treatment is appropriate at all visible stones exposed to weather (i.e., surfaces not protected by a roof). Products and techniques specified for conservation should be well-established and proven as appropriate to the task, without possibility of harm to stones or negative side effects.
- Cleaning will allow for a more uniform appearance of the walls, appropriate for aesthetic unity, and may lead to better understanding of walls in terms of their condition. Cleaning can help determine whether or not biological growth is algae or lichens; algae is easier to remove.
- In all cases of cleaning, contractors should create and retain an approved “mock-up area” on the wall as a quality control to maintain consistency of approved treatments while the work is executed.
- No stone conservation work is known to be needed below grade.
- The long-term recommendation for stones is to leave them in service as long as possible, without any chemical consolidation, only gentle cleaning when necessary. Any stones which degrade to such an extent that intervention is essential should then be replaced in-kind per Preservation Standard No. 6. There are not any stones so severely eroded at this time. Replacement of stones is aggressive and should only be pursued when conditions of the existing stone compromise or threaten integrity of surrounding stones. When pursued, NPS SAAN staff must document the work so that quality remains consistent over future decades of work.
- Recommendations of this report do not include any treatment to block moisture from moving up or out through the stones. Movement of moisture through the walls is a natural condition of the construction. Though it is not good for the stones, attempts to block the process would do far more harm than good. The exception is atop wall copings and fenestration sills where we can, unobtrusively and without fear of harm to historic materials, mitigate bulk moisture (rainfall) from entering down through the walls.
- Treatments involving poultice or chemical consolidation of stones at the

convento are not warranted at this time. The risk of incomplete treatment moving deleterious minerals haphazardly within the stones is great and heightened by the presence of livestock that were quartered in the convento and church during historic periods. Consolidants are likely to trap moisture or salts in places where they may be harmful.

Mortar of Exterior Stone Walls

- Generally, replacement mortar should have the same texture and color as extant, historic mortar. In this case, the convento had multiple periods of historic mortar, and some 20th-century work used a mix with high content of Portland cement that has proven to be harmful to surrounding stones. Over time, each successive repointing campaign by SAAN staff should attempt remove the Portland cement, gently and without damage to stones.
- The properties of adhesion, porosity, and strength must be appropriate for the historic stones and structural service. The mix for future mortar pointing treatments needs thoughtful evaluation based on past performance of mortar pointing by SAAN staff. Aggregate of the current mix appears to be too bright and, once weathered, produces a reddish-tone that may not be appropriate for the convento.
- Cleaning before repointing is necessary for proper mortar adhesion, promoting durable work.
- Chinking by use of stones or brick segments is not recommended due to the change in physical appearance. The convento can tolerate a wall where the joints are wider than initially constructed because the period of significance includes a ruined appearance. In instances where chinking is essential for structural integrity, the new pieces should be concealed by a layer of mortar.

Plaster, Spanish Colonial

- CCS recommends SAAN execute a contract with a plaster conservator who can assess, issue a detailed plan for treatment, wait for approval by all relevant parties, and then execute approved conservation work.

Additional Access and Visitor Experience Enhancements

- Educational and experiential value can be greatly enhanced by giving visitors access to all rooms, especially rooms that are currently semi-hidden. Therefore, the authors of this HSR recommend opening for public visitation the convento's guest room (104 C), now used for storage, and Father President's office. Of course, access is not always possible because it entails extra

management burdens for the staff.

- The Father President's office, which once was open to public tours, holds unparalleled opportunity for educational interpretation regarding missionary endeavors. There is no other room like it in San Antonio for understanding management of regional missionary operations. Surviving architectural features could be explained, plus the view west across the convento's barrel vaults to the river could be a great vantage point to interpret Spanish Colonial history at Mission Concepción. Improvement of the stone stairs would be necessary, but the value added for the visitors appears to be worthy of the effort and expense. The Father President's office should be reopened.

Additional details on the specific treatments are provided in Chapter 9, as well as multiple drawing sheets appended.

Recommendations for Future Work

According to NPS Preservation Brief 43, *The Preparation and Use of Historic Structure Reports*:

An important goal of the historic structure report process is to maintain the report as an active and working document, both to facilitate the use of information compiled in the report and to permit the report to readily accommodate new information as it becomes available. (p. 14)

To this end there is a very important future work item mentioned in the Brief 43: the post-project record of all work performed. Following completion of this HSR, the SAAN staff will pursue treatments and/or contract the work to be done by others. The work needs to be documented in completion reports, as is standard practice at a national park, and should have corresponding supplemental text added to the HSR. The HSR supplement should analyze the work performed for information on efficacy of each past treatment, plus describe the lessons learned in the process of work just completed.

Further archival research is needed to make the record of past reports more clear. This would include a visit to the NPS Western Archeological and Conservation Center in Tuscon, AZ, to cross-reference with all documentation available in the SAAN office. This level of archival investigation exceeded the scope of work for this HSR.

Another item for future attention is paint analysis with assessment of the chromo-chronology. There are many layers of tinted stucco and mortar washes on both the convento and church. A full record with comparison of all the different layers at multiple locations would be informative. Also, the analysis

might open a new educational theme regarding the people who executed the past work.

Chapter 8: Requirements for Work

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<u>Table 8.1: Sections, Names, and Analyses of Pertinent Codes from the ICC International Building Code (2012)</u>	<u>268</u>

Overview Requirements for the work need to be understood in the context of property ownership and the agreements among owners regarding the Mission Concepción convento. The land is within the City of San Antonio, yet much of Mission Concepción is managed by the National Park Service under a 1983 cooperative agreement with the Catholic Archdiocese of San Antonio. The Archdiocese controls and manages the church and sacristy, while the NPS takes care of all the rest. Consistent with the National Historic Preservation Act of 1966, NPS has a programmatic agreement with the Texas Historical Commission (THC), which is the State Historic Preservation Office in Texas. Per this agreement, NPS may pursue routine maintenance through a documented, internal review process. THC reviews non-routine projects which could impact historic fabric (NPS, 2014, p.262). Thus, both the THC and Catholic Archdiocese will review the recommended work of this HSR. Neither of these two entities has any authority to comment on building regulations or codes, however, as such matters are not within their purview or expertise.

Policy set by the federal General Services Administration calls for building projects to adhere to the technical requirements of publications from the International Code Council, which includes the *International Building Code*. Because the land is owned by a private entity, the Catholic Archdiocese of San Antonio, the applicable building codes might be those defined by the City of San Antonio, which uses the same *International Building Code*. In this case, the convento is managed by the federal government, and so the city lacks outright jurisdiction. However, the federal government endeavors to follow state and local building codes to the maximum extent practicable. The same building code applies to the work either way.

The convento is an enclosed building, originally built to for a residential purpose, but now in use as a public museum. Per the *International Building Code* the building is categorized in the use group for tours, exhibits, and other public assembly activities, which is use Group A.

The primary life safety concern is for the walls to be structurally sound. The recommended work includes structural analysis and corresponding improvements as necessary for public safety. A licensed structural engineer will be required to design and specify the modifications. Any and all modifications must meet additional criteria relevant to the historic designation of the structure, as further explained elsewhere in this report. Beyond structural soundness, the other areas of concern for this section of the report to consider are barrier-free accessibility for visitors and means of egress. In addition to the *International Building Code*, there is relevance to the Architectural Barriers *Texas Accessibility*

Standards (promulgated by the Texas Department of Licensing and Regulation), plus the U.S. Department of Justice regarding the Americans with Disabilities Act. A barrier-free route for visitors to the convento is necessary, and it must comply with technical requirements. Of course, the historic significance of the structure must be considered and appropriately respected if any changes are made.

The National Historic Preservation Act of 1966 establishes the National Register of Historic Places and the criteria for historic significance. Mission Concepción was added to the National Register in 1970, and the San Antonio Missions National Historical Park was listed in 1978.

In compliance with the National Historic Preservation Act of 1966, the Department of the Interior subsequently issued the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (rev. 1995), which provide standards and guidelines for interventions on a historic property. Once designated and listed on the National Register, or even declared eligible for designation, the historic significance of a property must be appropriately considered in all federal undertakings, plus interventions must be done in compliance with the *Standards for Treatment*. City of San Antonio ordinances reference the same *Standards for the Treatment of Historic Properties* to be utilized by the Historic and Design Review Commission in their deliberations, though NPS projects are not reviewed by the City of San Antonio.

All treatment recommendations in this report are written to be in compliance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (rev. 1995). Refer to the HSR section on historic preservation objectives (Chapter 7) for additional information on this matter.

Regarding barrier-free accessibility, the NPS issued a *Preservation Brief* in 1993 which is still valid. The heart of the matter for accessibility at Mission Concepción convento is that the necessary alterations must not threaten or destroy the historic significance for which the property was nominated to the National Register of Historic Places.

Recognizing the national interest in preserving historic properties, Congress established alternative requirements for properties that cannot be made accessible without “threatening or destroying” their significance. A consultation process is outlined in the ADA's Accessibility Guidelines for owners of historic properties who believe that making specific accessibility modifications would “threaten or destroy” the significance of their property. In these situations, after consulting with persons with disabilities and disability organizations, building owners

should contact the State Historic Preservation Officer (SHPO) to determine if the special accessibility provisions for historic properties may be used. Further, if it is determined in consultation with the SHPO that compliance with the minimum requirements would also “threaten or destroy” the significance of the property, alternative methods of access, such as home delivery and audio-visual programs, may be used. (Jester & Park, 1993, p. 13)

The accessible route is supposed to be in conformance with International Code Council ANSI 117.1 and the *Texas Accessibility Standards*. The specific, technical aspects of the accessible route will need to be resolved by a licensed professional, but a good route appears to be readily achievable. However, as with all interventions to the site or structure, new work must not threaten or destroy the historic significance. If it does, then the historic significance may be argued to be the primary interest, allowing alternate solutions to be pursued. For accessibility at Mission Concepción convento, this means giving priority and due consideration to surviving materials and assemblies from the 18th and 19th centuries. The features surviving from this period of historic significance must not be threatened or destroyed by the modifications to attain an accessible route through the convento.

Considering the current route defined for the visitors, determining an accessible path that functionally conforms to the intent of codes is feasible. A barrier-free design issue would appear if the decision is made to open the Father President’s office (103 A). The room 103 A is located in the upper level of the building, just above the sacristy, and its only access is through a historic stair, surviving from the Spanish Colonial period, that connects rooms 103 C and 103 B. If this room is opened to the public, code would call for an accessible route meaning an elevator or ramp. However, adding either of these would destroy historical features or threaten the historical significance of the property. Therefore, according to the *NPS Preservation Brief 32*, special accessibility provisions may be applicable.

In general, when historic properties are altered, they should be made as accessible as possible. However, if an owner or a project team believes that certain modifications would threaten or destroy the significance of the property, the State Historic Preservation Officer should be consulted to determine whether or not any special accessibility provisions may be used. Special accessibility provisions for historic properties will vary depending on the applicable accessibility requirements.

In some cases, programmatic access may be the only option for extremely small or unaltered historic properties, such as a two-story house museum with no internal elevator. Programmatic access for historic properties refers to alternative methods of providing services, information, and experiences when physical access cannot be provided. It may mean offering an audio-visual program showing an inaccessible upper floor of a historic house museum, providing interpretive panels from a vista at an inaccessible terraced garden, or creating a tactile model of a historic monument for people with visual impairments. (Jester & Park, 1993, p. 2–3)

Regarding emergency egress, the current situation is not a concern. The construction is non-combustible and there are multiple exits at grade. During operating hours, when interior rooms are used for self-guided tours, the doors are pinned open. The building meets the intent of life safety requirements specified for its occupancy use group, and does not constitute a fire safety threat. Some exit door and corridor widths are smaller than those specified in the code. The deficiencies are minor, and do not pose serious danger to visitors.

There will be a design issue with egress capacity from the Father President's office if the room is reopened to the public. The open, stone stair has winder treads, irregular tread surfaces, and inconsistent tread-riser ratios. The number of people who may be allowed into the upper-level room at one time will need to be limited to an appropriately small amount.

The relevant aspects of the *International Building Code* are described and analyzed in Table 8.1, for the record, but have no impact upon treatment recommendations, except where life safety may be an issue due to structural deficiencies, due to the nature of the convento and its context.

Table 8.1:
Sections, Names, and
Analyses of Pertinent
Codes from the ICC
International
Building Code (2012).

Section	Name	Analysis and Justification
§105.2.2	Applicability of review	Regarding permits pertaining to maintenance, the ICC specifies: “Application or notice to the building official is not required for ordinary repairs to structures,” but only if, “such repairs shall not include the cutting away of any wall, partition, or portion thereof, the removal or cutting of any structural beam or load-bearing support . . .” (ICC, 2012, p. 4).
§312.0 §310.0 §1201.3 (existing buildings)	Use and occupancy group	Per the <i>International Building Code</i> the building is categorized in the use group for tours, exhibits and other public assembly activities, which is use Group A.
§602.3 §602.4	Type of construction	The convento matches construction classification Type II-B, wherein building elements are non-combustible (p. 107). Father President’s office (103 A) has a roof structure which is of combustible material.
§1003.1- §1029.5.2 §1203 (existing buildings)	Means of egress	The convento is on grade and the number of exits is sufficient for the current occupant load of self-guided tours. The dimensions of some of the openings might not comply with the code, but the safety intent is achieved.
§3404.1	Alterations	When considering alterations to the convento, ICC states: “Alterations shall be such that the existing building or structure is no less complying with the provisions of this code than the existing building was prior to the alteration . . .” (p. 570).
§3409.1	Historic buildings	Historic buildings bear special consideration: “The provisions of this code related to construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard” (p. 573).

Chapter 9: Work Recommendations and Alternatives

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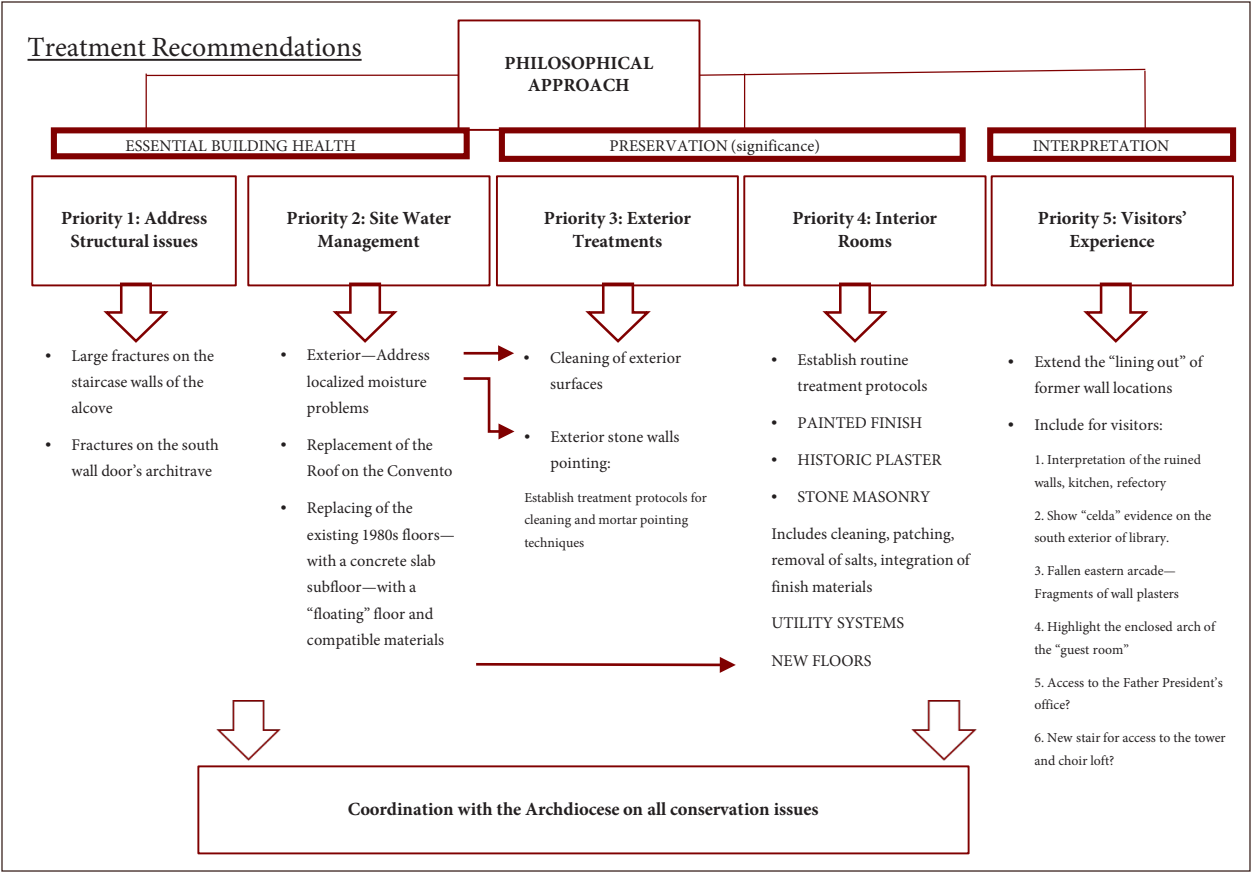


Figure 9.1: A pre-schematic design concept for site enhancements addressing simultaneously the conservation issues, including better management of site water, and improvements to the visitor experience.

Overview The treatment recommendations described herein were developed based on the research and field investigation completed in 2018. They adhere to the objectives and design principles established and described in Chapter 7 of this HSR. At Mission Concepción, there is a high degree of surviving authentic material—more so than at the other missions in San Antonio. Because not much re-building occurred, surviving material from the Spanish Colonial period has been little changed since the 20th century restorative work that concluded by 1920. The physical appearance of recommended treatments is intended to align with the look of the building from circa 1920.

Structural Issues Structural damage is evident at the two-story appurtenance attached to the south side of the church, housing the Sacristy on the ground level and Father President's Office (room 103-A) above, plus the stone stair. Many cracks of a serious nature are visible. The cause appears to be related to foundation settlement. The whole matter is an issue for resolution by a structural engineer, but in an effort to ascertain movement over time we compared LiDAR data cap-

tured by a CyArk team in 2008 with our photogrammetry of 2018. Our analysis showed the 2018 photogrammetry results (limited to room 103 A) match the geometry of the 2008 LiDAR point cloud almost perfectly. Comparisons of the two models revealed some loss of plaster, but did not show any dimensional change to indicate structural movement of walls since 2008. The analysis is not conclusive, though, because results conflict with visual observation of the roof rafters which appear to have moved out of their masonry “pockets,” evidenced by disruptions to the painted plaster around each pocket.

For specific treatment recommendations please refer to the structural assessment and recommendations forthcoming from the National Park Service Vanishing Treasures engineer, James Mason. Additional recommendations might be available from the Ford, Powell & Carson team’s engineer, Patrick Sparks, who has studied cracks in the same area.

Another area of structural damage is evident at the south end of the library, room 104 E. Cracks are visible above the exterior door in this end wall of the barrel vault. Treatment, if needed, should follow the assessment and recommendations of the NPS structural engineer.

The findings of structural assessments are not yet available, but it is reasonable to assume the recommended structural repairs will be a top priority, among the first and most important work items to be pursued. Insomuch as the structural repair work will involve the masonry walls and potentially impact painted plaster, many of the treatment recommendations described below will be applicable to the execution of the structural repairs.

Site Water Management

Current conditions allow water to enter the masonry walls of the convento from above and below, as evidenced by high levels of moisture observed in walls at multiple locations. The first line of defense against this problem is roofing and roof drainage. Attention is needed also for any source of water within the ground naturally, or else leaking into the ground from plumbing or HVAC utilities. This area of work, site water management, must be fully addressed ahead of all other conservation treatments, save structural repairs. Conservation treatments attempted for masonry walls or painted plaster will be quickly undone by moisture entering walls due to lack of concern for site water management.

The overall water management on the site is beyond the scope of this HSR because it requires analysis of the whole site in full coordination of the two management entities, the NPS and the Catholic Archdiocese. This HSR is limited to the convento only. Other projects are underway to assess the conditions of water management looking at the site and systems holistically. Resulting treat-

ment recommendations will, no doubt, include roof drainage improvements, surface water flow, and address also the concerns of HVAC condensate.

To the extent that roofing and roof drainage of the convento are part of site water management, this HSR does address part of the issue. Of course, the plan for drainage of water from the convento roofs will need to be coordinated with the larger, overall plan for site drainage.

Topography adjustments are needed to better evacuate rainwater away from the walls, especially outside the library (104 E) and around the refectory and kitchen (104 F). Ruins now buried to the south of the convento must be considered in design decisions regarding site drainage, and protected. See Figure 9.2 below.

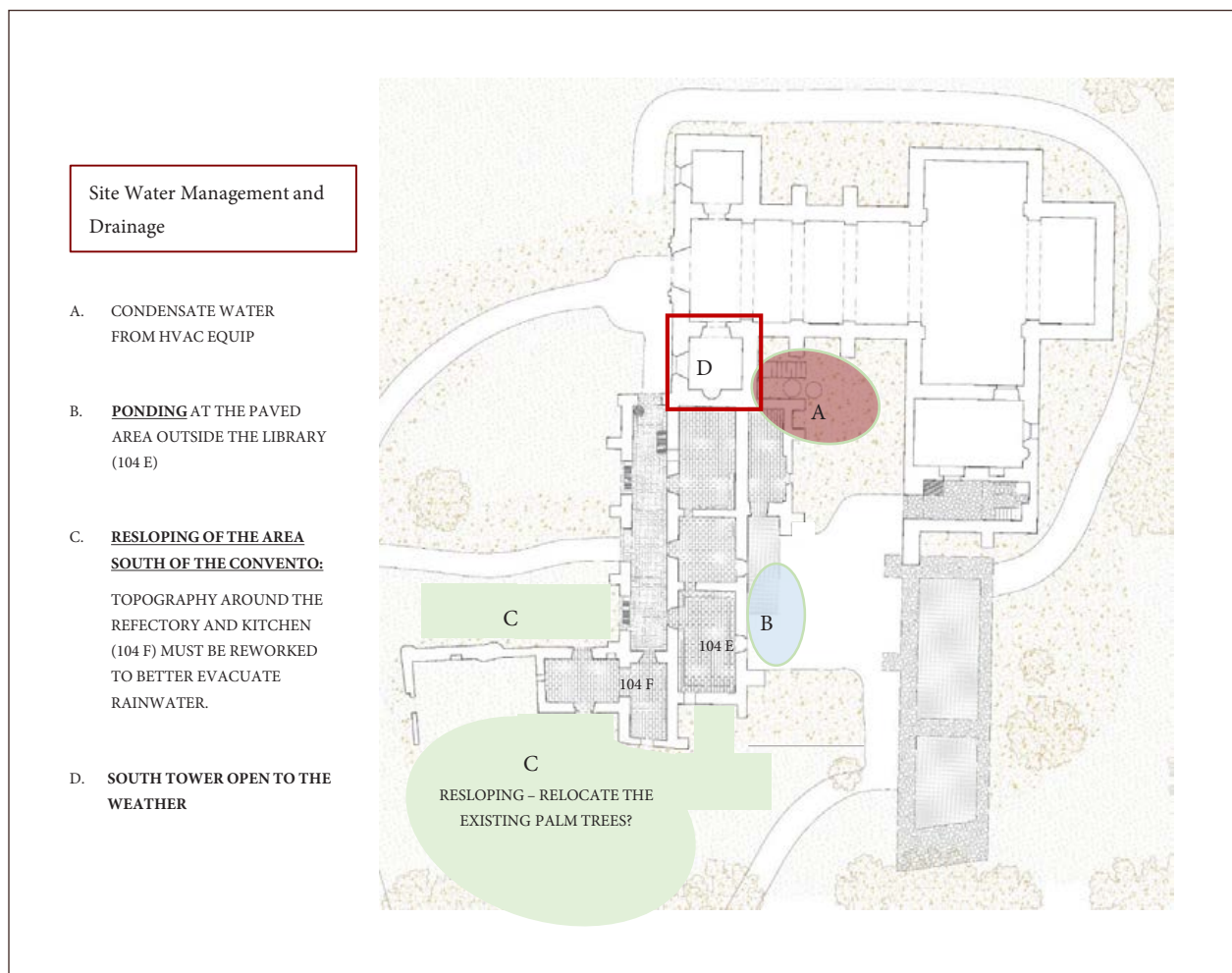


Figure 9.2: Plan of Mission Concepción convento showing areas in need of attention for site water management and drainage improvements.

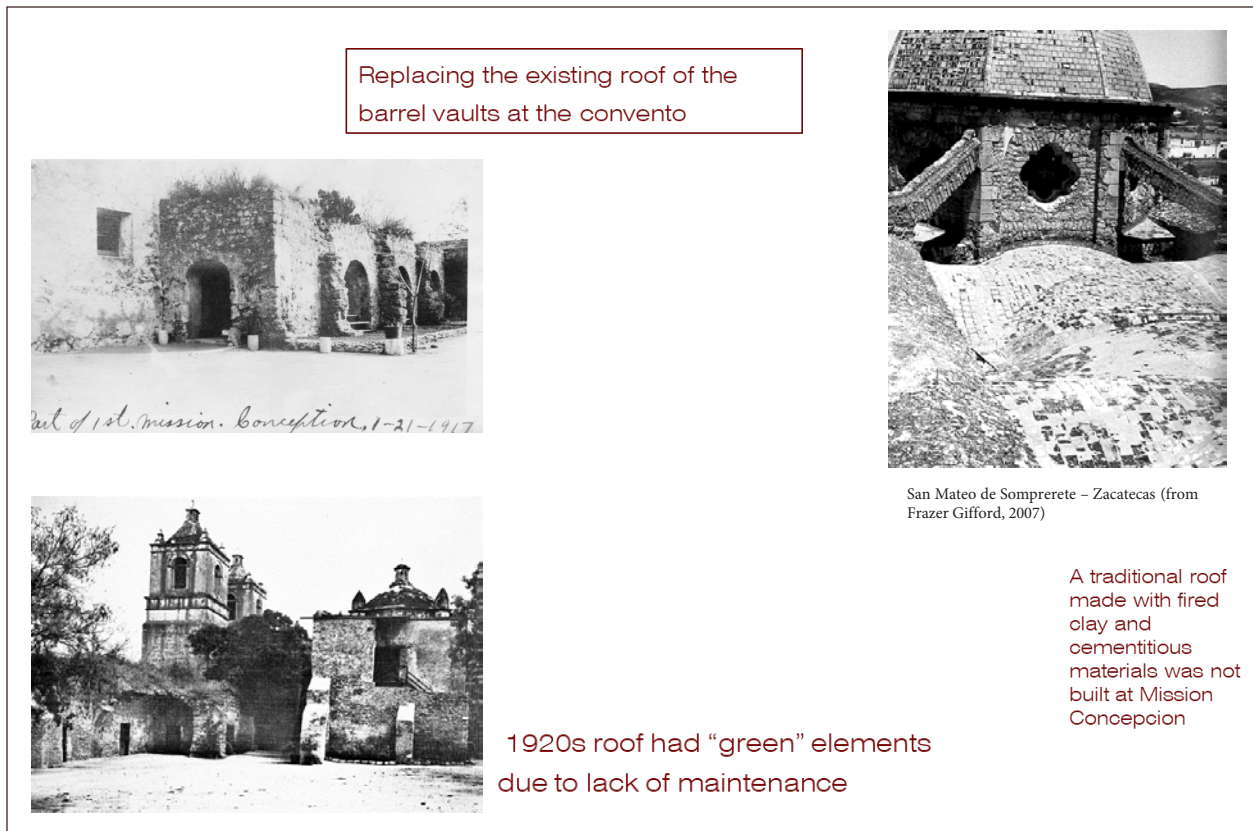


Figure 9.3: An organic-growth (a.k.a. “green”) roof could be considered for consistency with the period of significance, aligning with historic photographs of the early 20th century. This type of new roof would have a weather-tight, impervious membrane beneath the organic growth.

Roofs, Parapets, and Coping

The shed roof atop the Father President’s office is in good condition with recent attention to maintenance of the flashing. No work is needed at this time. Future maintenance and roofing projects can follow the practices established.

The entire roof over the barrel-vaulted areas of the convento is approaching the end of its useful life. Flashing attached to the church tower is detached and thus allowing water to enter the masonry walls running down the face of the tower. The roof system is in failure and must be replaced soon.

Stones were added to the top of some walls when the current roof project was executed, creating a false sense (relatively minor, but false nonetheless) of historical development. This was done for functional reasons, apparently, to increase the height of the parapet and make it easier to flash the edges of the roof. The next roofing project will provide the opportunity to carefully remove the added stones so the wall is returned to the height it had during the period of significance.

The design of the new roof over the barrel vaults should respect and be consistent with the 1920s, or earlier, appearance. Designers of the new roof will

need to carefully consider:

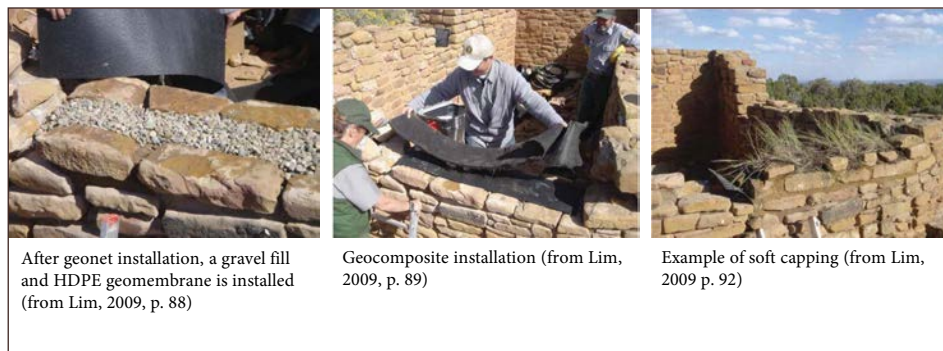
- Drainage at edges of the roof, likely without a full parapet in the future
- Evacuation of water away from the walls
- The actual roofing membrane which needs to be durable
- Structural calculation regarding the weight of the new roof on the historic barrel vaults
- The visible appearance of the roof, easily seen by anyone approaching the front of the church

A possible consideration for aesthetic value consistent with the period of significance is controlled organic growth (a.k.a. green roof) to better align with historic photographs of the early 20th century. Most importantly, the green roof would create a visual cover for the durable roofing material that is actually doing the work of shedding water. The entire surface of the roof need not be covered with organic growth, but green areas might be strategically placed to best conceal the larger roof and convey the historically unkempt appearance.

Parapet walls and tops of ruined walls will need treatment as part of the roof project. There are different approaches to capping the walls, but it will be necessary to maintain (or reestablish) an impervious cap on the tops of parapets, also called coping. Design options include a mastic coating over the top of a cement wash, comparable to that which is performing well on the church walls of Mission Concepción, to achieve a durable barrier and lengthen the maintenance cycle. An alternate design, similar to the idea of a green roof, is called a soft cap.

This treatment method for the coping has been used for many decades at historic sites outside of North America, and was recently installed at some walls in Mesa Verde National Park. In all cases where organic growth is designed to exist on top of historic masonry, there must be a geotextile fabric layer to prevent damage to the walls that could be caused by the roots.

Figure 9.4: A treatment method for capping a stone wall called a soft cap is shown being installed at Mesa Verde National Park. This treatment is considered experimental in the US, but has been used for many decades at historic sites in other countries.



**Spanish Colonial
Plaster at Exterior
Walls, Corridor, and
Stairs**

Areas of surviving Spanish Colonial plaster are mapped in drawings. This plaster material is fragile, friable and in need of careful conservation treatment. Consistent with recommendations of prior conservators, the treatment recommendation is to reattach the historic plaster with a lime-based grout, followed by a fluid-applied shelter coating of natural hydraulic lime. The work must be done by a highly qualified conservator experienced with conservation methods for historic plaster on masonry walls. The plaster conservation work must be executed in coordination with other conservation work, including masonry wall cleaning and mortar repointing, described below. The plaster areas will need to be carefully protected during cleaning or repointing work.

The outer (east) wall of the library (room 104 E) includes plaster which was first built to part of an interior room, now collapsed and missing. The plaster on this wall is incredibly well preserved. These plaster remnants should be cleaned of biological growth and studied further. This wall offers potential for better interpretation of the structure.

The corridor (104 A) has several remnants of historic plaster. Much damage has occurred in northern part of corridor. The recommended treatment is simple cleaning of the overall area and cleaning the plaster. The newest layer of plaster in the corridor has a grayish color—it is a more modern layer, likely applied after 1920, but not certain. Future conservation treatment may consider removing this gray layer if it can be proven to be post-1920s work, and then protecting the freshly exposed masonry with limewash.

**Masonry Cleaning
at Exterior Walls,
Corridor, and Stairs**

The cleaning of the convento's exterior masonry walls will aid in long-term conservation of the stones, plus allow for a more uniform appearance of the walls. Gentle cleaning to remove deleterious biological growth will extend the life of the stones, increase durability of repointing mortar, and engender keener insights on chronological development.

Considering only stone conservation, the reasons for cleaning architectural surfaces of artistic or historic value are typically considered to be:

- removal of potentially dangerous material deposited by previous decay processes (e.g., soluble salts or gypsum-rich crusts);
- removal of extraneous material adhering loosely to the surface (e.g., dust or remains of earlier treatments) that would impair the adhesion of conservation materials to be applied; and
- removal of harmful biological growth causing deterioration of stone units.

The biological growth removal can help determine whether or not biolog-

ical growth is algae, cyanobacteria, lichens, or other microorganisms. Lichens are not as easy to remove—usually difficult both via chemical and mechanical means. In some cases, lichen removal is not advisable at all, such as in presence of “endolithic” lichens, with thalli impossible to eradicate under the historic material’s surface.

Gentle cleaning is recommended for 100% of the exterior masonry walls. If water alone does not suffice, then gentle spray pump application of an appropriate cleaner such as D/2 or Prosoco Biowash, possibly followed by light scrubbing with a soft natural-fiber bristle brush, but only if necessary. The application method, dilution strength, dwell time, soft scrubbing method, and rinsing procedures are to be tested, displayed in mock-up demonstrations, and finally approved in advance of the work. Coordination with conservation of the Spanish Colonial plasters, perhaps including special protection, will be necessary to assure the surviving plaster is not harmed.

Prior to the cleaning campaign, a mock-up area on a discreet section of the convento’s walls should be established by NPS SAAN, with consultants and contractors involved in treatment. This purpose of the mock-up is to calibrate and set the standard for the level of cleaning to adopt, including methods and techniques to be used in the work. The mock-up area must be retained as a quality control in approving new work as it is executed. The mock-up should include also demonstrations of the cleaning methods, not just approval of finished results. Preferably, the mock-up area will be one where the higher level of biological growth is located, and include some of the fragile stones, as well.

Additional, non-abrasive cleaning is recommended at areas of mortar repointing or in the event of stone replacement. The cleaning must be calibrated only to the extent that it aids adhesion of repointing mortar. No extreme or aggressive cleaning should be allowed. The primary recommendation of this HSR is to use the gentlest cleaning method possible, one that does require any contact with the fragile materials—spray applications only.

Preconsolidation of Exterior Stone Units

The cleaning of some masonry units will require more effort than pump-spray cleaning and gentle rinsing without any soft scrubbing. In these cases, special care will be needed for the more fragile stones at the convento with risk of surface detachment and material loss potentially resulting from pressure or scrubbing during the cleaning processes. A consolidation treatment could be necessary prior to the cleaning, called preconsolidation. Where necessary, preconsolidation should be carried out “in such a way as to interfere as little as

possible with later cleaning operations” (Torraca, 2009).

Other than preconsolidation treatment described above, the use of stone consolidants is not seen as a priority and not included among recommended treatments at this time. In present conservation technology, consolidation by impregnation is not as important as it was in the past. Stone consolidation is more effective in cases of decay in which the material tends to separate into very minute grains. It is better practice to opt for micro-filling, grouting, or the use of an adhesive, when loss of fragments exceed a few millimeters in size, or when the cracks are wider than 1/10 of a millimeter.

Consolidation of stone is not recommended for the Mission Concepción convento. Recent research on stone consolidation has shown it to be ineffective on some type of stones, such as sandstones, especially in case of presence of humidity. Also not recommended are water repellents, known to be highly problematic in most applications, often creating exponential damages by not allowing the natural evaporation of water captured in the pores.

**Mortar Repointing
in Exterior Masonry
Walls, Exterior, and
Corridor**

Aesthetic, technical and structural factors apply to the selection process for repair mortars (e.g. repointing mortar, grouting, finishes). The word “plastic” intends to describe the plasticity of the fresh mortar. Plastic repair using a restoration mortar is one common method used for the treatment of a number of different building elements. Lime and cement, alone or in combination, are used typically as binders for restoration mortars. Historic mortars, pre-20th century, at the convento do not contain cement. Significant damage to historic masonry may result from using inappropriate mortar, perhaps most common in cases of repair using Portland cement-based materials. However, damage can also be caused by any characteristics of a mortar mix resulting in low permeability or excessive bonding strength.

The use of lime-based mortars is recommended for ‘plastic repair’ of the

Figure 9.5:
The nomenclature listed
here will be used
in treatment
recommendations.

Limes		
Technical name	Chemical name	Chemical formula
quicklime	calcium oxide	CaO
hydrated lime	calcium hydroxide	Ca(OH) ₂
lime paste	calcium hydroxide + water	Ca(OH) ₂ + H ₂ O
natural hydraulic lime*	di-calcium silicate + calcium hydroxide and/or calcium oxide	C ₂ S* + CH* some C* and a little C ₃ S*
hydrated hydraulic lime* or hydraulic lime*	tri-calcium silicate + di-calcium silicate + calcium aluminates + inert fillers	C ₃ S* + C ₂ S* and others

Mission Concepción convento's walls. The high vapor permeability (i.e. the material's ability to facilitate movement of moisture in the vapor phase) of lime and its transport characteristics of liquid water places this material much higher up in compatibility ranking versus cementitious materials (i.e. eminently hydraulic). Other factors, such as porosity, water absorption, response to repetitive wetting and drying cycles are considered key "second order" factors in the understanding of a plastic repair material's compatibility and performance.

The historic mortar of the 18th and 19th century construction at Mission Concepción is known from prior analysis to be a soft, non-hydraulic lime. The aggregate is limestone sand (Myjer, 2012). Testing of mortar at Mission San José was completed by John Walsh (2009), and is believed by Ivan Myjer to be identical to the mortar mixes observed at Mission Concepción. Regarding San José, Walsh reports, "The mortar is identified as a non-hydraulic lime mortar with a coarse-grained carbonate natural sand.... The binder is somewhat sparse, soft and porous." (Walsh, 2009, p. 1) "No hydraulic cements, pozzolans, or pigments are identified in the older mortar." (Walsh, 2009, p. 4) "...the texture [of the lime binder] is indicative of a non-hydraulic lime and no microscopic inclusions suggestive of even feeble hydraulicity are found. As all local limestone sources are high calcian rather than dolomitic, it is almost certain that the lime used would have been a fast-slaking fat lime" (Walsh, 2009, p. 4).

Laboratory testing of the mortar at Mission Concepción must precede and inform repointing work, consistent with best practices for a cultural resource of this magnitude. Additionally, product submittals, mock-ups maintained on site, and sample work demonstrations for all steps in the repointing process will be necessary review and approve ahead of the work. NPS site managers and other authorities with jurisdiction for review must approve each item before any of the work commences. Mortar repointing methods and mix are to be guided by lab analysis and approved in advance.

Consideration of broader issues are also essential such as: aesthetic (color and texture), technical (adhesion, absorption/porosity), and structural (compressive strength, durability) factors. These need to be part of the selection process for repair mortars (e.g. repointing mortar, renders, plasters) at all historic preservation projects including the Mission Concepción convento. Performance advantages of lime are widely recognized, the practical use of the material requires expert craftsmanship and trained personnel.

NPS Reference Guide for Masonry Repointing Work

The standard of care for masonry repointing treatments is set by National Park

Service Preservation Brief 2, *Repointing Mortar Joints in Historic Masonry Buildings*, as revised and updated in 1980. This document should be referenced in all contracts involving repointing work.

Sound or Historic Mortar

Lime mortars still sound are to be left in place. Friable lime mortars not on the surface may be re-consolidated with “Type S bagged lime mixed to a creamy consistency with water” prior to repointing that will cover the friable mortars (per technique specified by Ivan Myjer and Ana Nau in their treatment report on completed work the Mission San José Sacristy Window, 2013, p.13).

Backpointing to Fill Deep Voids

The approved mix, based on future lab analysis, is likely to be NHL 2, ASTM C144 sand, crushed limestone up to $\frac{3}{8}$ ” diameter, fine caliche aggregate, and potable water. Proportions to be determined based on lab results and field conditions. This mix is to be held back 2” from stone face (Myjer, 2013, p.16). Chinking will be necessary in backpointing mortar to fill large voids. Use local limestone and washed round caliche for chinking.

Surface Pointing

The approved mix, based on lab analysis, is likely to be NHL 2, ASTM C144 white sand, washed caliche aggregate less than $\frac{1}{2}$ ” diameter, fine caliche aggregate unwashed, and potable water (Myjer, 2013, p.16). Proportions to be determined based on lab results and field conditions. Slightly recess/depress pointing mortar, do not ‘feather’ over edges of adjacent stones.

Plaster and Painted Walls, Interior

After new roofing work (including related elements of drainage, flashing and parapet coping) over the barrel vaults is complete, and all other site water management issues are addressed, then conservation treatment of interior plaster may commence. Plaster walls must be allowed time to fully dry out and stabilize with the ambient environmental conditions. Monitoring will be needed to understand the drying process which may take a year or more.

The plaster conservation treatment should follow a sequence of phases as follows:

- a) Pre-treatment protection/pre-consolidation
- b) Removal of previous repair, where harmful to original
- c) Cleaning, only as needed
- d) Reattachment to the substrate

- e) Reattachement of edges
- f) Aesthetic presentation/Integration.

Interior Plaster Finishes, Edge Detachment (D.3.a)

Reattachment of edges may be achieved by injection of 40% solution of hydraulic lime grout using 18 gauge cannula deep syringe. Compensation for loss of material along edges is possible with adoption of hydrated hydraulic lime. A 4:1 sand/lime mortar mix is appropriate for edging compensation. Edging mortar pretesting is advised.

Interior Plaster Finishes, Detachment of Substrate (D.3.b)

Reattachment of interstitial layers is necessary, plus reattachment to the masonry substrate. Work must be preceded by a preliminary assessment of delamination condition to identify interlayer condition and narrowness of interstitial spaces between layers. Reattachment may be achieved by injection of grouting—made of a viscose hydraulic lime mix, supplied via cannula tipped syringe. After injection, localized pressure for several minutes, to compact the strata and to restore cohesive strength.

The injection of the grouting mixture shall be preceded by the injection of a liquid meant to “clean” the internal voids by removing dust and fine debris. Dusts and fine debris may hinder the adhesion of the grouting. In the case of hydraulic grouting, the injected liquid is just water. The preliminary injections are also useful to determine the points from which the grout might escape from the cracks and flow on the surface. In cases of plaster extremely detached from the substrate, with large interior voids, titanium, stainless steel or ceramic pins may be used for a more effective reattachment.

GROUTING MIXTURE OPTION

Hydraulic lime grout, made of:

- 4 parts of hydrated hydraulic lime,
- 1 part of fine silica banding sand,
- 3.8 parts of Z-lite spheres,
- 4.4 parts of 10% aqueous solution

For fine fill a mixture 3:1 sand/lime proportion can be tested.

Interior Plaster Finishes, Disintegration/Crumbling (D.3.c)

Plaster finishes stabilization may be achieved by chemical method: through

spraying 1–2 applications of 10% solution of ethyl silicate.

Interior Plaster Finishes, Material Loss (D.4)

Various causes of erosion have resulted in material loss over time. In the 4½ decades since the 1970s when conservators first proposed treatments for plaster at the convento, the colors intended to be preserved (not restored) have lost some luster. The recommended treatment is mild rejuvenation of color, consistent with the preservation treatment approach as has been the intention at the convento since the 1970s. Inpainting should be recessive and not appear new. Further, it should be restricted to areas where paint exists, not connecting across gaps in the color scheme. Thus, based on the conservation objective, in case of painted patterns still extant—although discolored—an integration with additional natural pigment is recommended. Work must be executed by an appropriately qualified conservation specialist. The objective is to mildly rejuvenate the early 20th century appearance to facilitate interpretation.

Interior Plaster Finishes, Hairline and Minor Cracks (D.5)

Hairline cracks may be repaired by means of injection of grouting, a consolidating mixture made of hydrated lime and ventilated pozzolana (to be evaluated), anti-bleeding agent and water reducer.

Modern Architectural Elements

Fenestration (Windows and Doors)

All doors and windows are modern construction fabricated to appear as if they might be colonial-era reproductions. The doors do not match what can be seen in photos from the late 19th and early 20th centuries, being more fancy and substantial than what can be seen in the historic photos. On the positive side, they are attractive, functional and necessary for the current use, allowing the building to be kept secure during times when the facility is closed to the public. The existing doors and windows may be retained in use for now because, even though they are conjectural and present a mildly inaccurate sense of historical development, they are not so objectionable as to warrant demolition. Funds, resources and attention are needed for higher priorities. Later, if the NPS SAAN budget can afford a change, replacement doors could be installed. When that happens, the design should be consistent with the objectives and design principles established in Chapter 7 of this HSR, and perhaps might be based on the few doors visible in the early 20th century photographs.

Brick Floor Surfaces

Modification to the floors of the interior, ground-level rooms for improved water evaporation should be considered, though not as an immediate priority. Currently the floors are brick pavers on concrete slabs. Less moisture in the masonry walls would be engendered by created means for better evaporation of moisture from the ground before it enters the walls. This was done successfully at Mission San Juan where a functional gap was made between the floors and walls around the perimeter of the interior rooms. An alternate technique used at historic sites in Europe involves breathable slabs of a clay-polymer mix. The material is more porous than concrete. The technique has been used extensively in churches and other public buildings. Usually a heating element is included—it would not be needed in San Antonio for human comfort, but a heating element would help with moisture control. Additionally, a heating element in the floor could make those rooms available for winter-time use—events, interpretation, etc. As part of the design solution for this treatment, the composition of soils surrounding and beneath the structure would need to be analyzed, which might be part of the site water management analysis. If implemented, continual monitoring of climate conditions in the rooms as well as moisture in the walls would be necessary to assure an appropriate balance of conditions.

Electric Lighting (Wall Sconces Affixed to the Historic Masonry)

Aesthetically akin to the reproduction doors, electric lighting that was added to walls of the convento in the 20th century attempts to evoke a colonial-era appearance. The single candle look is unobtrusive and might be considered a logical choice, yet it is conjectural and misleading. Research by Ivey tells us that candles and candlesticks are mentioned in historical documents (Ivey, 2018), so candles were present in the 18th and 19th centuries, but there is no mention of metal sconces affixed to the walls. Like the doors, the electric lights are functional and can remain without major objection. When there is a project to upgrade electric systems, the lighting can be modified.

Interpretation and Presentation to Visitors

Architectural conservation as a discipline is moving toward greater consideration of the experiential values to visitors. The latest ICOMOS international guidelines ask cultural resource managers to consider site presentation and interpretation. Concepción being a UNESCO site, should include interpretation and presentation in treatment recommendations. Thus, UTSA recommends revisions for enhanced visitor experience and increased public interpretation.

New paved paths could offer prescribed visitor routes. Collapsed and buried

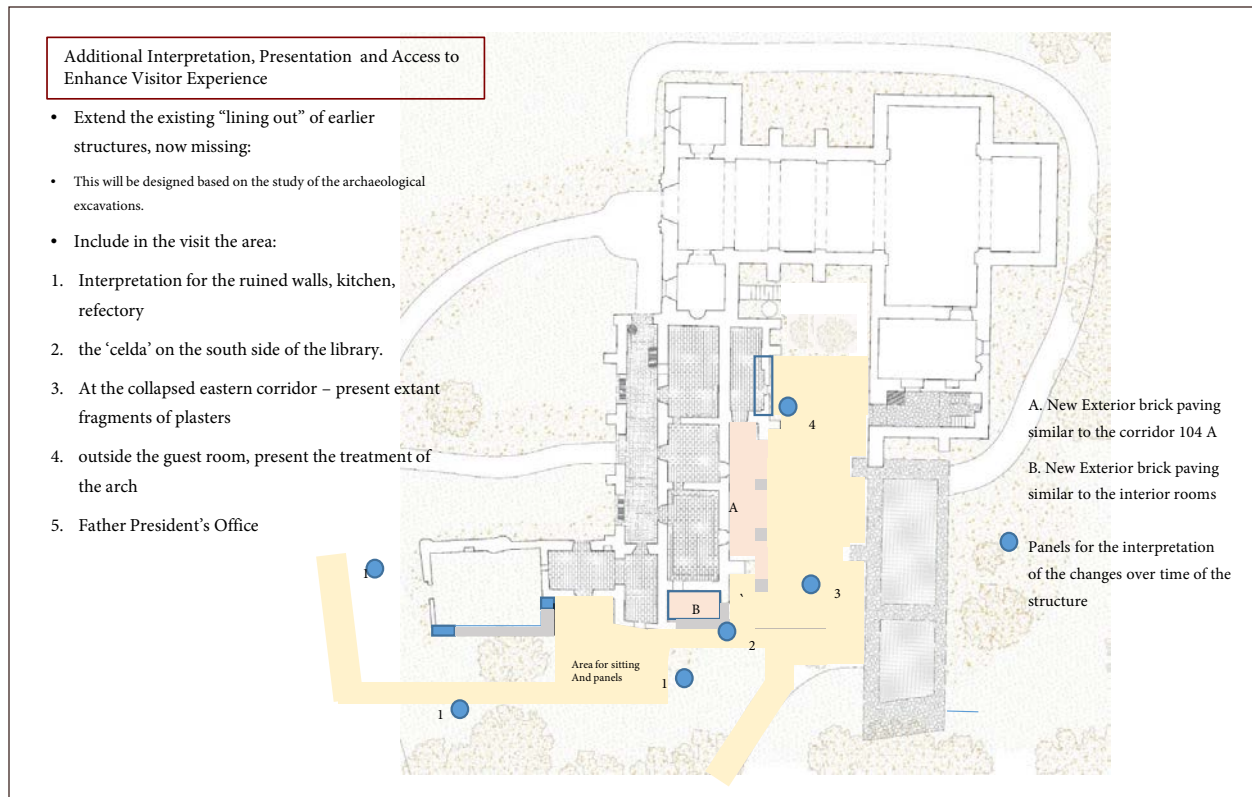


Figure 9.6:
 A pre-schematic
 design concept for
 site enhancements
 addressing
 simultaneously the con-
 servation issues,
 including better
 management of site
 water, and
 improvements to the
 visitor experience.

walls could be interpreted. Additional interpretive panels could be installed. To stimulate discussion on this topic, a pre-schematic design is shown in Figure 9.6.

The recommendations are conceptual and flexible, yet the intention behind them is solid. Overall site enhancements should address simultaneously the conservation issues, including better management of site water, and improvements to the visitor experience. For example, a new, delineated path for interpretive purposes may better manage visitors who now are inclined to climb upon the ruined wall sections. Evacuation of site water away from buildings can be integrated with construction of new paths. New interpretive elements could include architectural renderings of the convento over time to better understand the evolution of the structure.

Additions to the Visitor Experience

Future projects should be considered to open more interior spaces to the public, expanding education and enjoyment opportunities for visitors. The Father President’s office (103 A) is a wonderful attraction which ought to be reopened, if possible. Opening this room would allow interpretation of painted plaster walls using a panel or perhaps projections of colored light to illustrate the full impact of the historic paint scheme.

The guest room (104 C) which was closed to public view circa 1998 is the

other obvious candidate for reopening. This room has an arch that was filled in with masonry. More difficult to achieve, but potentially very enjoyable for the visitor experience, is the south tower. Opening this space would require a new stair as well as thoughtful coordination with church users, because the HVAC system elements utilize this some of this space.

The small celda space which once existed to the south of the library room needs better interpretation. There are masonry pockets in the end wall which once held wood beams. These should not have been covered because they are an interpretive element which allows visitors to better understand the colonial architecture and read the change over time.

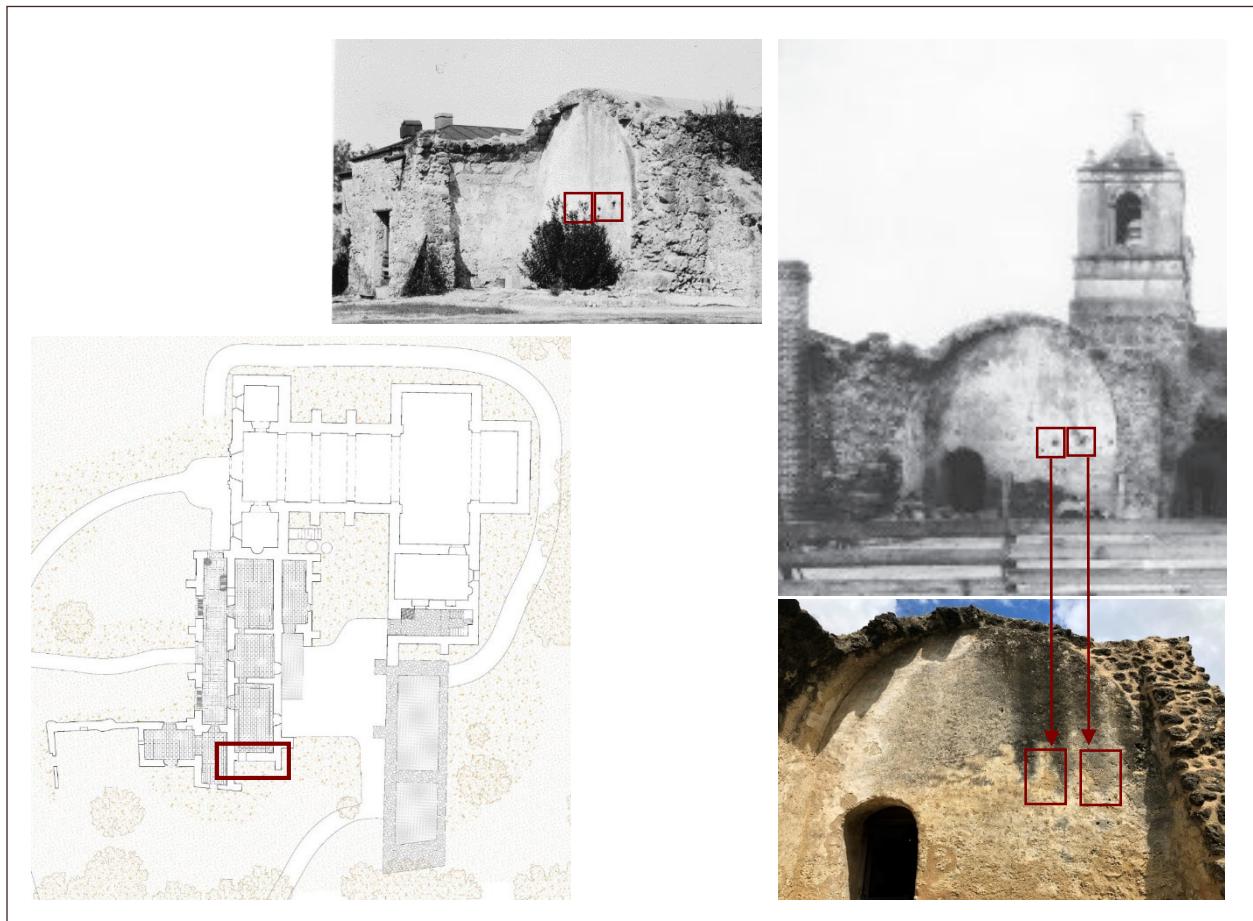


Figure 9.7: Proposed treatment of the 'celda,' south wall of the library. Wall preservation: reopen masonry pockets that held wooden beams; clean biological growth; reattach plaster.

Chapter 10: References

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