

The Old House of the Currency

Maintenance Program and Maintenance Plan

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Abstract

The Old House of the Currency, is the oldest civil building in Tegucigalpa, it was built in 1780, as “The Royal House of Rescue” by orders of the Spanish Crown. In the course of time, it has served Honduran society as “Caxa Real”, House of the Currency, Prison, Military Headquarters, and National Typography. Currently it is a branch of The National Library. All these historical functions not only show its relevance in society but reveal its evolution and continuity through the history of the Honduran people. In the late 1990’s, efforts for its Conservation, Restoration and Put in Value were made and a new use was assigned; after this main intervention, the need for a proper Maintenance Program and Maintenance Plan became evident, and thus the main objective of this paper.



Figure 1: Old House of the Currency, first phase, 1780.

Introduction

Awareness and understanding of the importance of historic patrimony is developing in Honduras since the creation of the National Institute of Anthropology and History (IHAH) by means of Decree No. 245, dated July 22, 1952, under the government of Dr. Juan Manuel Gálvez. In the early 1990’s through an agreement between the IHAH and the National Autonomous University of Honduras (UNAH), the School of Architecture engaged in the creation of an inventory of historical buildings for the city of Tegucigalpa and later on of Comayagua; this led to the proposal of the Conservation, Restoration and Put in Value of the *Old House of the Currency*. The process of conservation and restoration was carried out in the

late 1990's. Subsequent repair work has been carried out without proper planning and often not in accordance with traditional methods.

Unfortunately, the lack of maintenance is the general rule after major restoration action; reason for which it is of extreme importance to benefit from this experience offered by the Advance Training Program for Conservation and Management of Historic Buildings, to create a Maintenance Program and Maintenance Plan, to be used as a tool to promote its implementation in the conservation and restoration field.

In the absence of local norms for maintenance and repair programs for historic buildings, this paper will follow the methodology proposed by the Practical Binder for Maintenance Program, Maintenance Plan and Documentation elaborated by Arch. Dick Sandberg. The School of Architecture at the UNAH has agreed to carry out the elaboration of the binder which will provide a model for the IHAH and the Municipality of Tegucigalpa for future conservation projects.

Background

The proposal for the *Conservation, Restoration and Put in Value of the Old House of the Currency*, elaborated by Arch. Norma Lagos and Arch. Eva M. Salazar (UNAH, 1991)¹; evidenced the historical, architectural and social value of the building. This proposal allowed this building to be catalogued as part of the inventory of historical buildings, which by law are protected by the IHAH; this process prevented the building from being levelled down to allow the construction of a parking lot for the city. When government officials understood its importance they set aside the latter project, even though its planning was concluded and funding for its development was ready. Eventually the funds granted for the parking lot project were diverted and invested in the restoration work; saving the oldest colonial civil building in the city.

Geography

Tegucigalpa is the capital city of Honduras. It is located on a chain of mountains at 14°5'N 87°13'W, at an elevation of 3,250 feet (990 m). Tegucigalpa has a sister city, Comayagüela; they are physically separated by the Choluteca river, which crosses from south to north. The Picacho hill, a rugged mountain of moderate height (1,240 m/4,068 ft), rises above the downtown area; several neighborhoods, both residential and shanty towns are located on its slopes.

The city is comprised of gentle hills, and the ring of mountains surrounding the city provides interesting views.



Figure 2: Aerial view of Tegucigalpa.

¹ Norma I. Lagos, and Eva M. Salazar, "Restauración, Conservación y Puesta en Valor de la Antigua Casa de la Moneda". Director: Enrique Villars. Universidad Nacional Autónoma de Honduras, Departamento de Arquitectura, 1991.

Climate

Tegucigalpa's climate is pleasant due to its tropical temperatures, though tempered by the altitude — it is less humid than the lower valleys and the coastal regions — with even temperatures averaging between 19 and 23 degrees Celsius (66 to 74 °F). The months of December and January are coolest, whereas March and April are hottest and driest. Precipitation is spread unevenly along the year; during the Caribbean hurricane season (June to November), it may reach 920 mm (36 in) at the end of a normal day.²

History

The *Old House of the Currency* is registered as the oldest civil building in Tegucigalpa, built in 1780, to be “Caxa Real” (Royal House) by order of the Spanish crown. Royal Houses had the main task of exchanging the metals, mainly silver, with the miners, for coined currency. The acquired silver was melted down into ingots and then transported to Guatemala for the coining of currency.

During colonial times, Honduras was part of the Province of Guatemala (Capitania General de Guatemala), residence of the “Royal architect”, also known as *alarife*; who was in charge of approving the plans for the buildings that belonged to the Spanish crown; once given his approval a copy was sent to the Indies Council in Spain (Consejo de Indias en España). When the Royal Mines of Tegucigalpa was transformed into *Villa*, the Spanish crown having knowledge of the great mine exploitation, ordered in 1780 the building of a “Caxa Real” or “House of Rescues”³, the construction was commissioned to the experienced building contractor Miguel Quiñonez. In 1782, the construction of the first phase-east side-was concluded, the main entrance in the front façade portrayed the Royal Code of Arms. By 1792, the Spanish King gave order to extinguish the Royal House of Tegucigalpa.⁴None the less, in the period between 1785 and 1799, it is reported that 1,610 silver ingots were produced; evidencing that the activities were only suspended for a short period of time.⁵

Independence and Federation Time

The lack of funds to support the Royal House drove the municipality to petition for its close down in 1823.⁶ The efforts at the time to overthrow the Head of the Honduran State by the president of Central American Federation in 1826, produced instability in the country and the Royal House was transformed into a *prison*. In it General Francisco Morazán, a national hero that fought for the confederation, was imprisoned for 22 days. Peace was re-established and the government agreed on the production of provisional currency and evaluated that the Old Royal House, was most suitable in the city.⁷ In May 24th 1832, the *House of the Currency* was established in the old colonial building.

² Wikipedia, The Free Encyclopedia, 2008. Tegucigalpa.

³ Norma I. Lagos, and Eva M. Salazar, “Restauración, Conservación y Puesta en Valor de la Antigua Casa de la Moneda. Interview of Ph.D. History Mario Felipe Martínez Castillo, in reference to Document classified as A317, item 1708, file 27524; from the National Archive of Central America, Guatemala (A.N. de C.A.G.)

⁴ Idem. Reference to Document A317, item 1727, file 27803; from the A.N. de C.A.G.

⁵ Arturo Castillo Flores, Historia de la Moneda en Honduras. Edición del Banco Central de Honduras Conmemorativa al CLIII aniversario de la Independencia, 15 de septiembre de 1974.

⁶ Idem. Reference to Document B108.6, item 1935, file 44.442, section I; from the National Archive of Central America, Guatemala (A.N. de C.A.G.)

⁷ Idem. Reference to page 15, item 241, document 74, National Archive of Honduras.

Republican Time

The Central American Federation was completely dissolved in 1839. The provisional currency continued its circulation, therefore the activities at the House of the Currency continued. In August of 1842, a fire burst out in one of the rooms. A similar incident was later on recorded on April 1859, this time the fire took place in the room where the metal was moulded. That same year the House of the Currency was closed down, and served as *military headquarters* until 1878.

On April 2nd 1879, the National Congress emitted a new monetary law and established *The National House of the Currency*. From 1883 to 1889 the activities were commissioned to Jose Esteban Lazo, who requested an extension of 10 years for the contract. During his administration in the year 1888, gold coins were produced in the Republic for the first time, the sum ascended to 788 pesos.⁸

The second phase of the building was erected in 1894, this extension was planned to provide location for The National Typography. The construction concluded in 1898; the façades were modified to follow the neoclassic style that predominated at the time.⁹ The building housed the two functions until 1926, when The National House of the Currency was definitively closed down; the building was occupied entirely by the *National Typography*.

Today the building known as The Old House of the Currency is home of the Honduran Collection of the National Library.

Changes

The building was built in three phases. There is a fourth distinguishable phase that could be identified, not as part of the construction process, but as a later state of occupation of the premises where the interior patios or courtyards were lost due to the construction of provisional rooms.

First Phase

The construction of the first phase began in 1780, by order of the Spanish Crown; works were carried out by the skilled building superintendent Miguel Quinoñez, and concluded in 1782.

The concept was that of the typical architecture of colonial times, based on the inner courtyard house with rooms along the four sides of the patio, and connected by corridors. At this time a basement was built in the southwest part of the lot.

In 1883, the government financed the improvements needed in the House of the Currency, because it estimated that the building was the most useful for the country.¹⁰ In spite of the fact that there is evidence of the works, these are not detailed or known specifically nor documented on.

Constructive System

The constructive system used was also the traditional of the time: adobe brick walls of 1.10 m in thickness, wooden roof structure - with Moorish influence- over the rooms, Spanish terrace with exposed beams and terra cotta tiles over the corridors, and terra cotta tile roofing. Wall finished was obtained by lime wash.

⁸ Arturo Castillo Flores, *Historia de la Moneda en Honduras*. Pages: 165-166.

⁹ Norma I. Lagos, and Eva M. Salazar, "Restauración, Conservación y Puesta en Valor de la Antigua Casa de la Moneda". Page 54.

¹⁰ Arturo Castillo Flores, *Historia de la Moneda en Honduras*. Pages: 165-166.

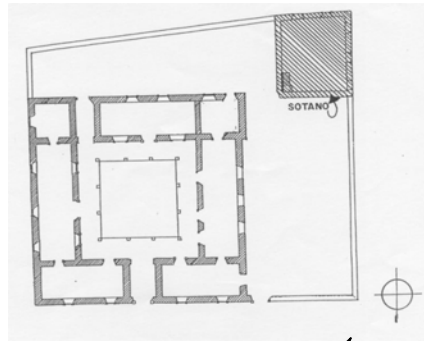


Figure 3: First phase, 1782.
1894.

Figure 4: First phase a view of late 1700's.

Second Phase

In 1894, President Policarpo Bonilla ordered the construction of the west part to house the shops for the National Typography. This extension of the building followed the concept of the inner centralized patio to respect the main concept of the adjacent structure; it also followed the neoclassic style that was prevailing at the time. To comply with the new style the façades were modified, the roof eaves were cut and an entablature with cornice moulding was built; and the emblem of the Spanish Code of Arms was removed from the entrance.

Constructive System

The constructive system was kept; the only variations were in the thickness of the walls that were reduced to 0.87 m. and the door and window details were modified.

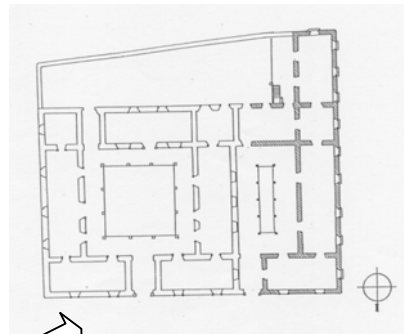


Figure 5: Second phase, 1894. View of Front Façade.

Third Phase

This last constructive phase took place in the early 1900's; there are no records of the exact date. This extension also followed the principle of the inner courtyard; specifically this last patio became a service patio.

Constructive System

The constructive system utilized was the same as in the earlier phases, but the thickness of the walls was once more reduced to 0.78 m; and the details of doors and windows were transformed.

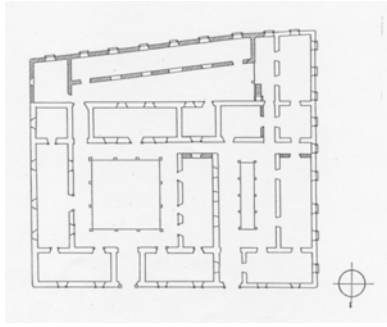


Figure 6: Third phase, early 1900's.

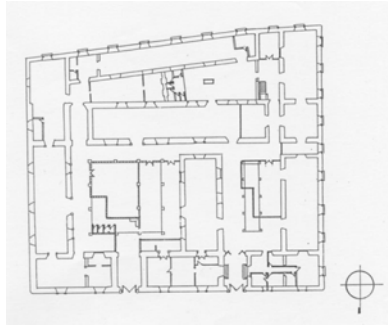


Figure 7: Clutter patios prior to restoration.

Fourth Phase

This phase is the identification of the last state of the building prior to its restoration. It is not a constructive phase. The inner courtyards were lost to the construction of provisional rooms. But the original structure, concept and proportions were not altered.

Architecture

During colonial times, architectural styles that prevailed in Spain were brought to the new conquered land in the American provinces. Seldom what was known as the *colonial house*, referred to the “andalusian house”, which has a centralized concept of the arrangements of the rooms around a central court yard, rooms are connected by corridors along the four sides of this patio; it is simple in its geometry and responds well to the warm climate of the Mediterranean. This is the legacy of the Roman influence in the region; who were at the same time influenced by the Greeks.

Thus with the spread of the renaissance in Europe, Spain brought the style to the new American provinces. In Latin-America the style was characteristically simple and bare in details but followed a strong and rigorous geometric composition; this mainly in response to the influence of the Spanish architect *Juan de Herrera*, author of the well known El Escorial. King Philip the II appointed Herrera as the Inspector of the Monuments of the Crown; as a result his style was spread throughout the Spanish territories. The influence of the herrerian renaissance would last for over a century. Edifications in the Province of Guatemala, complied with these principles mainly because they needed Herrera's approval; overall The Old House of the Currency is a direct example of Herrerian Renaissance Architecture.

The sobriety and unadornment of Herrerian style predominated; his contribution to the evolution of the renaissance was the dissolution of the figurative ornamentation permitting the expressive culmination of the architectural volumes, particular feature of the classicism. He emphasized the mathematical severity of the proportions in the architectural composition.

The Old House of the Currency is an example of Herrerian Renaissance in Honduras, following the strict geometry and proportional theories particular of this style, the building in its first phase complies with the ideal forms promoted by Andrea Palladio. The proportion obtained by the golden section is achieved in the plan distribution, location of the columns, width of corridors, height of interiors, as well as in the elevations.

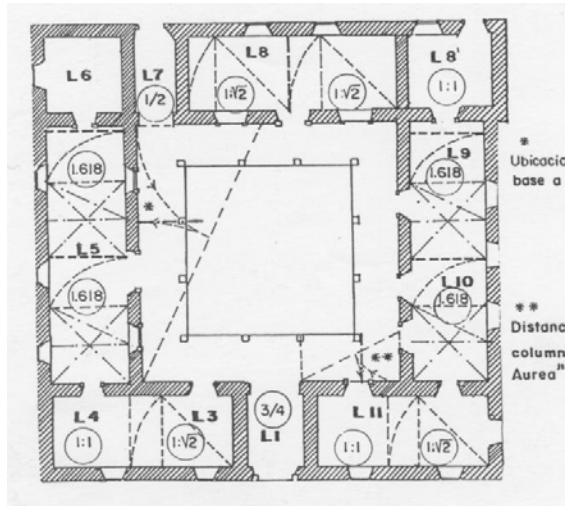


Figure 8: Analysis of proportional dimensioning of rooms.

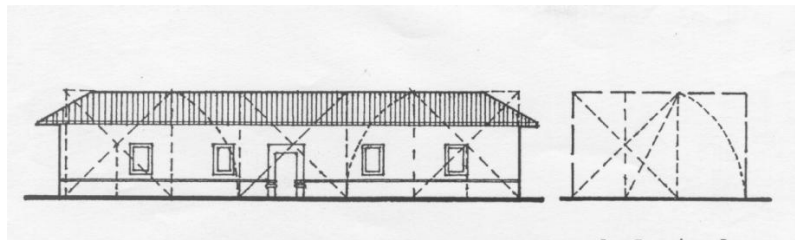


Figure 9: Elevation proportioned by the sequence of two golden rectangles and a square.

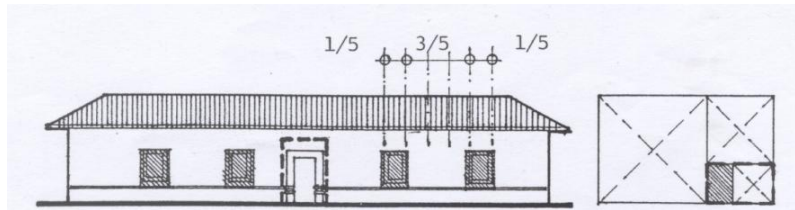


Figure 10: Doors, windows, and the sequence of the window openings have a ratio of 3/5.

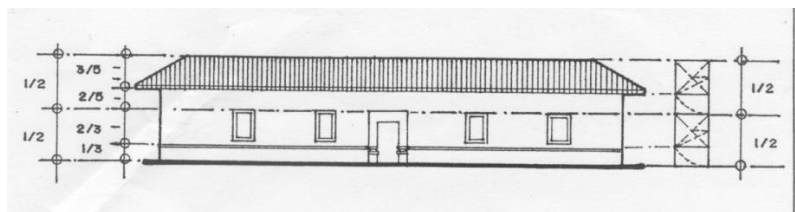


Figure 11: Bottom half is organized in ratios of 1/3 and 2/3. Top half is organized in ratios of 3/5 and 2/5.

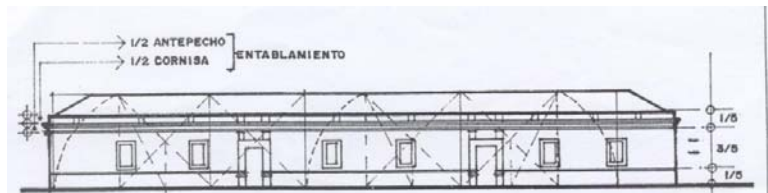


Figure 12: After the third phase the original architectural details were maintained, only the roof eaves were cut to allow the entablature, the cornice and parapet have a ratio of 1/2. The ratios of the heights were changed to 1/5, 3/5, and 1/5.

Values of the Building

- The main value of the *Old House of the Currency* is given by its *uniqueness*¹¹, because it is the *only colonial civil building remaining in the city*¹² of Tegucigalpa.
- It *represents a valuable example* of Herrerian Renaissance architecture in Honduras, legacy of the Spanish Crown.
- In addition it is registered as the *oldest civil building* in the city, dating from 1782.
- It portrays great *historical values*, as it is witness to historical events relevant to Honduran history, from the mining period during the Spanish colony, to independence time events, republican epoch changes, to the history of the currency and typography; these reinforce the testimony of its *experience value* given by the *continuity* of its services to the Honduran society. Furthermore a national hero, General Francisco Morazán was imprisoned there for 22 days.
- The *scale* of the building exemplifies its *symbolic and contextual value*; it covers a complete block of approximately 50m x50m.

Problem

One of the fundamental problems with the cultural heritage in Honduras comes in the phase after the intervention for restoration and conservation. The enforcement for the implementation of a proper Maintenance Program and Maintenance Plan is neither normed nor legislated. Culturally, maintenance is viewed as repair and not as proper care to guarantee proper function, safety and longevity of the structures. The eminent *threats* to the rapid deterioration of the building are multiple but the most relevant are:

- *The new function of the building as a library has not been planed nor designed*; the lack of a proper design proposal to upgrade the building to meet the requirements and needs for its new use gives way to improvised solutions to cover the emerging needs.
- Repair methods that frequently do not respect its identity and authenticity because the *techniques used, do not comply with traditional building systems* that would guarantee the stability, integrity and legibility of the historical layers of the buildings.
- Furthermore *interventions are not properly documented* for future evaluations; repairs are often executed without solving the cause of the damage, practice that goes against the basic conservation principals.

Currently some of the particular problems identified are:

Roof

Prior to the restoration, there is evidence that the roof was changed and some damaged areas of terracotta tiles were substituted with asbestos roofing¹³, but it is presumed that the roof structure was not altered during this time. With the restoration labour the terracotta tiles were placed back and all other

¹¹ Values of the building comply with lecture given by arch. Ingela Palsson, based on Evaluation of our Cultural Historical Heritage written by Axel Unnerbäck; as requested by the Advance Training Program for Conservation and Management of Historic Buildings, Lund University, for this paper.

¹² Norma I. Lagos, and Eva M. Salazar, "Restauración, Conservación y Puesta en Valor de la Antigua Casa de la Moneda".

¹³ This situation is described in a letter from arch. Norma Lagos as supervisor from the Restoration department in the Honduran Institute for Anthropology and History. Taken from the Archive of the building at the IHAH.

strenuous material was removed. At the time the entire roof structure was conserved, only the wooden battens were substituted. Reviewing the building's file in the IHAH's archives, there is evidence of later interventions where lumber pieces were substituted. Unfortunately there is only a list¹⁴ of replaced elements, but their location is unknown, further analysis should be done to document properly the changes which may still be visible inside the roof structure. The roof system was partially modified in the first patio; a canal was built to avoid water shedding off the roof directly on to the Spanish terrace. Unluckily this adds more weight on the roof, because the water does not evacuate properly. Along with this modification of the roof system, the downspouts were embedded in the adobe walls. The latter constitutes a risk, for it potentially brings water or additional moisture into the walls. If breakage occurs, the wall will be permanently damaged.

There is evidence of leakage in different parts of the roof. To solve the situation a proposal was presented to the authorities in charge. The proposal consisted in changing the terracotta roofing for metal sheets that resemble these tiles. It has become the norm that, every time repairs are carried out, the material used is different in quality, colour and resistance. This damages the uniformity, texture and appearance of the of the terracotta roof. The tiles are fastened with galvanized wire, the valley canals were replaced with zinc made canals, the down spouts in the main canals are not protected, its slope is insufficient and partitions were built to distribute rain water, the back side of parapet walls are completely unprotected and at the top the capping is almost non existent for rain water to shed away. This provokes humidity absorption in many places at the top of the walls.



Figure 13: Roof tiles do not match existing ones. Parapet wall is exposed to weathering and lacks capping. Valley canals are zinc made; downspouts in main canal are not protected.



Figure 14: Partitions in main roof canal are due to insufficient slope for water to evacuate. Tile fasted with galvanized wire.

The ridge was repaired in a very unskillful way; this shows the type of undexterous workmanship that has been hired to do the labour. The tiles that

¹⁴ There is in the IHAH's archive, a file of the building containing a note that lists all re-placed wooden members and their dimensions, but their exact location is not registered.

have been just re-pointed at the ridge with cement mortar already show signs of loose material and cracks. All loose material can eventually go into the downspouts provoking blockage or rupture, and other water related problems.

Walls

The overall state of the walls was in a very good condition, *the building was very well consolidated in this respect*¹⁵. The actual state of the walls is very difficult to evaluate because of the recent repairs that have been done. During visits in the process of reparation that are being carried out, some of the problems that were detected were: the deterioration of the lime plaster at the top of some walls near roof canals and in other places at the bottom of walls specifically in the service patio right above the water reservoir. Walls were repaired in a completely untraditional way- using wire mesh nailed to the adobe walls and re-plastered with cement mortar and probably some small proportion of mud. Some gypsum plaster has been also applied to exterior walls and then repainted with industrial paint. Exterior walls on the west and south elevations are on the street level without any protection from rain water thus provoking mold growth.



Figure 15: Wall humidity at the bottom of roof canals, untraditional repair with wire mesh, and industrial gypsum compound for repairing cracks in exterior walls, and humidity and mold at unprotected bottom of exterior walls.

Parapet wall

The parapet walls are supported on adobe walls, surrounding the perimeter of the building. These walls are made with clay bricks, the face towards the outer façades are properly protected by lime plaster. This is not the case with the inner side and towards the roof pitch is unprotected, there is mortar and brick deterioration as well as presence of mold. The top of the walls lack capping.

Windows

The main problem is that original windows and doors were replaced by new ones that do not follow the original design principles. The situation persists, some windows have been completely replaced in the on going repairs, in spite of the fact that their condition was fair and repairs or replacement of small sections could have been the best choice to preserve them. These kinds of changes are never registered.

The most frequent problems found in windows are: the presence of termite, water damages, lack of maintenance, and improper cleaning; in addition some human activities accelerate the deterioration, for instance the damages produced by nailing wooden scaffolds during painting procedures.

¹⁵ Interview with arch. Norma Lagos, one of the authors of the proposal for restoration.



Figure 16: Window frame, termite attack on window element, scaffolding nailed to window frame.

Doors

The general condition of the doors is fair because they were changed during the restoration in 1997 and 1998. In spite of this some original door frames were not properly repaired and lack proper maintenance: exposed wooden door lintels are painted over and some door framings are peeling off previous paints, careless repairs are visible.

The main entrance door to the basement was replaced with a metal door that is in dissonance with the building. The main reason for this door change was the constant breaking an entrance to the building. Unfortunately this measure did not solve the security issue but only left the incongruent element.



Figure 17: Replaced metal door in basement access. Door frame painting peeling and wooden repaired parts.

Floors

Selected parts of the original terracotta flooring were left as testimony; these were incorporated in the floor design of the restoration. Overall the flooring material used originally was of terracotta rectangular tiles, there is a wooden floor over the basement, and the basement entrance floor is made with rectangular stone blocks.

Deteriorated terracotta tiles are replaced regardless of size, colour, texture, and quality. This damages the wholeness and smoothness of the surface, the joints are different in colour and thickness, moreover the surface soil is not conditioned for flooring, since the tiles are placed directly into position with cement mortar over the ground.

The wooden floor is scratched mainly by the book racks that are often moved around and the old timber varnish is peeling off in the most worn down areas.



Figure 18: Replaced tiles in corridor outstand because of difference in material. Close up of new terracotta tile and joints. Presence of humidity and mold in tiles. Testimony of original tiles in a room, the quality is superior to those used in later repairs.



Figure 19: Scratched and warned down wooden floors, varnish is peeling. Basement entrance with original stone blocks pavement.

Stone Elements

Most stone elements in the building are decorative door and window frames, window sills, door thresholds and column bases. Damaged architectural stone was either replaced or repaired disregarding material's compatibility, matching appearance or durability. During cleaning procedures, irreversible damage was done to the column bases in the first patio; because paint residue was so difficult to remove, it was decided to remove mechanically the entire surface of the stone. This inadequate procedure, removed the patina of the elements and exposed a more rough and porous layer of the stone. With the removal of this surface, the sculpting details were forever lost. These rustic more porous surfaces allow more dust and particles to settle in the pores, contamination and debris is introduced into the stone. Even the architectural language of the column bases was changed, because it was usual that more rough surfaces were interpreted as surfaces to be plastered, that is, that the stone used was not intended to be exposed as a natural material. Now, where stone is in contact with humidity and continuous water shed, mold is starting to grow and adhere.



Figure 20: Repaired joint, porous stone and mold growth, repaired door detail.

Method

Maintenance Programs and Maintenance Plans are unknown to the practice of conservation and restoration in Honduras. Therefore the scope of the proposed project for change, seeks to engage in the elaboration of a Maintenance Program and Maintenance Plan for the Old House of the Currency, using the methodology proposed in the Practical Binder for Maintenance Program, Maintenance Plan and Documentation provided by Arch. Dick Sandberg.¹⁶ The sections on the *Forms for Inspection and Activities* will be modified to a chart based on the lecture presented by Arch. Konrad Fisher, where the information is directly written in blank forms that provide the drawings of each single space to record detailed information; the activities for maintenance and their respective times for execution will be summarized in a chart.

With regards to sections on the above document scheme, numbered: one, two, three, six and seven; these have been analysed in previous sections of this document, therefore in this section only the pending parts will be discussed.¹⁷

Legal Protection and Ownership

Legal Protection

The building is legally protected under the Declaration of National Monuments of the Historical District of Tegucigalpa by agreement N° 527 and published in the official newspaper La Gaceta N° 27594 on the third of March 1995.

Owner

The edifice belongs to the Honduran government and has been assigned to the Ministry of Culture, Arts and Sports by executive agreement on 06/96 and published in the Gaceta N° 28,097 on the fourth of October 1996.

Special Maintenance Requirements

Maintenance programs are focused on the specific systems and characteristics of a particular historic building; its corresponding plan is associated to a building checklist that also provides a schedule for performing maintenance activities and should be used in the field when evaluating building conditions. Each concept or item on the list should be checked off and dated following periodical reviews, because the activities are cyclical.

The site

The building covers a complete block of the down town historical district. The surroundings consist mainly of sidewalks, retaining wall and adjacent streets. These should be examined for cracks due to root action and standing water. Revision should include checking of incorrect ground slopes, rather than engage in the cyclical repair of the cracking, which is the symptom of the problem. Discoloration or corrosion of sidewalks, retaining walls, even foundation walls can be the result of chemical reactions from pollution and city car combustion, and should be monitored. Rinsing or cleaning can help to prevent or retard these reactions. Special attention of the east, west and

¹⁶ Practical binder for Maintenance Programs, Maintenance Plan and Documentation, elaborated by arch. Dick Sandberg, in representation of Cultural Heritage Without Borders; lecturer at the Advanced Training Program for Management and Conservation of Historical Buildings, at Lund University.

¹⁷ Idem.

south walls are requested because these are in direct contact with street wash away rain water, protection should be provided. Gentle cleaning procedures should follow strong seasonal storms during raining season.

Environmental factors that are relevant besides the city air pollutants are the visual invasion of electrical posts and improper labeling and signs; the noise factor is of special importance because traffic on the west side makes it very difficult to create proper spaces for reading or audio visual halls.

Foundation Systems

The foundation system is a masonry work composed of river rocks bonded with a sand and lime mortar. Foundation materials should be examined for signs of spalling, corrosion, moisture penetration, or chemical reaction between soil and cement or paved areas, specifically those adjacent to the street level where protection should be provided to allow water to shed away from the building. Signs of chemical reactions include discoloration and corrosion. Downspouts should at least be 0.90m away from any foundation wall. Cracking or deflection, in general are signs of uneven settlements due to soil contraction and expansion.

Walls

“Preserving and rehabilitating a deteriorated adobe building is most successful when the techniques and methods used for restoration and repairs are as similar as possible to the techniques used in the original construction”¹⁸

The above basic guideline for adobe building repair has not been observed in the late repairs, careful attention and understanding from the owner, professionals in charge and patrimony authorities is required.

Since adobe wall is a load bearing system, walls tend to be massive; here we deal with wall thicknesses varying from 1.10m to 0.87m to 0.78m. Prior to any repair, for as small as it may seem, the cause of the problem should be found to solve it from its origins. No repairs should be carried out without proper understanding of its causes. Every action taken should be documented in the provided binder for further evaluations. There are three main aspects to be considered in this section:

1. Secure the services or advice of a *professional architect, engineer or conservationist*; because heritage buildings should not be intervened with contemporary constructive practices that do not follow the *traditional system*, for it would put at risk a historical building with irreversible damage.
2. Never begin restoration or repairs until the problems that have been causing the deterioration of the adobe have been found and solved properly.
3. Repair or replace adobe building materials with the same types of materials used originally and use the same construction techniques.

When patching or repairing an adobe wall, the entire section of damaged bricks should be removed. The opening should follow the order and shape of the removed blocks or half blocks as required. Some professionals advise against the reuse of material which has spalled off because it frequently contains a high concentration of salts. It may be necessary to cut back into undeteriorated portions of the brick to achieve a flush fit of the new or half bricks that would be set in place. It is important to spray- and not to soak- the new brick and surrounding area lightly with water to facilitate a better

¹⁸ Technical Preservation Brief, prepared by the New York State Preservation office, 1978.

bond. Too much moisture can cause swelling. Always use traditional adobe and adobe mud mortar.

Special attention should be given to the tempting solution of using concrete blocks and bricks for replacement, even commercially stabilized adobe bricks, *are not compatible with older and more unstable adobe bricks.*

Mortars

In repairing damaged adobe mortar that is loose or deteriorated, care should also be taken to match the original material, color, and texture; not only for its appearance but because similar material provide better bondage. Conservationists recommend never replacing adobe mud mortar with lime mortar or portland cement mortar. This is a common error, since it is assumed that mortar hardness or strength is a measure of its suitability in adobe repair or reconstruction. Instead “mortars composed of portland cement or lime do not have the same thermal expansion rate as adobe brick. With the continual thermal expansion and contraction of adobe bricks, portland cement or lime mortars will cause the bricks--the weaker material--to crack, crumble, and eventually disintegrate.”¹⁹

In repairing adobe cracks, it is necessary to rake out the cracks to a depth of 2 or 3 times the width of a mortar joint to obtain a good "key" to hold or create a better mechanical bond of the mortar to the adobe bricks. The bricks should be sprayed lightly with water to increase the cohesive bond. A trowel or a large grout gun with new adobe mud mortar may then be used to fill the cracks.

Wooden members embedded in adobe walls

Special care for rotted or termite infested wood members such as beams, lintels, wall braces, or flooring should be taken. These apparent wooden members should be checked for needs of repair or replacement. Wood should always be replaced with wood of the same kind. However, in order to save original craftsmanship, specially formulated low-strength epoxy consolidants and patching compounds may be used to make repairs. Tests, however, should be made prior to repairs to check on desired results since they usually are not reversible. Cyclical termite, and humidity controls must be done.

Patching and Replacing Surface Coatings

When coatings deteriorate, they need to be replaced. Every effort should be made to recoat the surface with the same material that originally coated the surface. Lime mortar is the original coating of the building and this was respected during its restoration. Therefore it is of extreme importance to maintain this technique and material for repair and maintenance purposes.

To obtain the lime, traditional procedures are still used in Honduras, today. The lime is burned in kilns. This procedure drives carbon dioxide off turning the limestone into quicklime. During restoration the quicklime was taken to the building site where the builders slaked it. Slaking means adding water, converting the calcium oxide to calcium hydroxide.²⁰ The chemistry generates some heat so proper safety measures should be taken. The resulting sticky white mass is called lime putty. It can be used right away but for reasons which even today remain unknown, the qualities of the putty improve with age. The lime putty is mixed with sand to produce mortar for plastering. Studies show that exposed to the atmosphere, the hydrated lime absorbs carbon dioxide from the air and turns into calcium carbonate, from the surface inwards, preserving a humid nucleus that is the one that provides

¹⁹ Idem.

²⁰ Lime. Anonymous, 2004.

its properties of elasticity, thanks to a mechanical behaviour that is better than that of portland cement. The process is slow, taking weeks or months, but gradually the mortar sets hard.

The main characteristic of lime mortar is that it is vapor permeable, *breathable*, allowing buildings to stay warm and mostly dry. By capillary attraction moisture draws out of the adobe bricks and away to the air. Cement mortars are less permeable, trapping water within the walls. Lime mortar is not too hard and brittle, so when the building moves lime mortar will accommodate those changes. Very small cracks may develop, but they heal themselves by micro-solution and re-crystallization of the calcite crystals. Lime-plastered walls are more “*breathable*”, this keeps building dry without a damp-course. *It would be counter productive to seal the lime plaster with plastic paint.* As a matter of fact natural pigments mixed with lime wash are mostly recommended to guarantee all the benefits from this *breathable* wall system. The recommended ratio of lime to sand is one part of lime to three parts of sand, 1: 3. To create the mix, the lime putty and sand are tipped onto a board and than mixed with a spade. The sand should not be too wet and usually there is no need to add any water unless the sand is really dry. Water protects the lime from carbon dioxide in the air; so long as it's under water it will last forever. It's best to leave the mortar overnight or longer, then, when its time to use it, the water is poured off, and stirred again.

For repairs, as much of the deteriorated surface coating as possible should be removed without damaging the adobe brick fabric underneath. Never put another coat of lime plaster over a deteriorated surface coating. If serious deterioration does exist on the surface, then it is likely that far greater deterioration exists below. Generally this problem is related to water, in which case it is usually related to ground dampness or roof permeability. It is recommended that walls are inspected once a year and after a strong storm or rainy season. Annual coating of lime plaster is optimal for maintenance.

“Maintaining exterior wall finishes is critical to preserving a historic building since they are the first line of defense against unwanted moisture and other environmental threats. Exterior finishes are in most cases the easiest building surface to inspect and tend to wear more immediately. It is a good idea to maintain the exterior walls of a building not just for aesthetic reasons but also to protect the structural and other historic elements.”²¹

Parapet wall

The parapet wall should be inspected along with roof canal's check up, it is important to look for signs of loose material, cracks along the wall or along the capping.

Repair recommendations

In consequence to the wall conditions listed in the problems section above, it would be recommended that the following repairs should be made:

- Provide the exterior walls on the west and south elevations with a small raising wall along the street level to protect them from direct contact with street rain water.
- Provide the parapet wall with protective lime mortar plastering and capping. Because the bricks and joints have been exposed to weathering, re-pointing of joints will be needed. Prior to any action, the wall must be cleansed with water, mild PHS soap and natural bristle brush to scrub.

Roof

A water-tight roof with proper drainage is the best protection against rainfall and erosion of the building. All repairs must match existing roof materials,

²¹ Humphries Poli Architects, P.C, Manual for Conservation Maintenance Plan, 2006.

shapes, dimensions and profile in order to avoid any *damage to significant fabric*. Every repair, replacement and addition made, should always be recorded.

Terracotta tile roofing

Replaced terracotta tiles must match original ones to *preserve significant fabric*. Incorrectly-sized replacement tiles can cause surrounding tiles to lift and the roof to be no longer watertight. Inspection of the roof should be on a regular basis to identify any broken, cracked or slipping tiles. If the bottom edges of the tiles are in uneven lines across the roof, the tiles could be slipping from the battens due to breakage or failure of the holders. Slippage can be fixed with zinc or copper clips. Clips used in the last repair were made with *galvanized wire* and this is not recommended for it is easily subject to 'galvanized corrosion'²²; it is preferable to have them made from zinc or copper.

Terracotta tiles benefit from maintenance washes to prevent dirt deposits and mold building up on their surfaces. The least harmful method is to spray with hot water before gently scrubbing the surfaces with hot water and neutral pH soap. Scrub with a compact bristle headed brush. Abrasive powders and powder-based detergents should not be used. Guidelines should be established for any foot traffic that may be required for the maintenance of the roof. A supporting ladder might be hung over the ridge of the roof, or planks might be spanned across the roof surface to provide a walking way for inspection and maintenance. Such items should be specifically designed and kept in a storage space accessible to the roof. If exterior work ever requires hanging scaffolding, caution must be taken to insure that the anchors do not penetrate, break, or wear the roofing surface, gutters, or flashing.

Periodic checking of the underside of the roof from the attic space after a strong storm or rainy season, may give early warning of any leaks. Moisture will have an adverse effect on any roofing material; a good roof stays dry inside and out. At least once a year, the roof should be inspected against the checklist. All changes should be recorded and reported.

Drainage Systems

At the start of every rainy season, the operation of drainage systems should be checked to ensure that water is properly being carried down and away from the building. Inspection of flashings and valley gutters include revision for deteriorated elements, these must be kept clean of debris that may trap water. Gutters and downspouts should be checked for corrosion, holes, and/or faulty connections. The gutters and downspouts need periodic cleaning and maintenance since a variety of debris fill them, causing water to back up and seep under roofing units. Proper downspout protection should be provided at roof and canal openings. Unprotected downspouts that run in the wall interiors can collect debris and thus obstruct water, which may begin leaking into the surrounding walls.

In addition to these elements, flashing should be inspected to identify signs of deterioration as well. As a general rule, buildings should possess well-adhered flashing to all intersections of the walls and roof flashing. The ridge should be re-pointed for cappings may dislodge, and crumble, cappings should be re-pointed taking care to match existing.

Wooden structure

Wood systems should be checked for signs of deflection, cracking, weathering, and rot and termite attack at regular inspection intervals, at least once a year. It is a positive feature that wood does not hide its deterioration,

²² Australian Heritage Information Network, 2006.

in most cases problems can easily be detected through visual examination. Considering that wood structural systems are made up of many individual pieces of lumber, only those pieces that are damaged should be repaired or *replaced in kind*. Wholesale replacement of materials is *not* recommended. In roof systems joints, nailing points, ends of beams, knots are most vulnerable and should be observed during supervision. Knots are usually points of rupture in stressed or aged elements. As it is the case here, scissors type wood trusses, must be inspected at supporting points for wall bearing capacity or movements. Roof at this point should be well ventilated; otherwise humidity from the wall may deteriorate the truss. Special attention should be given to the gutters at these points; if they flood they put at risk the structure.

Termite attack is most frequent in tropical countries; in the neighboring country of Guatemala 50-100 species of termites have been identified. In spite of this, when the roof was uncovered for restoration it was in very good condition, considering that it had never been subject to maintenance or termite treatment it is inferred that the timber is of very good quality. It is important to note that prior to any pest treatment, the structure should be repaired and all cracks filled. These procedures should always be supervised by a professional conservationist. As a general rule pesticides should be organic based. It is advisable to vacuum clean the attic space yearly and keep it clean from the presence of any rodent animals or birds.

Repair recommendations

In regards to the roof conditions, it would be recommended that:

- Re establish the original roof system in the first patio; this implies the removal of the added canal at the overlapping edge between the roof and the Spanish terrace. This system is giving extra weight on the roof mainly from rain water that does not evacuate properly; the downspouts provided run in the interior of the wall corner and thus becoming potential water or humidity related problem to which adobe walls are most susceptible. Downspouts should also be re-located externally to prevent any risk.
- Re point the ridge with lime mortar which is more flexible than cement mortar. This will allow a better exchange of humidity between materials, for recently repairs already show how the rigidity of cement mortars is susceptible to cracking.
- Waterproof the Spanish terraces at least once a year with the traditional *alumbre* wash (*double sulphate crystallized solution, from potash and aluminosilicates in feldspars from igneous rocks*) with hot water and soap applied by layers.

Floors

Terracotta tile flooring

Undecorated ceramic tiles are the most traditional and common flooring material found in colonial buildings in many parts of Latin America. The original flooring in good state, that was identified during restoration was saved, and left untouched in its original location as testimony of the patina. Later on glazed ceramic flooring was carelessly introduced in some areas, in detriment of the unglazed natural rustic character of the original flooring, made of rectangular terracotta tiles of about 0.03 m thick with a natural dull finish.

When inspecting a floor the signs of cracks in tiles and joints should be observed, as well as discoloration, mildew or mold, chipping off, peeling, loose tiles and staining. When individual tiles or parts of the flooring need to

be re-placed, the material must be carefully selected to match the existing. Qualified workmanship should never be underestimated for the units to be re-placed must be removed with such care as to not damage the adjacent tiles. The joints should also match in colour and shape, the finished work needs to be as unnoticeable as possible. In recent replacements it has been observed that tiles are directly installed over the ground without any prior subflooring preparation. Commonly at least a 0.10cm layer of clean sharp silt gravel was laid to prepare the ground for tile subflooring.

To maintain a ceramic tile flooring cleaning procedures should be as gentle as possible, regular sweeping, or preferably dry or damp mopping or vacuuming to reduce grit. Tiles can usually be cleaned with a non-soap-based household floor cleaner, if possible warm water washes are recommended in heavy traffic areas. Pre-wetting a ceramic tile floor before cleaning is a good policy to observe with all cleaners, which should be applied only to a thoroughly wetted tile floor from which excess water has been removed. Testing is always required in a small portion of flooring to avoid damages. Floor tiles should always be rinsed thoroughly after cleaning. The traditional ceramic tile floor, had not been given any coating, therefore only a wax coating is recommended to allow sweeping and dry mopping, avoiding over wetness that can saturate the tile provoking chipping. Other protective coatings as varnishes are not recommended because with time they worn down or peel, point at which they may require complete paint removal to re-paint. This is costly and time consuming and in most cases never done; reason for which it is always advisable to only use floor waxing.

Whenever there is presence of organic growth, such as mold or mildew, this may be eliminated with a dilute solution of household bleach and a neutral household detergent, *or* a dilute (5-10%) solution of tri-sodium phosphate (TSP). After applying either of these solutions, it may be necessary to scrub the floor with a natural bristle or nylon brush, and then rinse with clear water. Even a dilute bleach solution should not be left on a ceramic tile floor for more than a few minutes, since the alkali in the bleach can lead to the formation of a white efflorescent deposit. Efflorescence is a whitish haze of water-soluble salts, which may stain and streak the tile, or may even cause minor spalling around the joints.

Regular maintenance of a ceramic tile floor should always begin with vacuuming to remove loose dirt and grit. Then, a mild cleaning solution may be applied and left on the floor for 10-15 minutes, without letting it dry on the tiles. Heavily soiled areas may be scrubbed with a natural bristle or nylon brush to loosen dirt from the tile surface. Finally, the floor should be thoroughly rinsed with clean, clear water, preferably twice, and dried with terry cloth towels, if necessary. Following wax and polish.

Wooden flooring

During inspection it is important to observe for wood expansion, scratching, wear, coating or varnish peel and flacking, discoloration and any loose material. Regular maintenance requires sweeping with a soft bristle broom or vacuuming to prevent scratching. It is advisable to put felt pads on the bottoms of any furniture to minimize scratches and dents. Heavy furniture should never be dragged along the floor. Rugs should be placed at all entrances avoiding those with rubber backs because they cause discoloration of the wood. A wood floor should never be wet-mopped; all water excess can dull the finish, damage the wood and produce discoloration. Mopping should be done regularly with a damp cloth and possibly with a soft, natural soap. When ever there is a spill, it should be immediately cleaned with a dampened towel to remove all foreign substances. Over waxing or wax buildup should be avoided.

Wooden floors need to be treated at least once a year with floor polish. When the varnish is damaged, parts of the floor can be sanded lightly and re varnished. If the damages cover a big area the entire floor can be sanded and varnished again.

Repair recommendations

- Replace the glazed ceramic flooring that was introduced, back to unglazed ceramic tile flooring.
- Repair ceramic floor by matching the existing tile and joints.
- Repair entire wooden floor by sanding it and re varnishing. All furniture should be provided with felt pads to avoid further damage.

Windows and Doors

*“Windows and doors are usually one of the most significant character-defining features of an historic building. Because windows and doors are such a recognizable building feature and often are used in determining the age and style of a particular historic building, it is **not advisable to replace these elements unless they are damaged or weathered beyond repair.**”²³*

This principle unfortunately was not considered in the window and door preservation of the building. Windows and doors were replaced and the new ones do not follow original patterns. More over, current repairs continue to replace entire units. Only window and door frames were saved from substitution. Contributions of original windows to the character, appearance, and value of authenticity are innumerable, but to mention the most significant ones, these include: 1) the pattern of the openings and their size; 2) proportions of the frame; 3) configuration of window panels; 4) design profiles; 5) type of wood; 6) paint color; 7) characteristics of the glass; and 8) associated details such as arched tops, cast iron details, among other decorative elements. Knowledge and understanding of how the window reflects the period, style, or regional characteristics of the building, or represents technological development, are aspects that should never be underestimated.

Inspection

In the inspection of windows and doors, it is important to look for water damage or deterioration around the entire frame but particularly at the window sill and door threshold. The joints around the frame should be tight to prevent water from entering. Loose or open joints should be caulked. The existing caulking, weather stripping, and putty should be inspected and repaired or replaced as needed. Historically painted windows should be scraped and repainted regularly to prevent weathering of the original wood frames. Lack of maintenance and damaged paint coatings have caused windows to weather severely, also many other factors such as poor design, moisture, vandalism, insect attack, and lack of maintenance have contributed to window and door deterioration, but moisture is the primary contributing factor in wooden window and door decay. In any evaluation, one should note: window and/or door location, condition of the paint, condition of the frame and sill or threshold, condition of the window or door panel, glazing problems, hardware, proper function and overall condition of the window or door (excellent, fair, poor, and so forth).

The window sill or door threshold should be examined to insure that it slopes downward away from the building to allow water to drain off. In most windows around the façades and those facing the service patio, a protection of the sill must be provided for water penetrates easily. A clue to the location of excessive moisture is the condition of the paint; therefore, each window and door should be examined for areas of paint failure. Since excessive moisture is detrimental to the paint bond, areas of paint blistering, cracking,

²³ Humphries Poli Architects, P.C, Manual for Conservation Maintenance Plan, 2006.

flaking, and peeling usually identify points of water penetration, moisture saturation, and potential deterioration. Failure of the paint is not a sign of poor wood condition, wood is frequently in sound physical condition beneath obvious paint damages. Once the areas of paint failure have been identified, the next step is to inspect the condition of the wood, particularly at the points identified during the paint examination.

Each window should be examined for operational function ability: lower portions of the frame, exterior rainwater and interior condensation can flow downward along the window, entering and collecting at points where the flow is blocked. The sill, joints between the sill and jamb, corners of the bottom elements of the window panels are typical points where water collects and deterioration begins.

Maintenance and repair

The routine for maintenance required to upgrade a window includes: 1) some degree of interior and exterior paint removal, 2) removal and repair of window panel (this may include re glazing where necessary), 3) repairs to the frame, 4) weather-stripping and reinstallation of the panel, and 5) repainting.

Historic windows have usually acquired many layers of paint over time. Removal of excess layers or peeling and flaking paint will facilitate operation of the window and restore the clarity of the original detailing. The panel can be stripped of paint using appropriate techniques; a conservator should evaluate and indicate procedures. When glass panes are out, all residue of paint and dust remaining can be removed and the panel can be sanded, patched, and primed with a preservative primer. If glazing is required, the glazing compound should only be used on wood which has been brushed with linseed oil and primed with an oil based primer or paint. Exterior paint should cover the beveled glazing compound or putty and lap over onto the glass slightly to complete a weather-tight seal.

While the panel is out of the frame, the condition of the wood in the jamb and sill can be evaluated. Repair and refinishing of the frame may be carried out simultaneously with repairs to the panel, taking advantage of the curing times for the paints and putty used in it.

In wood repairing it is necessary to: 1) dry the wood, 2) treat decayed areas with a fungicide, 3) waterproof with two or three applications of boiled linseed oil (applications every 24 hours), 4) fill cracks and holes with putty, and 5) after a "skin" forms on the putty, re-paint the surface with the color scheme indicated in each area.

Repair Recommendations

- Provide exterior windows with a sill to protect it from rain water.
- Replace some existing window screen of cast or wrought iron decorative elements to match original ones.
- Make the main metal gate from the basement entrance to match the architectural character of the building following the two main entrances from the north façade in style and material.

Stone Elements

During regular inspections, stone elements should be checked for: cracking, joint spalling, discoloration, loose elements, humidity, weathering, flaking, stone decay and stains. Along with air pollution, soluble salts represent one of the most important causes of stone decay. The growth of salt crystals within the pores of a stone can generate stresses that are sufficient to overcome the stone's tensile strength and turn the stone to a powder. The deterioration of many of the world's greatest monuments can be attributed to salts. There are many ways in which stonework can become contaminated with salts. Air pollution is a major source of sulfates and nitrates. Other sources include the soil, from which salts may be carried into masonry by

rising damp and unsuitable cleaning materials. Strong and abrasive cleaning materials should be avoided.

Stone elements should never be painted, protective coatings are not recommended. Regular cleaning is mainly done with natural bristle brush for dust removal. Whenever washing is required, it must be done only with water and gentle brushing.

Repair Recommendations


- Reduce contamination from car combustion by prohibiting the use of the inner courtyard as parking space.
- Clean the stone column bases in first patio from all organic and mold growth. To avoid this condition, the water valve at the corner should be used with proper care, and the floor must be dried after washing.
- Repolish the bases of the columns of the first patio that were damaged by removing the entire polish surface layer to recover the proper architectural language from the exposed material, although the patina, historic layer and original finish and craftsmanship are lost for ever. This polished finish will also provide a surface with finer pores, which gives better protection to the elements, instead of the wide porous and rough surface that was left after cleaning.

Present Situation

To provide specific information in regards to the present situation of the building, the drawings obtained from the thesis work were updated and a complete set of drawings is being produced in the CAD system. Besides this general set of drawings a special section was designed to supply detailed information of every single space in the building. A scheme in chart form was arranged to render the information in more practical terms. There are three charts that correspond to every space of the building, providing the following information:

- Location in correspondence with general floor plan, specific area floor plan, elevations of the four walls plus the ceiling plan, finishes, applied colours, textures and materials, dimensioning and special features. Identification of original elements, their changes and/or substitution and recording of such dates when possible.
- Register of architectural elements, window and door details, decorative elements finishes or paints, pictures of details and room conditions.
- Documentation of changes, damages, effects of current use and maintenance or lack of it, present problems, conservation state.
- Also a practical layout of the scheme is left blank to be used as a template to be reproduced as many times as necessary to serve as a *Form for Inspection*, to keep record of conditions, problems, repairs, etc.

In the problems section above the present condition, problems and their causes have been discussed and the results were registered in these drawings. Specific *repair recommendations* presented in the special requirements section have also been included as part of the actual conditions observed. The resulting repair listing is already an outcome of this first documentation process; these conditions call for immediate action. All repair recommendations are prioritized and scheduled in the Maintenance Plan for budgeting and execution.




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Febrero 2017



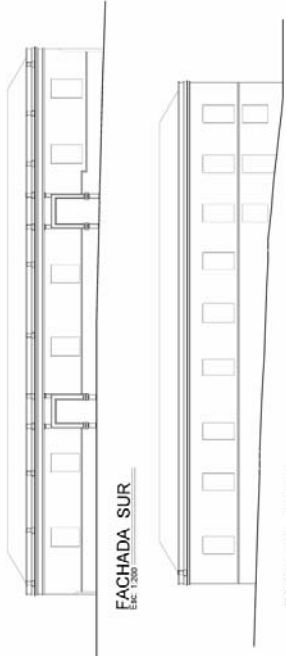
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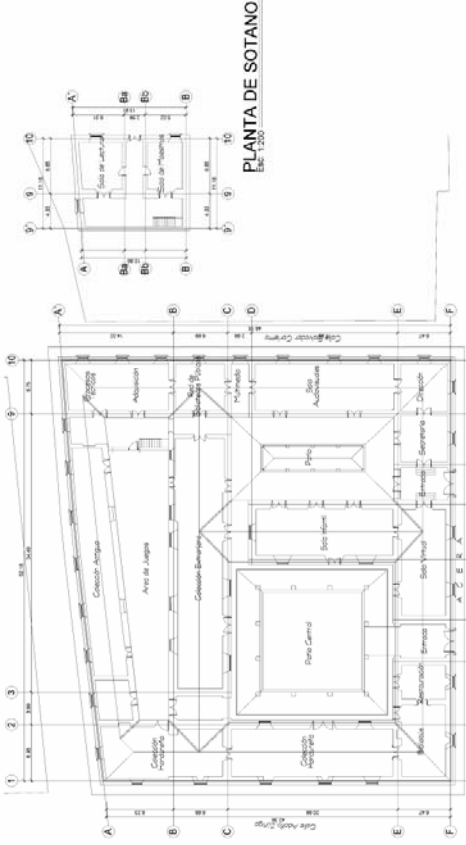


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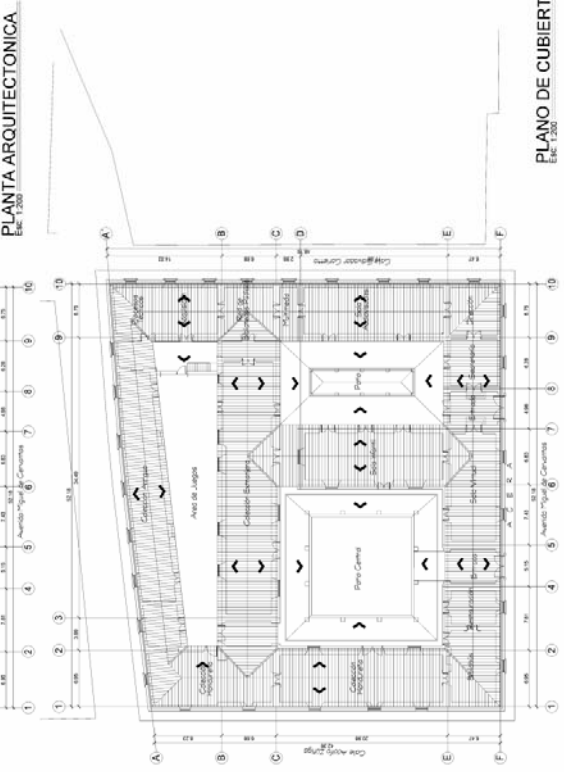


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FACHADA ESTE
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PLANTA DE SOTANO
Esc. 1:200



PLANTA ARQUITECTONICA
Esc. 1:200



PLANO DE CUBIERTA
Esc. 1:200

PROYECTO: PLAN DE MANEJO BIBLIOTECA NACIONAL
CONTENIDO: Ubicación, Planta Arquitectónica, Elevaciones
Esc. 1:100

- Primer Anuario Estadístico de Honduras, Antonio R. Vallejo.
- Documents in the Honduran National Archive.
- Documents in the Honduran Institute of Anthropology and History's archive. Building's file, first and second inventory chart.
- Documents in the General Archive of Guatemala.
- Conservation, Restoration and Put in Value of The Old House of the Currency, Graduation Thesis by Arch. Norma Lagos and Arch. Eva Salazar.
- Pictures from the time.

Maintenance Plan

Systematic maintenance facilitates the initiation and programming of major items of repair, restoration and reconstruction. Some of these items were identified in the special requirements section under *repair recommendations*. This is the immediate result of a first evaluation according to the diagnosis of the present situation of the building. All identified elements are the first line of work in the conservation and preservation of the building.

To provide a schedule of the activities requested, a table that summarizes the elements of the building, the tasks to be realized together with the observations and evaluations to be made, and the timing for each one of these activities, has been elaborated for a more practical use. Any evidence of irregularity listed under the tasks column, would be recorded in the blank forms for inspection, as well as when the work is finished and the person or persons in charge of them. All needed interventions and procedures followed should always be under the supervision of a professional conservationist and in accordance to the maintenance program.

Maintenance Routines

Ideally, maintenance routines should be designed in time ranges that vary from daily, weekly, monthly, quarterly, semi-annual and annual inspections that require to be followed by a report and register of all the results in their respective drawings. Given that Honduras is located in a tropical climate zone, it is most appropriate to add to this timing a special attention to the rainy season, or the period after a strong storm to schedule some check up items that are more susceptible to rainfall.

Daily Routine

Regular cleaning of the building is an integral part of any maintenance strategy; proper procedures will increase its lifecycle. Although regular cleaning is important, it is essential to use *the gentlest cleaning methods possible to preserve not only the historic fabric of the building, but also the health of its inhabitants*.²⁴ Routine cleaning should never be underestimated, because it is an integral aspect for managing a historic property. Cleaner's crew can be easily asked to report any defects that they may note as: broken glass, leaks in the roof, loose or missing pieces, lime dust from spalling plaster, etc.; this is a convenient way to carry out regular inspection and monitoring activities.

All cleaning procedures as indicated should be manual and with the *gentlest methods*, simple removal of dirt and dust on hard surfaces prevents deterioration due to abrasion. Regular cleaning helps to prevent bugs or rodents infestation on both the interior and exterior of the building. In addition, keeping dirt and grime away from building elements allows for easier and more productive visual inspections of the building. It is advisable to research any chemical cleaning methods prior to their application to determine whether or not single or repeated applications may cause harm to any historic fabric. For example excess water is being used for floor

²⁴ Humphries Poli Architects, Conservation and Maintenance Plan, Manual 2006.

E BUILDING ENVELOPE - ROOFING									
1	Clay tile roofing	Check for missing, broken, cracked tiles, slipped tiles and fasteners	Roof washing once a year				X		X
2	Spanish terrace	Inspect for cracks, bulging, ponding, loose tiles, loose material, chipping, damaged joints	X - Beginning of rainy season, Water proofing every year						
3	Metal flashing	Check for loose, raised fixings; raised cappings					X		X
4	Gutters	Look for debris, corrosion, holes, faulty connections	X - Cleaning at beginning of rainy season				X		X
5	Downspouts	Check for clogs, leaks, proper distance of discharge from building	X - Cleaning at beginning of rainy season				X		X
6	Roof drains and overflow	Look for debris, corrosion, holes, faulty connections	X - Cleaning at beginning of				X		

W - Weekly, M - Monthly, Q - Quarterly, SA - Semi-Annually, A - Annual, ST - after a Storm SAT - Satisfactory, UNSAT - Unsatisfactory

F WINDOWS AND DOORS									
1	Wood windows	Check for water seepage, rotted sash & cords, termite attack, paint peeling or cracking	Clean every 3 months					X	
2	Stone window sills	Look for water seepage, damaged stone					X		
3	Wood doors, frames and hardware	Inspect for damaged jambs, moldings, operational hardware	Clean every 1 month areas open to public, and every 3 months all other areas				X		
4	Metal doors and frames	Inspect for damaged jambs, moldings, operational hardware					X		
5	Cast or wrought iron decorative window	Examine fit and connection to wall, damaged bars, rust	Clean every 3 months				X		
6	Metalic and acrylic panels	Look for signs of corrosion, cracks in acrylic parts, missing parts, loose parts	Clean every 3 months				X		

W - Weekly, M - Monthly, Q - Quarterly, SA - Semi-Annually, A - Annual, ST - after a Storm SAT - Satisfactory, UNSAT - Unsatisfactory

G INTERIOR FINISHES									
1	Lime plaster walls with decorative paint work	Visually inspect for cracks, chips, water stains, discoloration					X		
2	Wood ceilings	Remove cobwebs, nests; check for inclinations, sagging, damage, decay, cracking	Clean cobwebs every 3 months					X	
3	Ceramic tile walls	Look for cracked tile, bulges, missing or damaged grout						X	
4	Wood trim	Examine for damaged, missing molding, secure connection						X	
5	Wood flooring	Oil; visually inspect for warping, excessive wear, damage, peeling, splitting					X		
6	Ceramic tile flooring	Look for damaged tiles, missing or damaged grout						X	
7	Stone flooring (basement/first patio)	Inspect for damaged stone, missing or damaged joints, puddles, discoloration, mold growth					X		
8	Terracotta tile flooring	Inspect for damaged brick, missing or damaged joints, color change, stains						X	
9	Concrete flooring	Look for cracks, chipped or broken pieces, stains						X	
10	Window coverings	Check for damage, secure connections, excessive wear/dirt						X	
11	Metal railings	Examine alignment, look for excessive wear, deterioration						X	
12	Wood casework	Check for rotting, decaying wood, operational hardware						X	
13	Interior paint finishes/linewash most recommended, see	Look for flaking, dirt, water stains or blistering	Re-paint every 2 years/ linewash every year most					X	
14	Interior glazing	Check for cracked or broken glass						X	

W - Weekly, M - Monthly, Q - Quarterly, SA - Semi-Annually, A - Annual, ST - after a Storm SAT - Satisfactory, UNSAT - Unsatisfactory

H ARCHITECTURAL FEATURES									
1	Cast or wrought iron ornament, window protection	Inspect for secure connection, dirt, damage, corrosion						X	X
2	Stone ornament, doors, window, steps, bases of	Inspect for secure connection, dirt, damage, discoloration, efflorescence, loose material						X	X
3	Interior corridors along patio	Look for level surfaces, alignment, dirt, damage						X	
I MECHANICAL SYSTEMS									
1	Air handling units	Keep clear of debris/exhaust; ensure regular inspection					X		
2	Condenser units and pipes	Ensure regular inspection by a qualified professional					X		
3	Plumbing waste and vent piping and fittings	Visually inspect for leaks, corrosion, damage						X	
4	Plumbing supply piping and fitting	Visually inspect for leaks, corrosion, damage						X	
5	Plumbing fixtures	Inspect for drips, leaks, ease of operation						X	
6	Water reservoir	Clean, check water levels for water loss	X - Before summer				X		X
18	Utilities (water, sewer, etc.)	Ensure regular inspection by a qualified professional						X	

Results

The main objective in the elaboration of a Maintenance Program and Maintenance Plan for the Old House of the Currency was to promote good practices, sustainability and strengthening of the Management, Conservation and Restoration policies of historical buildings. In addition to the technical aspect of this document, the project intended to be a tool to promote the re-establishment of the agreement held between the IHAH and the UNAH. This

would not only strengthen the actions of the institutions involved but provide for a broader social involvement and improvement of the managing resources that contribute in the preservation of the patrimony. The results obtained from this experience were:

- The elaboration of the first Maintenance Program and Maintenance Plan and Documentation for a historic building.
- The document will provide the Honduran Institute of Anthropology and History a *tool to be used as a reference* for future Maintenance Program and Maintenance Plan in the preparation of Conservation and Restoration projects. Even though there is no legislation that enforces its implementation it gives way to *a new approach and awareness in the management of the patrimony*.
- The agreement between the National Autonomous University of Honduras and the Honduran Institute of Anthropology and History is limited to specific projects, in the last semester contributions were made to the new inventory scheme of the city of Comayagüela. This has re-established some joint actions and opens new possibilities for the expansion of a more *integrated network of stakeholders* in the conservation field.
- An agreement between the UNAH and the Municipality's Historic City Centre Office is in progress.
- In addition new sectors of the society have been identified as part of the stakeholders in the conservation and management of the building, such as historical groups and associations, literary groups, schools, universities, and neighbours associations. This supports a more integrated network of civil organizations, owner and authorities in the preservation effort of the cultural heritage.

Conclusions

- Major conservation and restoration action supported by important investments, are normally followed by a total neglect of basic caretaking practices of building preservation. As a result, an accelerated process of deterioration of the building begins; this process together with improvised repair solutions puts at risk of irreversible damage historical structures. Such is the case of The Old House of the Currency, which has lost value due to the removal and substitution of authentic elements regardless of their good condition eliminating important historic layers, the quality of the architectural space is underestimated by actual use, and as time passes the lack of an appropriate management and maintenance program increases the building's propensity to decadence.
- The implementation of a Maintenance Program and Maintenance Plan and Documentation, is an indispensable policy to provide proper management, to assure conservation and adequate restoration methods in the preservation of the patrimony.
- Even though the actual use of the building as a library is compatible with the value of this historic structure; the fact that this new function was not planned nor designed by professionals in the field, becomes a high risk for improvised adaptations that cause damage to the historic structure in the attempt to upgrade de building without proper undersatnding of its values as patrimony to the Honduran society.

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