

THE ROYAL HOUSE OF MINT POTOSÍ, BOLIVIA

Conservation project and maintenance plan.

Alvaro E. Balderrama

Architect – Universidad Mayor de San Andrés, La Paz
Historian - Universidad Mayor de San Andrés, La Paz
Secretary, Icomos – Bolivia
Project Manager and Supervisor, Cultural Foundation of Central Bank
La Paz – Bolivia, South America
alvarobalderrama@hotmail.com – tecniconsult_imagen@yahoo.com



Figure 1
City of Potosí and Cerro Rico
(Rich Hill)
Picture: A. Balderrama 2005

Abstract

Cultural Foundation of Central Bank is a non-profit organization in charge of care and management of main Cultural Centers in Bolivia: Royal House of Mint (Potosí), House of Freedom and National Archive/Library (Sucre), National Art Museum and Ethnography Museum (La Paz).

The main objective of this project is focused to recover the original shape of Royal House of Mint, disturbed by effect of an intervention in + - 1910, when the plinth of stone was covered with certain class of revoque. The project also includes the recovering of attics to enhance the capacity of the Museum, and the restoration of roofs, barrel vaults, lanterns and skylights.

Introduction

The mining activities are the main vocation of the department and the basis of its economical earnings, which made its capital, the city of Potosí, famous (Figure 1).

The long history of the city located at 4,060 meters above sea level dates back to 1545, when the first silver seams were exploited in the “Cerro Rico” (Rich Hill), in such great volumes that injected a great amount of resources to the Spanish crown through the viceroyalty of Peru, of which Potosí was a part of. The first housing constructions were improvised as camps, until 1572 when the Viceroy of Peru Francisco de Toledo visited the “villa” and gave orders for the urban restructuring with the main square’s lay out, roads improvement, and the construction of public buildings. The religious orders that had arrived together with the first miners, built the churches and monasteries, which we can still appreciate today: “La Anunciación” in 1548, the “Mercedarios” in 1555 and the “Dominicos” in 1560, among others (Figure 2).

Regarding the production of silver, the amalgamation using mercury demanded the circulation of water through an artificial river called “ribera” which divided the “Spanish city” from the “indigenous city” and fed 132 “mills” (figure 3) that were used to process the mineral in order to turn it into high sterling silver.

Figure 2
Detail of “La Anunciación” –
stone façade



Picture: A. Balderrama 2005

A part of all this silver was shipped to the Royal House of Mint (Casa Real de Moneda) - Figure 4- for the minting of coins of different values, which later on would circulate throughout the continent.

Thanks to the union of all these resources that allowed to build very important buildings within the colony period and which generated the growth of a city that once had more than 160,000 inhabitants in the XVIII century, Potosi was declared a “Cultural and Natural Heritage” by UNESCO in 1987.

Background

ROYAL HOUSE OF MINT is a colonial building, it was built between 1758 – 1773 by the Spanish administration designated to mint the silver obtained from “Cerro Rico”.

The viceroy Francisco de Toledo instructed in 1572 the construction of the first mint house in Potosi, it started working at the Plaza Mayor as we can see in this graphic testimony given by the famous painter Perez de Holguín in his 1716 painting “Entrada del Virrey a Potosí”. In this painting, with the “Cerro Rico” in the background, one can see the two-floor building with balconies over the main square, in the place where currently we find the Court of Justice.

The original was replaced by the current building on the land occupied by the old “Plaza del Katu” (market square). It has three floors with more than 12.000 sq.m. and it is considered the biggest civil building of the Viceroyalty of Peru.

The building is located right on a corner of the main square (Plaza Mayor), city code M-2-1, owned by the Bolivian state and protected by a nomination as a national monument (1.936); under regulations of “Municipality of Potosí” is already protected by “Heritage Office” (Dirección de Patrimonio Histórico). Since 1962 the building is used as a National Museum.

The conservation project started on July 2005, and the maintenance plan has been organized for next 10 years.

Geography

The department (province) of Potosi is located in the south-western area of Bolivia, in the middle of the Bolivian plateau (*puna or altiplano*) it borders to the west with Chile, to the south with Argentina and inside the country with the departments of Oruro, Cochabamba, Chuquisaca and Tarija.

Capital city is in located at 4.050 m. above sea level.

The city adopted the chess board design (*damero*) as guide for its urban development, taking constructive techniques from Spain on 16th century (Figure 5).

Figure 3. Molino del Rey
(King’s Mill) in “La ribera”
Picture: A. Balderrama 2005



Figure 4. Royal House of Mint
Picture: A. Balderrama 1998



Figure 5. The city, 17th century. Oil paint by Gaspar Miguel de Berrío, 1685
Picture: Museo Charcas, Sucre



Climate, population and main activities

The climate is determined by two aspects: rainy/dry seasons, and altitude above sea level. Potosi is a very cold city, temperatures may vary from (-) 8 to (+) 20 every day.

Currently, the city has 120.000 habitants; high levels of silver production are just the history of the city, but the historic centre is very important and Municipality collects yearly high incomes from tourist activities: more than 250.000 visitors per year are generating activities on museums, hotels, restaurants, airport, and side activities.

Architecture and construction

The historical building is organized around three courtyards on the longitudinal axis and two minor courtyards on the transversal axis, besides an outer circulation area, which communicates the second and third courtyard.

The basket-handle arches are to be highlighted and their image is well spread by the famous grotesque head found between the two first floors (Figure 6). A stone fountain completes the sector around which we can find the gallery, the XIX century art room, and the administrative areas of the Museum, which is in charge of the Cultural Foundation of the Central Bank of Bolivia.

The second courtyard has great dimensions and a continuous projecting balcony made of wood that substituted the old iron balcony (Figure 7). The walls are made of solid stone with a thickness average of 1 meter, alternating with brick arches. A sundial supported by a stone column stands out in the centre. Besides providing access to the minting rooms, the space is surrounded by the Historical Archives and exhibition areas such as the “Sala Mariana” where one can see the famous painting “La Virgen del Cerro” (Virgin of the Hill), the “Sala Pérez Holguín”, the silver minting and numismatics rooms.

The third courtyard organizes the old storage rooms, which have been adapted by the Museum for the exhibition of weapons, mineralogy and other. In addition, with great architectonic value, we find the vaults and the elliptic cupola of the ventilation cone that covers the biggest of them, which was used as a chimney in the silver foundry room.

The rooms are joined by brick arches supported by cut stone columns; this material is projected all the way out to the facades. The mezzanines are made of pine wood beams with floorboards. The carpentry for doors and windows is made with cedar wood and rough iron grilles.

Besides the valuable collections of colonial, republican and contemporary paintings, the Museum has exhibition rooms for pre-Hispanic textile, archaeology objects and colonial and republican furniture.

Figure 6: The first courtyard
Picture: A. Balderrama 1999

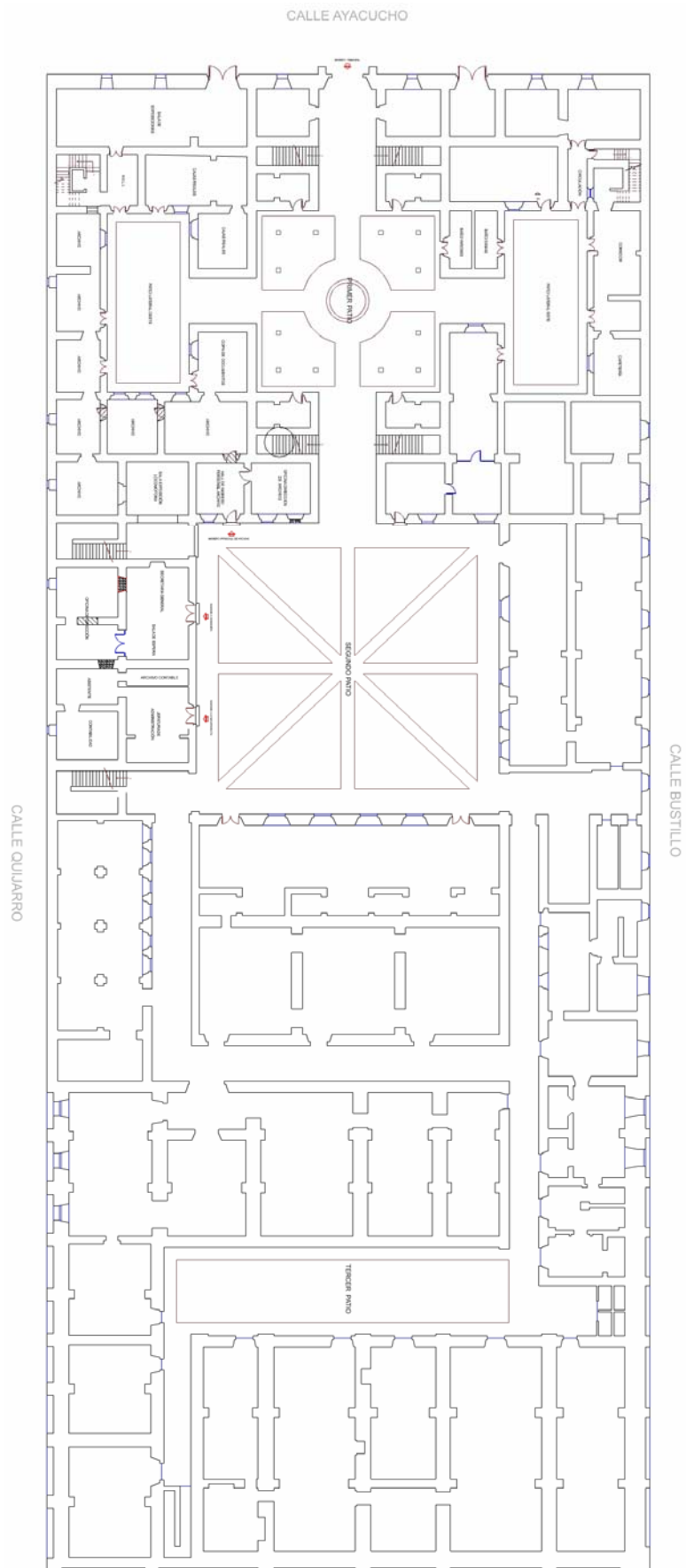


Figure 7: Second courtyard
Picture: A. Balderrama 2004



Figure 8: Third courtyard
Picture: A. Balderrama 2006





FLOOR PLAN

Problems

Most important problems to be solved with this project are as follows:

- Towards 1910, the façade showed serious damage (see Figure 9), this is probably the reason why the building had a solid plinth made of lime (30%), sand (40%), pozzolana earth (15%), and animal blood (15%). All along the XX century, this mixture gave it a certain consistency, but it constantly presented cracks and detachments or slides, which forced the administrators to face annual maintenance works with high costs, if we consider a total area of 530 sq.m. of plinth (Figure 10). When performing these works, they even used car filler (putty) in order to fix and avoid the constant cracks.

Figure 9: The building ca. 1910
(Historical Archive of Potosí)
Picture: Homenaje a Potosí, GMP 1998



Figure 10: Revoke on plinth (1910-2005)
Picture: A. Balderrama 2005



More space needs: Collection and cultural activities of the Museum are increasing every year, so it is necessary to increase new spaces inside the building. Two first floors have big windows facing the street, and the highest floor known as “duenderas” (goblins, spirits), have never been used, those served as precarious living spaces and were considered just as simple “attics” (Figures 11-12).

Figure 12: Attics or “duenderas”
Picture: A. Balderrama 2005



- By effect of atmospheric agents and contamination, there are serious damages on ridged roof gables, barrel vaults, lanterns, skylights and cupolas, producing leaking inside the exhibition rooms (Figure 12-13). It is remarkable that all these are a part of the landscape in Potosí, with the Cerro Rico in the background.

Figure 11: Attics or “duenderas”
Picture: A. Balderrama 2005



Figures 12-13: Damages can be seen on roofs, vaults and lanterns

Pictures: A. Balderrama 2005



Hypothesis

Bolivia is the poorest country of South America, and is also one of the countries in America Latina and the world with major inequity in distribution of income. Indigenous constitute the principal segment of population, but they have low opportunities to improve their living expectative.

Those expectative can be covered across the tourist activities, such as tourist guiding, arts and crafts, manufacturing, hotel and food industries, all around the important number of tourist that visit the city every year.

The Royal House Mint is the principal attraction of the city, and the well conservation and facilities of the building will help to increase the general income from tourist activities, in benefit of the citizens of Potosi.

Method

The proposed works under execution since November 2005 are as follows:

1. RECOVERY OF THE STONE PLINTH: As observed in this drawing dated 1860 (Figure 14), the building had an exposed plinth, just as the rest of the important buildings of the time (compare with “La Merced” or “Santa Teresa”). During the current intervention (Figures 15, 16, 17), all the mixture is being removed, the joints between the rocks have been made waterproof, and the entire plinth is in the process of being liberated, with which all maintenance works will be reduced in 80%.

Figure 14: Drawing, 1860. See the building with stone plinth.

Picture: Potosí en Imágenes, GMP 1998



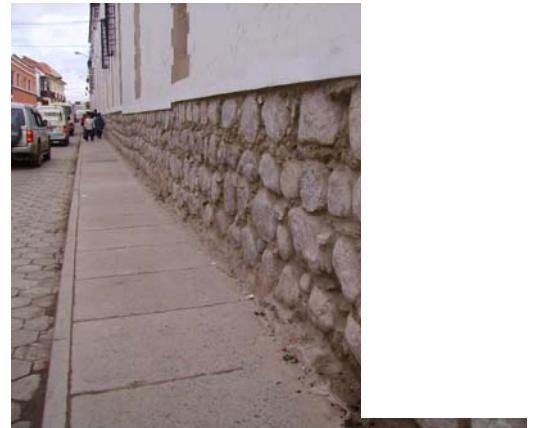
Figure 15: Working on revoke removing (Dec. 2005)

Picture: A. Balderrama 2005



Figure 16-17: Stone plinth after revoke removal

Pictures: A. Balderrama 2006



2. RESTORATION OF VAULT COVERS:

the last intervention in the vault covers had been done 30 years ago in 1975, reason why there were frequent leaks of rainwater inside the building. Since January 2006, works are being performed (Figure 18) to restore the cover following these steps: removal of the roof tiles, placement of mortar, and rearrangement of the roof tiles with a waterproofing layer.

Figure 18. : Working on vaults, January 2006.

Picture: A. Balderrama 2006



3. LANTERNS RESTORATION:

just as with the vaults, the mortar layer was removed, a waterproofing layer is placed and then another mortar layer with a waterproof additive, giving back to the lanterns their original image but protecting the ambiances inside.

Figure 19: Lanterns

Picture: A. Balderrama 2006



4. **RIDGED ROOF GABLES:** Similar work will be done on these roofs, to avoid leaking and keeping the shape of the building.
5. **THIRD FLOOR FITTING OUT (DUENDERAS):** the “duende” (goblin) is a mythical character related to darkness, this is how the third level received that name; it never had any windows and had no usage, except when used as an improvised home for slaves in the colony, as referred by some chroniclers. Due to the need of having bigger spaces in the Museum, these “duenderas” are currently being fitted out to be used as restoration workshops, storage for colonial paintings and restrooms. (Figure 20). The work includes new wooden windows, reposition of plastering and rendering, paint and other details. With this works a new 450 sq.m. useful sector will be set.



Figure 20: Third level: attics or “duenderas”

Picture: A. Balderrama 2006

6. **REPOSITION OF FAÇADE ELEMENTS: STONE, AND RENDERING:** due to rain and winds, some sectors of the façades present wearing away, reason why some pieces made of cut stone are being substituted on the façade, and some rendering sectors are being replaced, specially those which showed a high degree of damage.

Figure 21: Damaged sand-stone on facades.

Picture: A. Balderrama 2005



7. **CONSERVATION WORKS:** this work will be ready in the month of May – 2006 with the restoration of wood carpentry, repainting of metal grilles, and the building’s general paint.

Actors involved in the project

It is necessary to work in different levels to achieve the proposal with the following actors:

- Municipality of Potosi: Heritage Office
- Regional Government (Prefectura del departamento)
- Neighbors Comité (Consejo de Vigilancia)
- Hotels and commerce chamber (Cámara Hotelera)

This inter-institutional coordination has been used in former projects of conservation (such as AECI – Spanish Development Agency) with best results, such as appropriation of public spaces and buildings reinforcing the local identity.

Community is the principal actor on promotion and conservation of the city and their historic buildings. Therefore, environmental and aesthetic values on the historic centre can be sustainable for a long time.

Results

Outstanding, Impacts and Success of the project

- Revitalize the central area or historic centre with the intervention on this building; a positive influence of the intervention is expected on the other heritage buildings. It is important to note that, when the revoke was applied on the plinth of building in early 20th century, most of the other buildings started to use the same revoke. Now we expect the same reaction on the other hand.
- On facades, cost of maintenance per year will reduce in 35 % as a result of the works on plinth. Maintenance works for next five years will consist in a simple cleaning of stone with brushes and natural water.
- On roofs, lanterns and vaults, maintenance will suppose the replacing of small parts of joints, with a lower cost.
- Restoration of work-arts will be at the interior of the building (this work was made in other building in the past, with the risks of moving paints outside of the Museum).
- The Museum will increase the area in 450 sq. mts. using the attics.
- Improve the level of income from tourist activities in benefit of the citizens.
- Increase the identity of population, reinforcing that feeling of proud from cultural tradition

Conclusions

People of Potosí is living for 450 years in a special city with a really important heritage to be conserved and protected. Different levels of administration and social organizations must socialize and diffuse the concept of care on every stone, every brick or every window of their historic buildings.

Action assumed by government or any other institution, in this case the Cultural Foundation of Central Bank, will be sustainable on the long time only with participation of the citizens.

The major benefit of this project will be the creation of a local awareness about of the preservation of its historic buildings and how citizens can get better living conditions from the architectural conservation and environmental values.

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