

UNDERSTANDING THE LAHORE MUSEUM  
FOR THE DEFINITION OF A CONSERVATION PROCESS

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## **ABSTRACT**

### **UNDERSTANDING THE LAHORE MUSEUM FOR THE DEFINITION OF A CONSERVATION PROCESS**

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This thesis aims to study the Lahore Museum in Lahore, Pakistan to propose a conservation process for the building. The construction of the building was completed in 1893 and initially housed both the Museum and the Victoria Jubilee Institute, celebrating Queen Victoria's Golden Jubilee in 1887. It was designed by John Lockwood Kipling along with Bhai Ram Singh, both central figures of the Arts and Crafts in the Punjab, while its construction was overseen by Sir Ganga Ram, the Executive Engineer of Punjab.

Designed in the Indo-Saracenic style, the building is ornamented using molded and cut-brickwork, molded and cast plaster of Paris reliefs, ornamental plasterwork and carved reliefs in marble. It incorporates a diverse array of structural systems in its construction such as loadbearing brick walls and cast iron columns supporting saw-tooth steel trussed roofing, flat wooden beam-batten roofs, brick masonry domes, as well as later additions in concrete. The building has been plagued with a multitude of problems from its very inception leading to constant repairs, alterations and additions without any comprehensive plan.

For purposes of this thesis, a set of studies has been conducted, including a historical survey as well as the documentation of the building and preparation of drawings to describe its current condition, values and problems. The thesis concludes with the proposal of a multi-disciplinary conservation process that defines all interrelated studies and activities to be carried out in the future.

**Keywords:** Lahore, Museum, Pakistan, Punjab, Conservation, Process, Values, Problems.

## ÖZ

### **BİR KORUMA SÜRECİ TANIMLAMAK ÜZERE LAHOR MÜZESİNİ ANLAMAK**

Sami, Usman

Yüksek Lisans Kültürel Mirası Koruma, Mimarlık Bölümü

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Bu tez bir koruma süreci önermek için Pakistan Lahor Müzesini çalışmaktadır. Yapının inşaatı 1893te tamamlanmış ve ilk olarak Müzeye ve Kraliçe Viktoryanın 1887deki ellinci yıldönümü kutlamaları dahilinde Viktorya Jübile Enstitüsüne ev sahipliği yapmıştır. Yapı, Pencapta Arts and Crafts hareketinin önemli iki figürü, Bhai Ram Singh eşliğinde John Lockwood Kipling tarafından tasarlanmış ve inşa süreci Pencap Baş Mühendisi Sir Ganga Ram tarafından yönetilmiştir.

İndo-Sarazenik stilinde tasarlanan yapı; kalıp ve kesim tuğla örgüleriyle, kalıp ve döküm Paris rölyefleriyle, süsleme sıvalarla ve oymalı mermerlerle süslenmiştir. Yapı; taşıyıcı tuğla duvarlar, çelik makaslı testere dişli çatı örtüsünü taşıyan döküm demir kolonlar, düz ahşap kiriş-çatalı çatılar, yığma tuğla kubbeler ve sonradan eklenen beton bölümler gibi birçok farklı strüktürel sistemi barındırmaktadır. Başlangıcından itibaren çok sayıda sorunlarla karşılaşan yapı, sürekli plansız veya yarı planlı onarım, değişim ve eklemelere maruz kalmıştır.

Bu tezin amacı; tarihi araştırma, yapının belgelenmesi ve yapının durumunu, değerlerini ve sorunlarını açıklayan çizimlerin hazırlanmasını içeren bir takım

alışmalar yürütmektir. Bu tez; gelecekte gerçekleşecek alışmaları ve aktiviteleri tanımlayan, ok disiplinli bir koruma süreci önerisi ile sonlanmış tır.

**Anahtar Kelimeler:** Lahor, Müze, Pakistan, Pencap, Koruma, Süre, Değerler, Problemler.

For my parents and wife

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## LIST OF ABBREVIATIONS

<b>B&amp;R</b>	Building & Roads (department)
<b>C&amp;W</b>	Communication & Works (department)
<b>CAD</b>	Computer Aided Design
<b>CDGL</b>	City District Government Lahore
<b>DSA</b>	Department of Science and Art, London, England
<b>DSM</b>	Dense Surface Modelling
<b>GOP</b>	Government of Punjab
<b>LDA</b>	Lahore Development Authority
<b>MOU</b>	Memorandum of Understanding
<b>MSA</b>	Mayo School of Art
<b>NCA</b>	National College of Arts
<b>PWD</b>	Public Works Department
<b>SKM</b>	South Kensington Museum
<b>V&amp;A</b>	Victoria and Albert Museum

## NOTES

Old City and Walled City are used as alternatives. Both refer to the medieval Walled City of Lahore.

*Mughal*, *Moghal* and *Mogul* are used as alternatives; as in many archival sources alternate versions of the spellings are used.

The words *orthographic-photos* and *ortho-photos* are used interchangeably.

The word *Gallery* is used for exhibition spaces, though in the case of the Entrance Vestibule and the Auditorium, it is also used for balconies or overhangs with balustrades. These are all located on the upper floors while the exhibition spaces are all on the ground floor. This second use of the word is carried over from historic documents for lack of a suitable alternative.





## CHAPTER 1

### INTRODUCTION

The focus of this thesis is the Lahore Museum building (Figure 1.1), an exposed red brick edifice on the Mall Road, the main promenade of the city of Lahore in the province of Punjab, Pakistan. Completed in 1893, it was built to house the expanding collection of the museum which had been housed, previously, in two separate adjacent buildings, successively. The architecture of the building exemplifies British colonial aspirations of being successors to the Mughals whom they deposed only six years prior to the construction of this building. In fact, the architectural *style* of the building is referred to as “late Mughal” (Walker, 1894, p. 301) in the literature from that time, though in contemporary discourse, the building is considered part of an architectural tradition in its own right, known as *Indo-Saracenic*.

The Lahore Museum is the oldest, largest and most important museum in Pakistan both in terms of its historic importance as well as its exceptional collection of artifacts. The museum, according to Anjum Rehmani (former director of the Lahore Museum) is the “greatest repository” (Rehmani, 1999, p. v) of artifacts of historical and cultural importance in the country. Pakistan, is a post-colonial nation-state formed after the breakup of India, following the British withdrawal from it at the end of World War II. Through this process Pakistan inherited numerous institutions from the British administrative system, including the Lahore Museum.

Like all other museums in British India, the Lahore Museum was initially conceived to house collections of ‘art objects’ produced in cottage industries, a very different aim and purpose than its counterparts in Europe. Nearly from its inception, the museum was connected through administrative setups as well with the personalities

involved in its formation and operations, to the Department of Science and Art (DSA)<sup>1</sup> in Britain, and the South Kensington Museum (SKM), now known as the Victoria and Albert Museum (V&A), whose organizational model the Lahore Museum emulated.



Figure 1.1: Lahore Museum (2005)  
Photo: Guilhem Vellut.

As envisioned in the British Indian government's resolution regarding Museums and Exhibitions (Buck, 1886), Museums in India were conceived as a network of visual libraries / sample rooms for picking and choosing items for production and sale within and outside India, as well as from the museum sale rooms.

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<sup>1</sup> The Department of Science and Arts was established in 1857, the same year as the Mayo School of Art, and soon after the "Great Exhibition of 1851 ... In its narrowest compass, [its] mandate was to introduce superior design and artisanal sensibilities in industrial workers ... The headquarters built for this ... enterprise are today well-known as the Victoria & Albert Museum (V&A) and the Royal College of Art, located in South Kensington, London ... [The] DSA had ... direct influence [throughout the British Empire, including India,] given that its pedagogical systems were adopted [widely] by educational institutions" all over (Dutta, 2007, pp. 2-3).

The groundwork for the John Lockwood Kipling's<sup>2</sup> vision for the Lahore Museum's new premises was laid by the Department of Science and Art's interest in the preservation of Indian arts and crafts. This process was facilitated by the Punjab Exhibition's (of 1864) amassing of the collective craft and artistic wealth of the province, the establishment of the Mayo School of Art along with the Punjab province's decentralized administrative setup (Dutta, 2007, p. 32). The future plans of both organizations were informed by Kipling's personal experiences in art education at the Bombay School of Art.

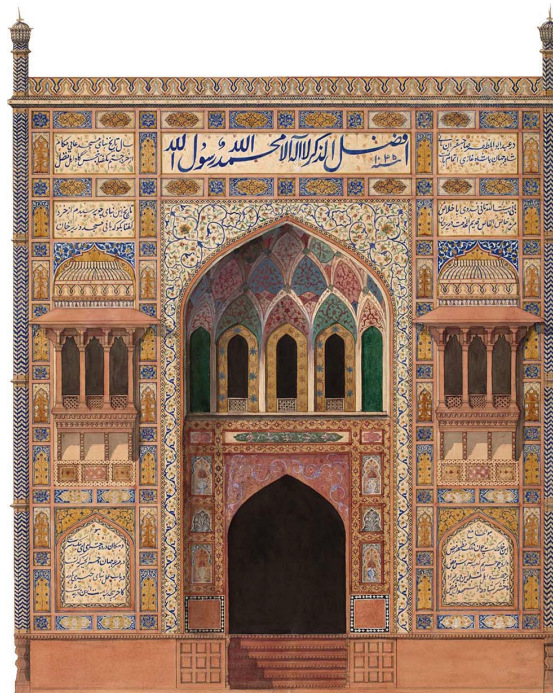


Figure 1.2: Principal Entrance to the Mosque of Wazir Khan at Lahore Built in 1634 A.D. (1880)  
Mogul enameled tile and tile-mosaic decoration (kashi-work)  
Drawn by Muhammad Din of the Lahore School of Art, about 1880.  
Source: Victoria and Albert Museum.

Kipling aspired for the building to emulate the finesse and quality of design of Wazir Khan's<sup>3</sup> Mosque (Figure 1.2), which he acknowledged could not be achieved though he hoped it would help in "resuscitating ... a dying craft" (Choonara & Tarrar, 2003, p. 162).

<sup>2</sup> John Lockwood Kipling was the first Principal of the Mayo School of Art, together with being the Director of the Lahore Museum.

<sup>3</sup> Real name '*Hakim* Shaikh Ilam-ud-din Ansari' was the court physician to the Mughal Emperor Shah Jahan at Lahore. He subsequently rose to become the Chief *Qazi* (Judge) and Governor of Lahore.



The construction and ornamentation of the Lahore Museum building was thus envisioned as a laboratory for providing hands-on training to the students of the school in the craft traditions of the Punjab and thereby ensuring their longevity (Figure 1.3).

The building is therefore a unique outcome of the British Indian government's interests in the preservation and continuity of local craft traditions through the formalized training of local artisans in the art schools of India and for the regulation and classification of pre-existing local crafts with an eye towards capitalization of the industrial production, global marketing and export of the resulting products. The museum differs from other buildings of the same period, in that it is the one to use the broadest variety of craft based ornamentation techniques in its design. The work of ornamenting the building which carried on over an extended period of time, was designed by and physically carried out by various individuals, the design of museum presents itself as a unified whole.



Figure 1.3: Central Gallery – Facing north (2009)  
Photo: Ali Raza.

At the time of its inauguration, the building had covered an area of 2587.34 sq. m (27,850 sq. feet), roughly a third larger than its previous premises. The rate at which

the collection of the museum was growing had not seem to have been anticipated by the authorities. As a result, within a few years, the building had started to be added on to one room at a time. The expansion of the first two additional galleries, whether anticipated or not, were simple modifications as they involved the addition of a wall each to close and cover courtyards left between existing galleries. Though the outer surfaces of these galleries are now completely obscured by additional rooms constructed behind them, they would have neatly fit into the architectural design scheme. Expansions that followed afterwards involved adding on single or multiple rooms / spaces at a time. The last of these major additions / modifications took place in 1968, 75 years after the building was initially completed (and inaugurated). This constant state of construction introduced to the building all manner of materials and structural systems.

The north façade, which faces the main road is almost exactly in its original state save the replacement of the mullions on the large windows and a few minor additions, mostly in keeping with the overall scheme. The rear of the building (facing south), is a hodgepodge of additions that all try to mimic the original design and ornamentation scheme yet, at closer inspection, all of them are identifiable as separate structures with distinct characteristics. The only unifying factor is their construction material; English brick, solid fired brick, of a medium red hue distinctive to the region of Lahore.

Various parts of the building are now showing signs of deterioration, which, if not investigated in a timely manner would result in permanent damage to the building. Rising damp can be seen clearly all around the building. This coupled with the repetitive introduction of salts carried by Portland cement, and probably ground water, are causing the damage to the exposed brickwork. This can be seen in various places where the disintegration of brick has dislodged the increasingly thicker and thicker layers of pointing, which is repeated to hide the damage. Various roof repairing operations have led to the formation of cracks and out-of-plane behavior in the load bearing walls. A crack is visible on the southern exterior of the main dome above the entrance vestibule that appeared after the Kashmir earthquake in 2005.

The museum building also suffers from functional problems. It has inefficient circulation, and a haphazard and fragmented distribution of spaces resulting from the

piecemeal construction and addition of spaces. To a large extent, the museum still largely retains its 19<sup>th</sup> century organizational scheme though there have been attempts at improving it, post-independence (after 1947), by thinning out the displays and moving excessive items into storage.

The museum also lags behind in modern museological practices. The Lahore Museum being the premier museum in Pakistan should be at the forefront of formulating a 21<sup>st</sup> century perspective towards museum sciences, conservation of artifacts, archiving and curation in the country.<sup>4</sup> A comprehensive conservation process for the Lahore Museum will have to start with its premises taking into account future plans for the organization of its collection, its presentation and the research opportunities it plans to offer vis-à-vis its holdings.

### **1.1. Aim and Scope of the Thesis**

This thesis aims to formulate a conservation process for the Lahore Museum building through the definition, analysis and evaluation of its values and problems. For the purposes of the thesis, this initial study of the premises has been kept at a minimum due to the excessively large area that the site covers (10101 sq. m).

This initial study includes a basic set of measured drawings (plans, sections and elevations) as well as sets of drawings with overlaid information regarding construction materials and deterioration etc. These drawings form the groundwork which provide an understanding of the building, its history, construction systems, spatial, functional and administrative aspects, security provisions and its architectural and design scheme, for the purposes of proposing further studies which in summation will form a cohesive and coherent process for its conservation.

A building survey was carried out using a laser scanner which has provided extensive data that has been processed for the production of drawings of which only a basic set

---

<sup>4</sup> The museum building itself offers an opportunity to display the application of indigenous crafts to architecture, inspiration for some of which came from craft works acquired by the museum from the Punjab Exhibition of 1864, also displayed at the museum.

has been prepared for the purposes of this thesis. The analysis of these drawings will determine the number and types of additional drawings required for further researches for informing and formulating the conservation processes.

The thesis also investigates the historic background of the museum, its place in history and its importance in regards to the industrial production of art in the British Indian Empire as well as the architectural form given to the building. These aspects have been discussed in a moderate amount of detail in Chapter 2. The larger history of British Colonialism in South Asia is not a prime focus of this study but it has been discussed in as concise a manner as possible for illustrating the political, economic and bureaucratic backdrop to the foundation of the Lahore Museum. The history of the museum has also been discussed in relation to its previous premises and the focus and incremental growth of its collection.

## **1.2. Methodology**

### *1.2.1. Thesis Framework*

The body of thesis is divided into five chapters, of which the first chapter is the *Introduction*.

The second chapter is titled *Historical Background*. This chapter contains five sections. The aim of the first two sections is to situate, in brief, the context for the Lahore museum building in a setting of British colonialism situated in the province of Punjab and city of Lahore. It accompanies the description of the evolution of the urban layout of the city under the colonial administration, leading up to the history of the foundation of the Lahore Museum. In the following two sections the museum is understood as an institution within the larger network of museums established under the British in the region. This is in tandem with an investigation and a commentary on the museum building's spatial formal language and its evolution by timeline. The last section primarily focuses on the museum and buildings' legal standing.

The third chapter is titled *Understanding the Lahore Museum*. It contains four sections. The broader aim of the chapter is to describe the state of the Lahore Museum as it exists today. It sequentially starts off in the first section by a short note on location and immediate setting of the museum. The next section provides a general description of the building and leads on to its structural and material characteristic account, ending in the fourth section with a description of spaces. The system of coding for which is discussed in detail in Section 1.2.3 of the thesis. This is followed by observations regarding the usage of the building.

The fourth chapter is titled *Articulation and Assessment of the Lahore Museum* and is divided into six sections. It attempts to place alongside and compare the findings and observations from the previous chapters. This attempt to better understand the museum building and its problems is carried out in the first and second section. The third section highlights in this light the values and significance of the building. The fourth and fifth section follow by assessing the problems being faced by the museum building regarding its architecture and usage, as well as, structural and material. The last and concluding section provides recommendations regarding the museum building based on the value assessments and problem identification.

In the fifth and last chapter all the findings of the thesis are laid out as a flow chart with a moderately confirmative timeline. This is the proposal for a conservation process specific to the Lahore Museum building. This is an attempt to chart-out all tasks necessary for the complete process for the conservation of the museum. Tasks completed within the scope of the thesis and tasks to be completed as an outcome of the thesis are described in full. The process is two tiered with the primary groupings of conservation tasks and stages being in conformity with the Burra Charter Process. The conservation management plan is beyond the scope of this thesis, and has been described as a task to be carried out at a later date.

#### 1.2.2. *Documentation Works*

There were two modes of indirect measurement used for documenting the museum building; laser scanning and a photographic survey. The laser scanning was carried out between the 8<sup>th</sup> of September and the 5<sup>th</sup> of October 2015 taking a total of eleven



working days. While preparing drawings, photographs were used for cross-referencing construction details that may have been unclear in the laser scans.

### *Laser Scanning*

A Leica ScanStation P20 laser scanner was used at medium resolution of 2 mm, with high redundancy to generate point-clouds, meaning that the laser scanner marks a point at an average interval of 2 mm. Multiple laser scans were carried out for most of the spaces in the museum to reduce shadows and cover the largest amount of surface area, unless the space was too small or congested and did not allow for more than one scan. A total of 262 scans were carried out, covering both the interior and exterior of the building. The overlaps (redundancies) were then used to overlay and combine multiple scans.

The Leica ScanStation P20 offered a monochrome texturing option. This device function, colors the laser scans in greyscale using the luminance values picked up by the laser, from the surface being scanned, creating a texture map providing the largest possible amount of detail without being affected by lighting conditions (Figure 1.4).

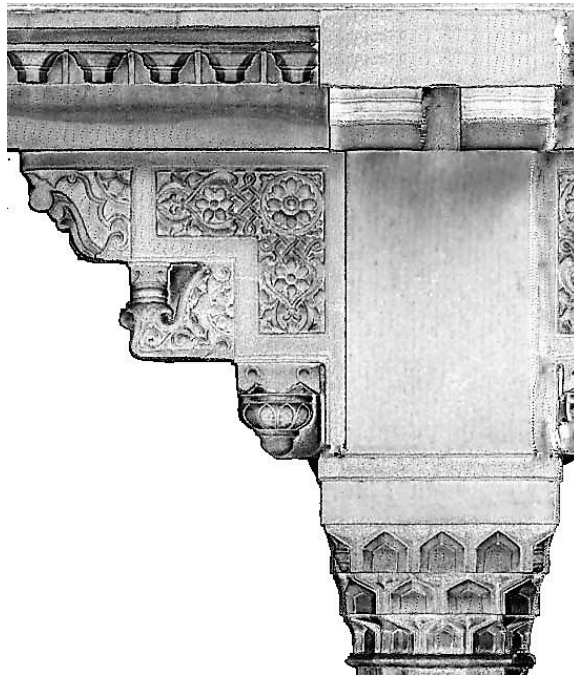


Figure 1.4: Marble bracket on column capital – Entrance Portico – Laser scan (2015)  
Textured in monochrome using luminance values picked up by the laser.

The laser scanner was also fitted with an external DSLR camera for higher resolution photo-texturing than what its internal camera provides (Figure 1.5). This color data was not processed due to the large amount of time required to carry out the calibration. Every laser scan had a set of five corresponding photographs, each one of which had to be manually aligned to the scan by selecting at least three but preferably more than five corresponding points between the scan and photograph. This process would be required for the production of a walkthrough animation and not for the production of drawings. The color photo-texturing of the scans has been left to be carried out at a later period.



Figure 1.5: Lahore Museum Exterior – Photo-textured laser scan (2015)

The laser scans were processed using two point-cloud processing softwares. As the Leica ScanStation P20 uses a propriety format for saving the laser scans, they were first loaded in Leica Cyclone 9. The coloring of the scans with their coupled photos was bypassed as mentioned previously. These scans were then aligned one by one using the software's Point-Cloud-to-Cloud Registration function. This requires Visual Alignment of two scans at a time (Figure 1.6). The scans are placed in rough proximity of each other by manually by the user. The software then processes and refines the placement overlapping duplicate point clusters within the two scans.

Once this processing of the point-clouds had been completed on Leica Cyclone 9, the model which included all 262 scans was exported from the software using the **.e57** non-propriety file format.<sup>5</sup>

The laser scans were then loaded into software Faro Scene 5.5<sup>6</sup>. Faro Scene offers better rendering and output from point-cloud data, which is much smoother and sharper. The software also provides an orthographic-photo scaling function, whereby the rendered output from the software can be scaled to a specific resolution. The scaling system outputs a required number of pixels per meter.

This processing and extracting of orthographic photos and section slices from the laser scans took a period of ten months.

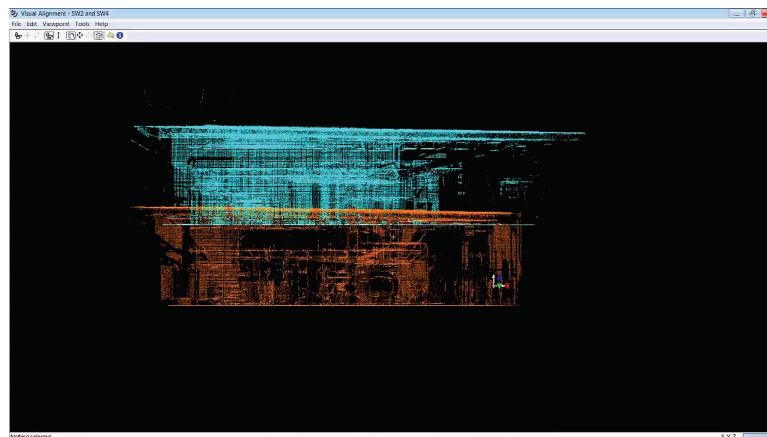


Figure 1.6: Visual Alignment of Laser Scans – Leica Cyclone 9 (2015)

This is an example of two scans being aligned. The blue scan would be moved down and aligned with the orange one visually after which the software optimizes the alignment.

### *Digital Photogrammetry*

Some areas of the museum were measured using orthographic photographs generated by processing photographs through a digital photogrammetry software. The photographs required for this process were taken during the same time period as the

---

<sup>5</sup> **.e57** is a vendor-neutral file format for saving point-clouds. It is not owned by any one company, and thus is compatible with almost all laser scan processing softwares. This makes it an ideal format for moving point-clouds between softwares.

<sup>6</sup> Faro Scene accepts most raw laser scan data, though not the output from Leica laser scanners. Therefore the scans had to be moved between softwares.

laser scanning survey. Multiple high-resolution photographs were used to generate dense surface models (DSM) for limited parts of the museum's northern and western elevations (Figure 1.7). It was not possible for these areas to be surveyed with a laser scanner. DSMs are point-clouds generated by processing the differences in parallax between multiple photographs. The accuracy of DSM point-clouds is marginally lesser than those of laser scan point-clouds, but for the purposes of preparing small sections of the northern and eastern elevations, the error margin was negligible. The DSMs for this thesis were processed<sup>7</sup> through Agisoft PhotoScan due to its user friendly interface and workflow. The DSM point-clouds were also exported through the .e57 file format to Faro Scene, from where scaled ortho-photos were exported.

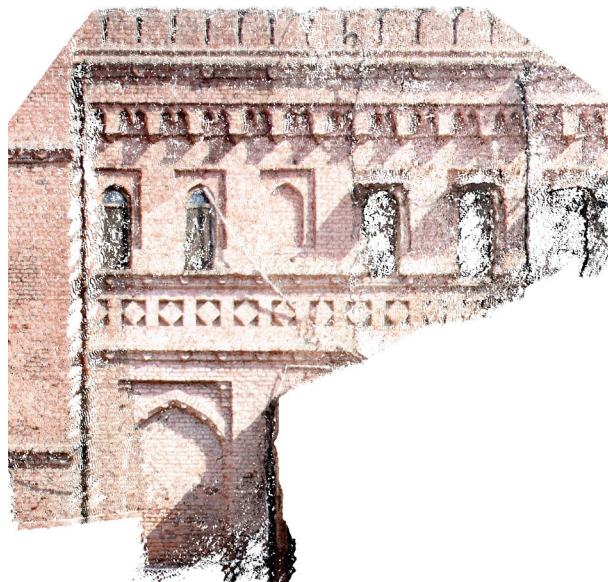


Figure 1.7: West wall of the Auditorium / Library Wing [exterior] (2016)  
Orthographic photo generated from DSM obtained by processing photographic data.

### *Production of Drawings from Laser Scans and Photogrammetric Data*

All orthographic photos of elevations, sectional elevations, and section slices of plans and sections of laser scans, were exported from Faro Scene at 400 pixels per meter,

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<sup>7</sup> There are various professional and consumer digital photogrammetry softwares available on the market. Initial tests for processing photographs for generating ortho-photos were carried out on PhotoModeler Scanner 2013 from Eos Systems Inc. and later on Photoscan Professional Version 1.2.5 by Agisoft.

meaning every pixel covers 2.5 mm, or every 4 pixels are equal 1 cm, thus the resulting drawing has an error margin of 2.5 mm.

The point-clouds were rendered twice for every section drawing to be produced and once for every plan. The sectional lines for the plans and sections were produced using section slices, which were kept at a thickness of a few millimeters, each of which resulted in a line drawing of all surfaces that were intersected laterally by the section plane (Figure 1.8, up). These lines were traced as accurately as possible as a section line on a CAD drawing.

For each section, an ortho-photo was generated from the same section plane, which was extended to include the parts of the point-cloud visible behind the section plane (Figure 1.8, down). The objects and surfaces, visible behind the section plane were drawn in the elevational layers (with reduced line thickness) to represent objects in the background (Figure 1.9).

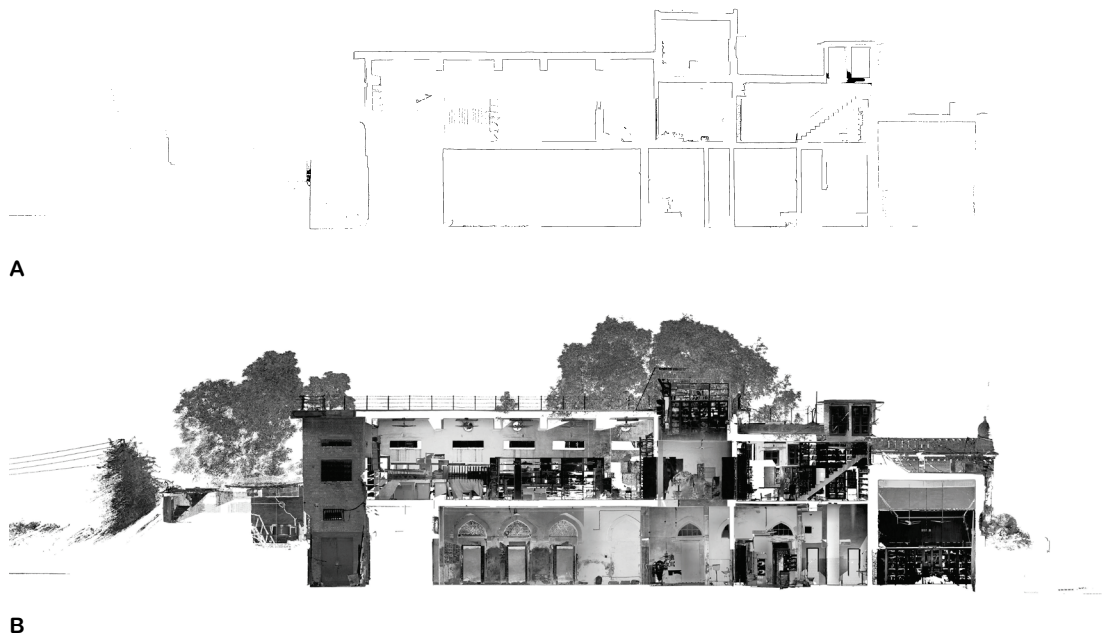


Figure 1.8: Scaled orthographic photo output from Faro Scene (2016)

A: Section Slice, B: Section Background

The image on top is a Section Slice showing the lines from which the section plane has sliced the model / point-cloud. The lower image shows the elements visible in elevation behind the section plane. Both outputs are generated from the same section plane in the laser scan model. Tracings from both images are combined while preparing the measured drawing.



Drawings prepared using this process are abstractions, as are any other architectural drawings, therefore the selection of surfaces and objects drawn in the measured drawings were those that provided the most relevant information for those particular drawings. Laser scans are embedded with excessive data which is impossible to be encapsulated in a single drawing, therefore the measured drawings of sections and elevations are accompanied with translucent overlays of the laser scans used for the preparation of the drawings. These scans add extra depth to the information carried by the measured drawings.



Figure 1.9: Sample drawing prepared from laser scan – ortho-photo (2016)  
Background Image from Laser scan (left), Sectional Drawing, with internal architectural details (right)

The resulting measured drawings have been drawn at 1:50 scale, except for the north elevation which has been drawn at 1:100. These drawings are printed at a much reduced scale of 1:500 to conform to the METU thesis formatting standards, and thus do not include dimensions, which were not readable on this scale.

An example of a System Section drawn at 1:20 has been included in this thesis to illustrate the detail of information required in drawings at the conservation design stage (Figure 3.177). This section has been printed at 1:100.

Various overlays of information on top of the measured drawings (also included in the list below) are provided as separate sets of drawings. The drawing sets included in the thesis are;

- a. Measured Drawing
- b. Satellite Image
- c. Laser Scan
- d. Building Parts
- e. Building Functions & Circulation
- f. Structural & Roofing Systems
- g. Building Materials
- h. Building Phases
- i. Structural & Material Problems
- j. Construction Stages

A digital copy of the drawings have been attached to the thesis on a CD (APPENDIX D).

### 1.2.3. *Drawing and Space Coding Systems*

A unified system of coding has been used throughout the following chapters. Due to uneven heights of roofs and inter-floors in different parts of the structure, the building plans are produced by slicing the building horizontally at four levels. The plans are cut through horizontal section planes at 2.5 m, 6.45 m, 8.9 m and 13.45 m above plinth level (floor level of the entrance portico). These are labeled Ground Floor (GF), Basement, (BA), 1<sup>st</sup> Floor (1F), 2<sup>nd</sup> Floor (2F) and 3<sup>rd</sup> (3F) Floor respectively. Additionally, the Roof Plan has been labeled RF (Table 1). The application of this coding system is illustrated in Table 1 and Figure 1.10. The drawing sets completed for this thesis are tabulated in Table 2.

Codes in the numbering of drawings intentionally use different codes to define the floors etc., for differentiating between the drawing codes and room labels. Where the drawing label carries **GF** for *Ground Floor*, the space codes carry **Gnd**.

The system for the coding of spaces can be used to define any space, bounding surface (walls etc.) or architectural elements (doors, windows and ventilators etc.). This system is illustrated in Table 3. Spaces can be coded by substituting values from Table 3 into each corresponding box in Figure 1.11

**Table 1: Drawing Coding Chart**

Category	Item	Code
Drawing Set	Measured Drawing	MD
	Satellite Image	SI
	Laser Scan	LS
	Building Parts	BP
	Building Functions & Circulation	BF
	Structural & Roofing Systems	SS
	Building Materials	MT
	Building Phases	PH
	Structural & Material Problems	CN
	Construction Stages	CS
Drawing Group	Plans	PL
	Section	SE
	Elevation	EL
Drawing Type	Location Plan	LP
	Ground Floor	GF
	Basement	BA
	First Floor	1F
	Second Floor	2F
	Third Floor	3F
	Roof	RF
Orientation	North	N
	East	E
	South	S

**Figure 1.10: Drawing Coding System**

Right from the start, the building has been broadly divided in two sections. The museum (roughly more than two thirds of the building on its eastern side), and the Lecture Hall (now Auditorium and Library) on its western end. This larger division still remains till date and is evident in the present sequencing of spaces. Most of the exhibition spaces are double or triple heighted and most of the floor separations also occur in the western and the northern parts (in the Entrance Vestibule under the dome). There are double storied galleries towards the south of Block D in the eastern part of the museum.



**Table 2: Drawings produced for this thesis**

			Drawing Group										
			PL							EL	SE		
			Plans							Elevations	Sections		
			Location Plan	Ground Floor	Basement	First Floor	Second Floor	Third Floor	Roof Plan				
Drawing Type			LP	GF	BA	1F	2F	3F	RF	N E S	1 2 3	4	5 6 7
Drawing Information Set	Measured Drawing	MD	71	73	73	75	77	79	83	87	91	283	95
	Satellite Image	SI	69										
	Laser Scan	LS							81	85	89	281	93
	Building Parts	BP		97									
	Building Functions & Circulation	BF		285	285								
	Structural & Roofing Systems	SS		267	267	269	271	273					
	Building Materials	MT								275	277		279
	Building Phases	PH		299/301									
	Structural & Material Problems	CN		321	321	323	325	327		329	331		333
	Construction Stages	CS		303	303	305	307	309					

Note: Numbers show numbers of pages where the drawings are located. The empty spaces are not indicative of drawings that have yet to be produced. Most of these spaces indicate drawings that would be redundant. Production of additional drawings will depend upon the requirements of the conservation architect and the nature of the architectural conservation project.

### *Coding of Building Volumes and Building Parts*

The Lahore Museum building faces north and is almost symmetrical. It is a large, singular volume and has thus been split into smaller parts for referencing. Each volume is called a **Block**. Groups of multiple blocks are reefered to as **Parts** of the building. Each **Block** has been labeled with an alphabet (from A – H, left to right) on the northern (main) façade. Blocks towards the south of these have then been assigned other unique labels.

Some Blocks contain more than one space thus groupings of Blocks have been made into the *Northern, Eastern, Southern, Western* and *Central* parts of the building. These groupings have been made based on a planimetric logic. Each part is composed of spaces that are either accessed through each other and are linked on the basis of circulation, or their circulation / access has been intentionally separated from the rest.

### *Space Coding System*

The numbering of spaces, with reference to Figure 2.17 and Figure 2.23, in *Early History of the Museum Building* (Section 2.4), are referred to with the original labels on the period drawings, but not all the spaces shown in these drawings have corresponding labels. For the purposes of cross-referencing, the original drawing labels are supplemented with the space coding system prepared for this thesis.

**Table 3:** *Space Coding Chart*

Category	Item	Code
Floors	Ground Floor	Gnd
	Basement	Bas
	First Floor	Fst
	Second Floor	Snd
	Third Floor	Thd
Part	North	N
	East	E
	South	S
	West	W
	Central	C
	Auxiliary	A
	Servant Quarters / Mosque	S
Bounding Surface	Floor	F
	Ceiling	C
	Wall	W
Wall Orientation	North	N
	East	E
	South	S
	West	W
Architectural Elements	Door	D
	Window	W
	Ventilator	V

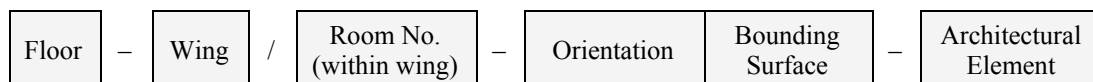


Figure 1.11: Space coding system

This space coding system works with most spaces without the need for any additional information, as they are rectangular and their walls face north, east, south and west. The Coding of the few Non-Rectangular Spaces in the museum, all of which are in the Northern Section, requires further explanation. The steps that have been taken to make these handful of rooms consistent with the standard coding system, have been explained below using examples.

The south eastern corner of the room (Gnd-N/04) on the eastern side of the northern part of the museum, is chamfered at a 45° angle. In this specific case, the coding is extended to include a direction after the wall direction to divide the eastern wall into two sections, the north (Gnd-N/04-EW/N) and south (Gnd-N/04-EW/S), and the two are treated as a single wall running in the north-south direction and bending towards the west and running in the north-east south-west direction.

The room (Gnd-N/06) is an irregularly shaped room towards the western side of the northern part of the museum. To describe it, the room has been divided into two parts, eastern and western. The eastern part of the room is similar to the room (Gnd-N/04) which has a chamfered corner while the western part is a rectangular space. There is no wall between the two. The same logic as before has been used to code the walls with them being split into parts for their descriptions.

For the circular space inside the dome, the circular wall is dealt with as a single surface. The windows and door are coded according to N/E/S/W system to keep consistent with the rest of the coding system.

#### 1.2.4. *Description of the Building*

The Lahore Museum is a large and complex massing of interconnected volumes, thus the building has first been divided into **Blocks** based on the building volumes, and then groups of these Blocks have been consolidated into **Parts** of the building (Figure 3.19).

#### *Descriptions of Regular Spaces*

The internal circulation of the museum manifests itself as linear segments. The spaces are thus organized in three tiers, and listed and described in sequences of rooms.

The descriptions start with the *Ground Floor*. Which is subdivided into the *Northern and Central, Eastern, Southern and Western Parts*. Each sub section of the chapter then lists the rooms in that part of the floor according to their access / circulation, and then by serial number.

After the spaces in the *Ground Floor*, the spaces in the *Basement, First Floor, Second Floor and Third Floors* are also listed by building Part, one after another.

The details of each space are then described as follows;

#### *Space Identification – Function / Use & Date of Construction*

After the Space Code (title), the description starts with the name and current use of the space / room. This is followed by the identification of a previous use that the room might have had and the year the space / room was constructed, e.g.

##### ***Gnd-S/10***

*This space currently functions as an Office. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965.*

#### *General Description*

After this, general dimensions of the room are provided as its width and depth, the width being the east-west dimension and the depth being the north-south. This followed by the height of the floor above or below the plinth level (bench mark), which is provided along with the height of the soffit of the ceiling (or the highest point of the intrados of a dome). Almost all, save a few rooms on the ground floor, have their floors at plinth level, therefore, the floor level is not mentioned for the ground floor spaces unless it differs from (is above or below) the plinth, e.g.

*The room is 6.56 m wide by 3.04 m deep and the soffit of the ceiling is at a height of +4.7 m, above the plinth. All walls and are plastered and painted white except the western wall (Gnd-S/10-WW) which is painted in a muted brown. The ceiling has been painted a chocolate brown.*

### *Wall by Wall Description*

After the dimensions of the room have been defined, a description of the architectural features of each wall are provided. These are always provided in a clockwise order, starting with *North*, then *East*, then *South*, and at the end *West*. Architectural elements such as doors, windows, moldings, cornices and / or any other ornamentation features of interest, are listed. The *Doors*, *Windows* and *Ventilators* are given numbers according to the *Space Coding System* (Figure 1.11) described earlier. These elements are always assigned numbers from left to right, e.g.

*There are no architectural features of import on the northern wall (Gnd-S/10-NW). This space is entered through the door (Gnd-S/09-EW-D1) on the eastern wall (Gnd-S/10-EW). On the eastern side of the southern wall (Gnd-S/10-SW) is the window (Gnd-S/10-SW-W1). On the western side of the wall there is an opening, connecting this space with a sub-office (Gnd-S/11). On the western wall (Gnd-S/10-WW) there is a door (Gnd-S/10-WW-D1) leading to a toilet.*

### *Description of the Ceiling / Soffit & Floor*

The last part of the space description is the description of the roof / ceiling soffit (visible from the underside). The dimensions and locations of concrete beams suspended from the concrete-slab roofs are provided here if applicable. The profiles of the intrados of the domes are described here. The domed roofs do not have any spaces above them, thus, the details of the profiles of the domes' exteriors are also provided here. Detailed descriptions of the finishes used in the space along with information about the finishing materials of the floor are also provided, e.g.

*The roofing of the room is supported on I-section beams running in the north-south direction. On top of these beams run wooden battens in an east-west direction which are topped with wooden boarding. The space has an off-white porcelain tile floor.*

### *Condition*

The space description is concluded with a description of any type of surface degradation and / or structural deterioration problems, is provided.

*There is discoloration and flaking of the paint due to dampness on the western wall (Gnd-S/10-WW) above the door (Figure 3.98), (29-D1 –Figure 4.12).*

The description of each space is accompanied by one or more photographs for illustrating its spatial quality, as well as any visible material or structural problems. In most cases, not more than one photograph accompanies the text due to the large amount of paper space required. A sequenced and coded image library, which also includes additional photographs for each space, has been attached with this thesis on CD (APPENDIX D).

#### 1.2.5. *Historical Research on the Museum Building*

The history of the Lahore Museum building has been reconstructed from a variety of sources, all of which provide piecemeal information. Various accounts of the Lahore Museum exist in general description of the city written during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Updated official governmental accounts were published in the *Imperial Gazetteers of India* and in the periodically updated *Gazetteers of the Lahore District*. The Gazetteers were published by the government of India, provided summaries of information on places along with general statistics and maps. These accounts provide basic and generalized information, which in the particular case of the descriptions of the Lahore Museum is riddled with inaccuracies in the reporting of the dimensions of spaces, as they have been rounded off. These have been reproduced (without modification) as they were published in the various accounts, in Table 6.

The artistic and scientific pedagogical concerns of John Lockwood Kipling, and their place in the larger British Empire have been understood using primary documents published by the NCA in *Official Chronicle of Mayo School of Art: Formative Years Under J. L. Kipling, 1874-94* (2003). This has been supplemented by secondary sources such as the works of *Mahrugh Tarapor* (1980), *Nadeem Omar Tarrar* (2011) and the recently published book *John Lockwood Kipling: Arts and Crafts in the Punjab and London* (2017).

The detailed history of the modifications made to the building was reconstructed using the museum's Annual Reports and archival documents. The Annual reports were published, first by the *Revenue and Agriculture Department*, the museum's parent authority from 1889 to 1907 and then later by the *Lahore Museum* itself from 1908 to 1913. This nomenclature was changed to the *Central Museum, Lahore* between 1914 and 1944. The Annual Reports were published and circulated internally after a long hiatus, between 1968 till 1972, again under the authority of the *Lahore Museum*.

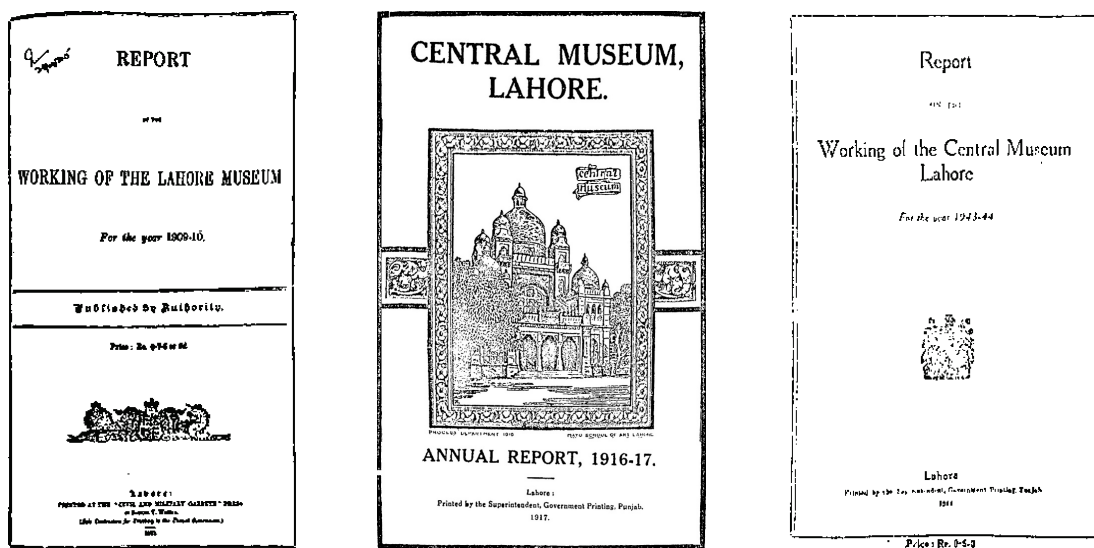


Figure 1.12: Annual Reports of the Lahore Museum (1910 ; 1917 ; 1944)  
Source: Lahore Museum Library.

Additionally, virgin archival documents from the museum's Official Records have been used to piece together the history of building interventions taking place after the 1967 remodeling of the Museum. These documents primarily consist of extremely detailed cost estimates presented to the Director of the Lahore Museum by the Public Works Department. Most of these cost estimates are accompanied by partial sketch plans, of the existing site and/or for the work to be carried out (Figure 4.20).

The annual reports published under the British authorities between 1889 and 1944, were found in the museum archives and library collection, and will also most likely





Charter (2013), though in places the two are compared in part. The two are almost identical in their primary texts, but the *Guidelines to the Burra Charter: Cultural Significance & Conservation Policy* etc., which accompany the Burra Charter (1999) differ greatly from the *Practice Notes* that accompany the Burra Charter (2013). The 2009 version of the Burra Charter Process (2009) and its accompanying notes elaborate upon conservation processes in a much more task based manner, as opposed to the 2013 version of the process, which is framed in a much more theoretical manner. The task based approach is much more conducive to producing a process chart. Stages of the conservation process from both charters have been included in the conservation process flow chart (Figure 1.14 & Figure 5.1).

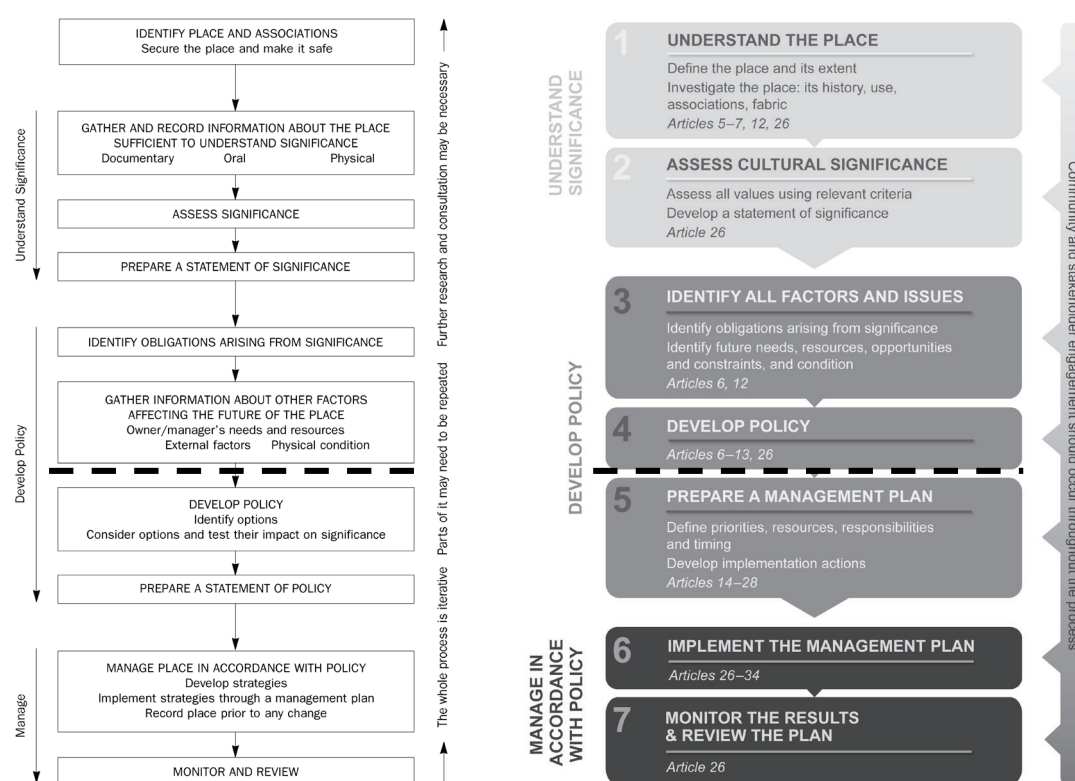


Figure 1.14: The Burra Charter Process (2009 ; 2013)

The Burra Charter Process Flow Chart from 2009 (left), and from 2013 (right)

Source: Australia ICOMOS. (2009 ; 2013). The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance. Burwood: Australia ICOMOS Incorporated. p. 10.

The Burra Charter Process is illustrated in both versions as a cyclical flowchart that follows through *Understanding the Significance* of a place, *Development of Policy* for

it and its *Management*, which is then periodically reviewed and revised. This thesis follows through and elaborates the conservation process for the Lahore Museum up till the development of policy, stopping short of producing a Conservation Management Plan. Steps below the dashed lines in Figure 1.14 are mentioned but not explicitly dealt with in this thesis. This has not been carried out due access to the stakeholders in the project, without whose input, this task cannot be completed.

The tasks to be carried out as part of the Conservation Process have been grouped and sub-grouped in accordance with the groups of experts who will be responsible for carrying out sequences of specialized studies / works. The distribution and labeling of these task groups have been elaborated in **Table 4**.

**Table 4:** *Conservation Process Coding Chart*

<b>Task Group</b>	<b>Sub Group</b>	<b>Code</b>
Architectural Conservation Works	Architecture	<b>CSA</b>
	Historical	<b>CSH</b>
	Material Analysis	<b>CSM</b>
	Structural Analysis	<b>CSS</b>
	Mechanical Systems	
	Water / Sewage	<b>CSW</b>
	Climactic Control	<b>CSC</b>
	Lighting	<b>CSL</b>
	Security Systems	<b>CST</b>
Legal, Administrative and Managerial Works	Government	<b>LAMG</b>
	Administration	<b>LAMA</b>
	Users	<b>LAMU</b>
Improvement of Building Function & Museology	Museum Collection (Objects)	<b>MBFC</b>
	Museology & Functional Aspects	<b>MBFM</b>
Preparation of Action Plan		<b>AP</b>
Preparation of Management Plan		<b>MP</b>

## **CHAPTER 2**

### **HISTORICAL BACKGROUND**

This chapter will discuss a short history of British Colonialism in India, the history of the province of Punjab and the city of Lahore. This will be followed by a description of the evolution of the urban layout of the city under the colonial administration, leading up to the history of the foundation of the Lahore Museum, the various premises it occupied over its early years and the various stages and nature of its collections along its relationship with the larger network of Museums in India and its relationship with the Department of Science and Art (DSA) in Britain.

This discussion will provide a background to, by the time the museum was built, the official architectural style adopted by the British Empire in India – Indo-Saracenic. In this particular case, the variation of this style of architecture was distinctively Lahori, influenced heavily by the Museum's collection of Punjabi Industrial Art objects as well as the Arts and Crafts focus of the Mayo School of Art<sup>8</sup>. Though colonial buildings, in Lahore and the Punjab, were built in various styles of architecture prior to the construction of the Lahore Museum, the museum had great influence on public buildings constructed after it. The designer, John Lockwood Kipling, the architect Bhai Ram Singh and the Executive Engineer of the Punjab Sir Ganga Ram, all contributed to the building in part resulting in a rich tapestry of hybrid construction techniques and amalgamated forms borrowed from both European and Indian architectures.

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<sup>8</sup> The Mayo School of Art, now known as the National College of Arts, was also referred to in its early days as the Lahore School of Art.

## 2.1. British Rule in India and the Annexation of the Punjab

The British East India Company established a trading colony in India in the seventeenth century. They “obtained permission to trade in India from [the Mughal Emperor] Jahangir in 1619” (Bose & Jalal, 2004, p. 34). Up till the mid-19<sup>th</sup> century, the British presence in India was under the control of the Company which had begun “its career with a charter to trade in Asia”<sup>9</sup> (Bose & Jalal, 2004, p. 53). Soon after, the Company was involved in military conflicts in India and elsewhere. Starting with the military victory at the Battle of Plassey in 1757 (Bose & Jalal, 2004, p. 41) the Company gained full control of Bengal. Over the following century, the British expanded into all parts of the Indian sub-continent, eventually establishing an “elaborate state apparatus” (Bose & Jalal, 2004, p. 53) with their capital at Calcutta in the year 1773 (Table 5). The company “originally created to accumulate profits from oceanic trade [had now started drawing] its basic sustenance from land revenues” (Bose & Jalal, 2004, p. 53).

**Table 5:** *The British in India 1612 – 1947*

Events	Years
East India Company started trading	1612–1757
Company rule in India	1757–1858
British Raj (Government under the British Crown)	1858–1947
Independence and partition of India	1947

### 2.1.1. *A Short History of Lahore*

The mythological beginnings of Lahore are attributed to the Hindu god Loh. During his travels “Al-Beruni [elaborating the name of the city] used the word Loh-awar, [meaning] the Fort of Loh” (Peck, 2015, pp. 2-3). In the archeological record

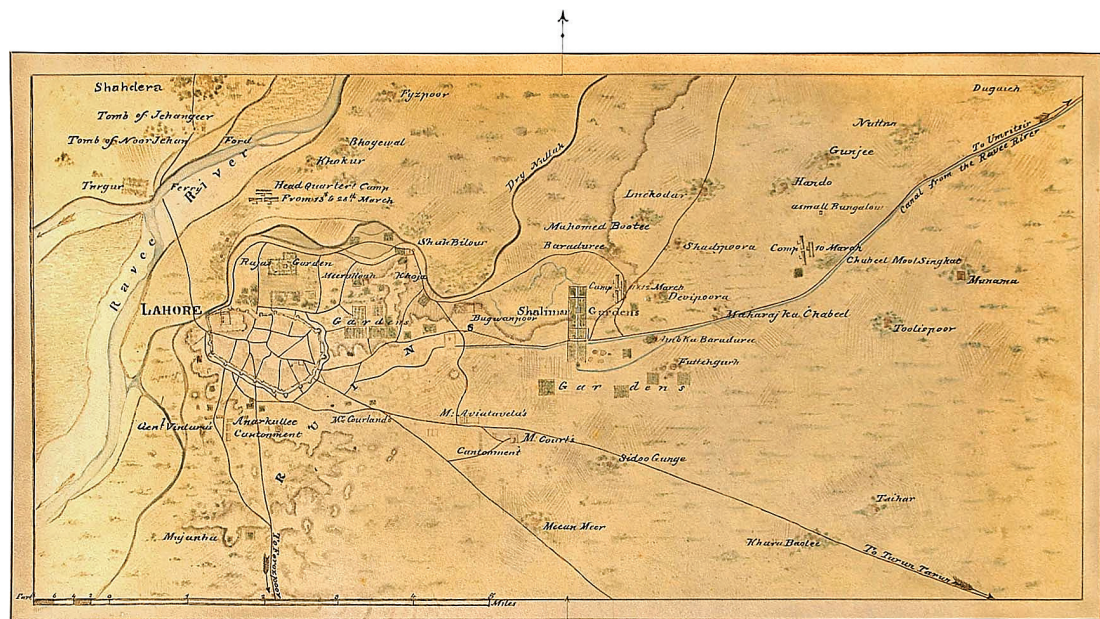
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<sup>9</sup> The British East India Company was a Joint Stock trading company founded in the year 1600 and given a charter to trade by Queen Elizabeth I. It was managed by a Board of Governors in London which was overseen by the British Parliament.

“Indo-Bactrian coins found in the Icchra area <sup>10</sup> [indicate settlements in the locality between] mid-300 BCE to the 2<sup>nd</sup> century CE” (Peck, 2015, p. 2)

In the 1015 CE, Lahore was taken by Mahmud of Ghazni, which in later years became,

“[the] capital of Ghaznavid, Ghorid and Sultinate Dynasties ... The Mughal emperors Babur ... and Humayun ... both used Lahore as a base for mounting military campaigns ... [T]he Mughal emperor Akbar ... shifted his court [to Lahore] from Fatehpur Sikri in 1584. ... Akbar built a new palace on the same spot, now called the Lahore Fort ... [and] rebuilt and fortified the city’s wall” (Glover, 2008, p. 6).



#### SKETCH of the Fortified CITY of LAHORE

and its Environs, shewing the positions of the Head Quarters' Camp during the visit of His Excellency General Sir Henry Fane G.C.B. Commander-in-Chief of all the Forces in India to His Highness the Maharaja Ranjeet Sing, Chief of the Seik Nation and Lord of Cashmeer, in March 1837—  
By Captain W. Garden Asst Quar[ter] M[as]t[er] Gen[era]l of the Army

Figure 2.1: Sketch of the Fortified City of Lahore (1837)

and its environs, showing the position of the Headquarters' Camp during the visit of His Excellency Sir Henry Fane G.C.B. Commander-in-Chief of all the forces in India to His Highness the Maharaja Ranjeet Sing, Chief of the Seik Nation and Lord of Cashmeer, in March 1837 –

By Captain W. Garden Asst Quar[ter] M[as]t[er] Gen[era]l of the Army  
Source: Punjab Archives.

<sup>10</sup> Icchra is one of many satellite villages / settlements in the Lahore area. “Three miles west of [the Walled City of] Lahore” (Latif, 1892, p. 111), it has now been completely enveloped by the urban fabric of modern Lahore. “According to tradition, the neighbourhood of Ichra [sic] was the site of old Lahore” (Latif, 1892, p. 112).

The Lahore Fort and the “Shalimar gardens [which lie] a few miles east of the city” (Glover, 2008, p. 8) were built by the Mughal Emperor Shah Jahan and are now listed as World Heritage Sites. Mughal power in the Punjab declined “during the seventeenth and eighteenth centuries” (Glover, 2008, p. 11). During this time Lahore was ruled by a string of “lesser Mughal governors” (Glover, 2008, p. 12) which were eventually overtaken by Sikh militias called *misls*. By “1780 Lahore was partitioned among three Sikh chiefs, Gujar Singh, Lahna Singh, and Sobha Singh” (Glover, 2008, p. 12). From 1799 till 1846, Lahore became the Capital of the Sikh Empire (Figure 2.1) under Ranjit Singh and his successors.

### 2.1.2. *The British in the Punjab*

Following the death of Maharaja Ranjit Singh, the British took advantage of the “splits in Punjabi society and polity” (Bose & Jalal, 2004, p. 51) taking over the remnants of the weakened Sikh Empire over a “protracted” (Glover, 2008, p. 18) period of two years. The outbreak of the second Anglo-Sikh war prompted the British to depose Maharaja Duleep Singh<sup>11</sup> and exile him to Britain. On the 29<sup>th</sup> of March 1849, Punjab was formally annexed (Peck, 2015, p. 27).

Following the takeover of Lahore, a new board of administration was set up under the brothers “Henry and John Lawrence and Charles Mansel (replaced by Robert Montgomery in 1851)” (Peck, 2015, p. 27). The British set about creating a new spatial order outside the old city walls. In its very early days, the British army was housed in the barracks built by Ranjit Singh near the tomb of Anarkali just south of Wazir Khan’s *baradari*<sup>12</sup> (Figure 2.2). The civil station was set up at the Tomb of Anarkali (Figure 2.3) which was “first used as offices and residences for the clerical staff” (Glover, 2008, p. 19) of the new board of administration and later in 1951 was converted into the Anglican Church which it remained till 1891. After

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<sup>11</sup> Maharaja Duleep Singh was Maharaja Ranjit Singh's youngest son and the last ruler of the Sikh Empire in the Punjab.

<sup>12</sup> A *baradari* is a building type found in the Indian subcontinent, usually a garden pavilion, with twelve doorways, three on each side.



the deconsecration of the church, the tomb was put to use as a “[d]ocument repository for the Civil Secretariat, a purpose it continues to serve today”<sup>13</sup> (Glover, 2008, p. 19).

The civil secretariat of the Punjab government occupies the same “eighteenth-century house near Anarkali’s tomb originally built by General Ventura, the French mercenary commander employed in Ranjit Singh’s army” (Glover, 2008, pp. 19-20) and other buildings constructed around the tomb. “Henry Lawrence, moved into the tomb of Muhammad Kasim Khan [a few miles east of the city, which] had been occupied earlier by an officer in Ranjit Singh’s court” (Glover, 2008, p. 20). This building soon came to be known as the Government House, residence of the Lieutenant Governors, and later the Governors of the Punjab, a function that it retains to date. The spatial order of the administrative setup of the city set up during this period continues to permeate the public life of the city.

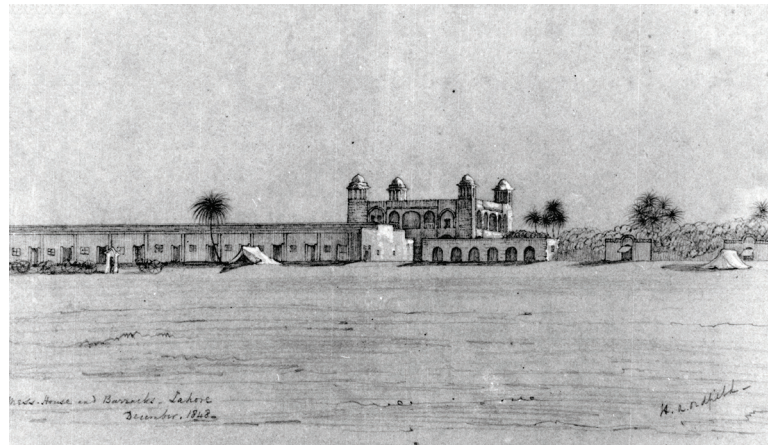


Figure 2.2: Mess House and Barracks at Anarkali Lahore (1848)  
Source: National College of Arts Archives.

During the first decade of British rule in the city, the new “cantonment was laid out at Mian Mir” (Peck, 2015, p. 27). The civil station remained at Anarkali. “[B]uildings from the Mughal and Sikh periods were drafted into use for colonial

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<sup>13</sup> The tomb of Anarkali is now better known as the Punjab Archives.

purposes, in a practice that brought British and Indian architectural conventions together” (Glover, 2008, p. 18).

In 1857, a large-scale revolt broke out against the British all over northern India. The revolt was brutally crushed. “The 1857 uprising was pre-empted in Lahore” (Peck, 2015, p. 27) and the troops were disarmed beforehand. Lahore steered clear of the destruction and bloodshed caused in the quelling of the revolt. Following the uprising, the British Crown “decided to put an end to the company’s ... mismanagement of Indian affairs” (Bose & Jalal, 2004, p. 78) and took direct control of the Company’s Indian territories. Queen “Victoria was proclaimed Empress of India at a glittering durbar in Delhi in 1877” (Bose & Jalal, 2004, p. 77). This period of 89 years, between 1858 and 1947, is known as The British Raj.

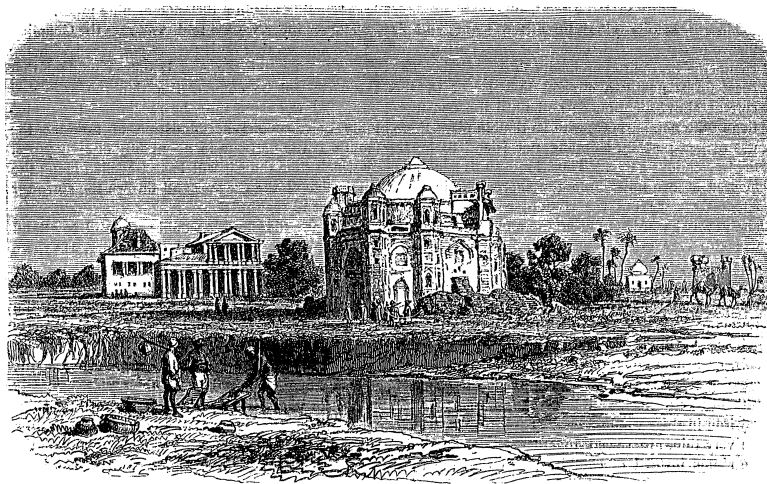


Figure 2.3: Tomb of Anarkali with General Ventura’s house in the background (1876)

Source: Grant, J. Cassell's Illustrated History of India: Vol. 2, 1876.

London, Paris & New York: Cassell. p. 534

### *Spatial Evolution of Lahore under British Rule*

The spatial organization of Modern Lahore was defined by the construction of The Mall, popularly known as Mall Road<sup>14</sup>, which was “aligned in 1851 by Lieut.-Colonel Napier,

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<sup>14</sup> After the independence of Pakistan, the Mall was officially renamed *Shahrah-e-Quaid-e-Azam*, meaning the boulevard of the great leader (the official title of the founder of Pakistan, Mohammad Ali Jinnah), though Mall Road still remains the colloquial.



the Civil Engineer who described it as a ‘direct road from Anarkali to Mian Mir’” (Goulding, 1924, p. 30) (Figure 2.4). The name of the road leading from the “Deputy Commissioner’s court to the Multan Road junction” (Goulding, 1924, p. 31) connecting the civil secretariat to the Walled City, known earlier as The Mall was changed to Lower Mall. The Mall branched off perpendicular to the Lower Mall and ran eastwards toward the new Cantonment in the vicinity of the tomb of Mian Mir, from which it took its name.

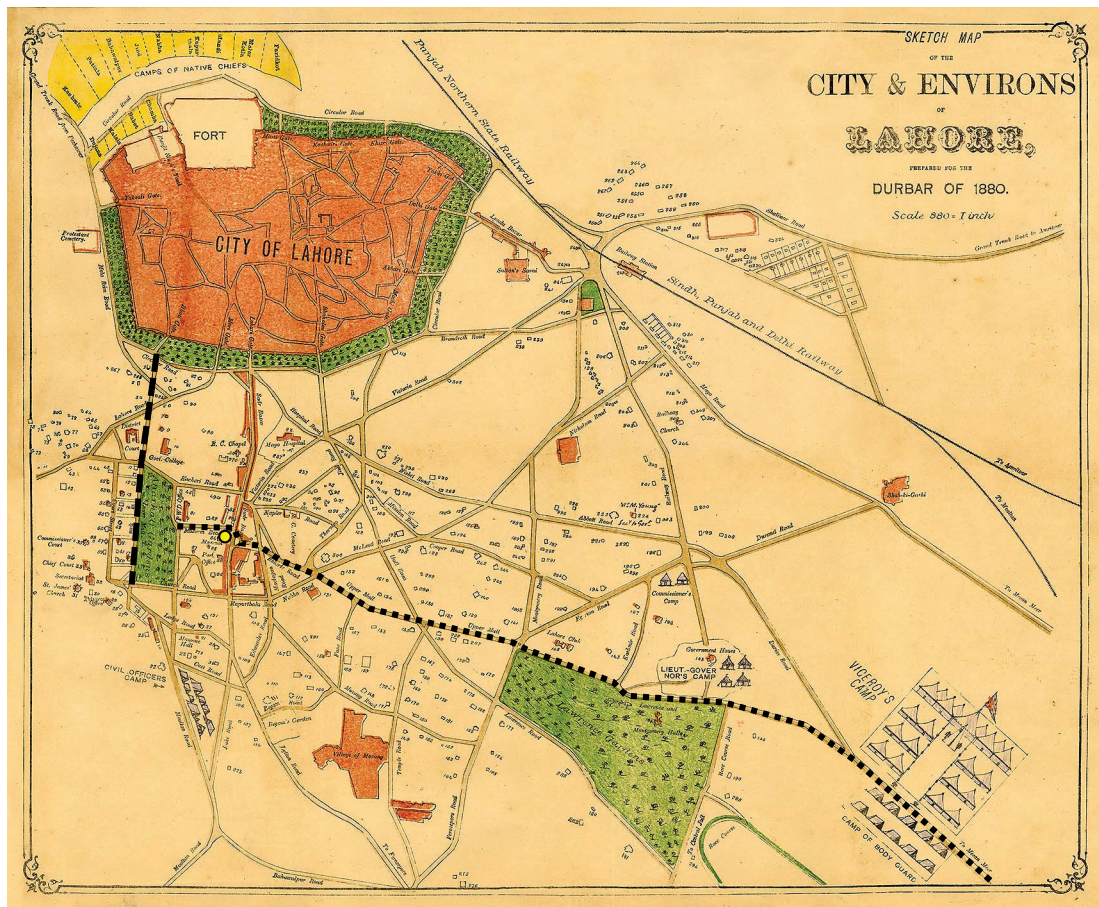


Figure 2.4: Sketch Map of the City & Environs of Lahore (1880)  
Prepared for the Durbar of 1880. (modified by author)  
Source: Punjab Archives, Lahore.

The Mall: ..... , Lower Mall: - - - - - , Exhibition Building: ●

Mall Road gained prominence as the main promenade of the city around the time the new “portion of the Civil Station between the Government House and Anarkali was

christened Donald Town in [honor] of Sir Donald McLeod”<sup>15</sup> (Goulding, 1924, p. 31) (Figure 2.5). All future public buildings and institutions, including the Provincial Assembly building, were built along this road. The British had already taken advantage of and “cost-effectively appropriated” (Glover, 2008, p. 19) buildings along this route for various purposes. These buildings, as a collective, conjure up the image of the city of Lahore and inadvertently are markers for the localities around them.

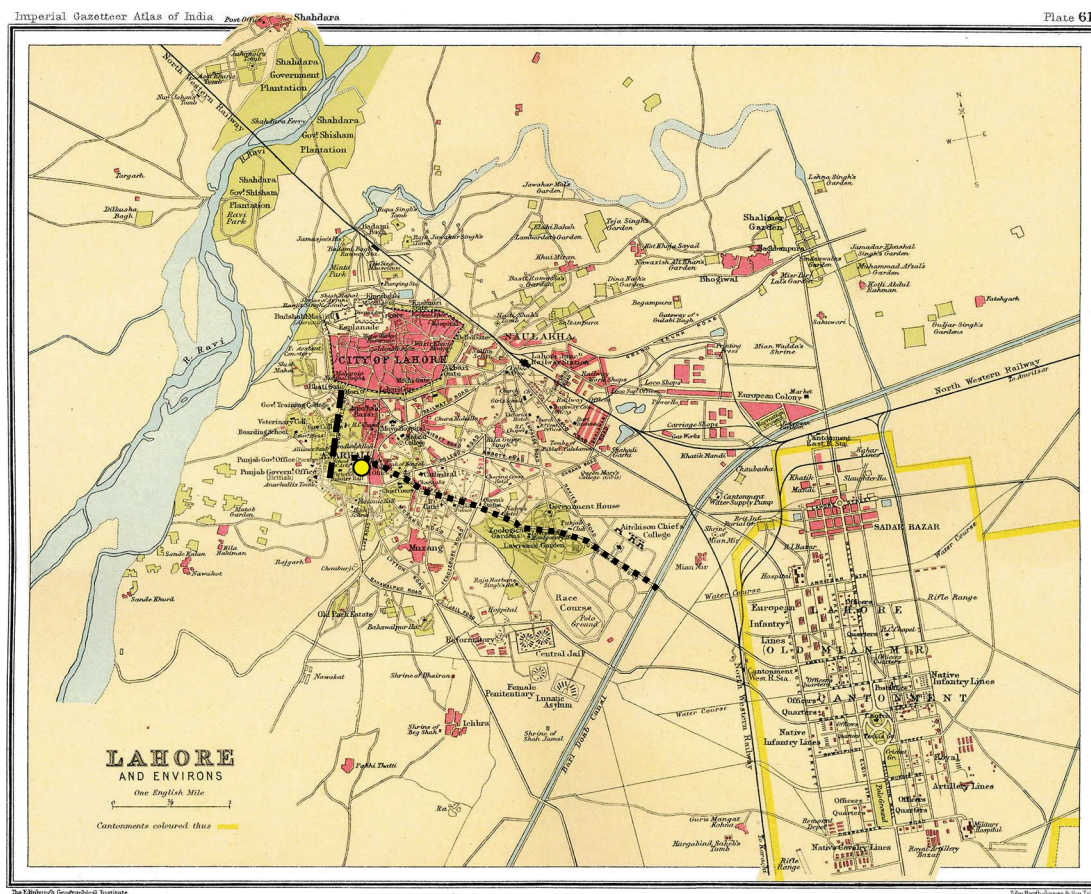


Figure 2.5: Lahore and Environs (1931)

Source: Imperial Gazetteer of India: Vol. 26 Atlas of India, 1931. Oxford: Clarendon Press. p. 61

The Mall: ..... , Lower Mall: - - - - , Museum Building: ●

<sup>15</sup> Sir Donald McLeod was the Lieutenant Governor of the Punjab from 1865 – 1870. His name was given to part of the civil station, though it did not catch on, and was out of circulation by the year 1924, when Goulding’s (1924) account of Lahore was published. Today, the name Donald Town is unheard of and has completely passed into obscurity.

In later years, the Government College (1872-7), Aitchison College (1886), the Cathedral Church (1887), the Lahore High Court (1889), the Forman Christian College (1889), the Victoria Jubilee Town Hall (1890), the General Post Office (1904), the Punjab University Senate Hall (1905), and the new Punjab Assembly Building (1938) would be built along the same road. On offshoot roads branching out of the Mall, were also located Mayo Hospital (1872), St. Anthony's Church (1899) and King Edward Medical College (1915).

In the years to follow, this area came to be the center of cultural activity in the city. It has retained its prominence as a cultural hub in the post-colonial nation-state of Pakistan. New cultural institutions such as the Lahore Arts Council have been built on the same stretch. The Lahore Museum was one of the first edifices to be built here, and still retains its importance as a major center for cultural activity in the city. These pioneering buildings and the ones that came after, in the following half a century, till the independence of Pakistan, define the architectural landscape of the city.

## **2.2. History of the Lahore Museum**

The Lahore Museum was “founded in 1855” (Rehmani, 1999, p. v) following the issuance of a circular in March of that year by “F. D. McLeod, the financial Commissioner of the Punjab ... proposing 'the establishment of museums at the district level for housing specimens of natural products of the province of the Punjab” (Rehmani, 1999, p. 1). This government directive came as part of a larger program of establishing a network of Museums in India for the promotion of Industrial Arts as well as preparing an “economical” system of pre-organized “[collections] for [show at] International and Provincial Exhibitions” (Buck, 1886, p. 1). The museum setup was envisioned as a repository of products produced in India to be exhibited abroad or within India and their promotion as marketable goods, working towards the “development of the resources of the country and improvements in agriculture, machinery and the arts” (Rehmani, 1999, p. 1). This move was triggered by the government “from a more immediate fear at the end of the century that Indian design was dying out in the face of Western influences ... The result [of which] was the



Government of India's 'Draft Scheme for the Promotion of Industrial Art'" (McGowan, 2009, p. 54) and the Resolution on Museums and Exhibitions.

The organization of the museum network was pyramidal starting with local committees headed by the officer in charge of the Agriculture Department to manage the collection of art manufactures, different types of which were confined by localities. Provincial Museums (or Central Museums) were charged to acquire best samples from these local committees. The best items from the Provincial collections would be selected by Presidency committee and be designated "approved samples". These objects would form the presidency collection and would be maintained in the Presidency towns,<sup>16</sup> copies of which would also be kept at the Provincial museums. A collection at every museum was to be ready at all times to be transported to regional Indian or European worlds-fairs for the development of connections with foreign museums for the wider decimation of these objects (Buck, 1886, pp. 1-3).

#### 2.2.1. *The First Premises – Wazir Khan's Baradari*

The Lahore Museum's first premises was Wazir Khan's *baradari*, a 17<sup>th</sup> century garden pavilion (Figure 2.6) located in the middle of a garden called "Nakhleh-e-Wazir Khan (The date-palm garden of Wazir Khan)" (Rehmani, 1999, p. 1) on the site of which presently stand, the Punjab Public Library, the Lahore "Museum and the [National] College of Art[s]" (Qureshi, 1997, p. 71). The building was one of the earliest to be occupied by the British, following the conquest of the Punjab, possibly due to its proximity to the British army cantonment which was laid out between it and the tomb of Anarkali. The *baradari* of Wazir Khan was initially used by the British "for military purposes, later a Settlement Office [and a] Telegraph Office" (S. Bhatti, 2012, p. 54). By the year 1858, Wazir Khan's *baradari* was firmly established as the premises of the Lahore Museum. At this time, the building was also

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<sup>16</sup> Presidency towns were the principal trading ports controlled by the British in India.

used as a place for holding meetings by various other governmental departments such as the one mentioned in an official notification<sup>17</sup> from 1858 (Chaudhry, 1998, pp. 263 - 264).

### 2.3. Early Curatorial Organization of the Museum

The museum, at its inception, was under the management of a “regular [c]ommittee” (Rehmani, 1999, p. 1) and under the curatorship of Thomas Henry Thornton<sup>18</sup>, by the year 1860 (S. Bhatti, 2012, p. 55). The earliest collection has been described as “displaying all manner of curiosities pertaining to the Punjab” (S. Bhatti, 2012, pp. 22-23).



Figure 2.6: Wazir Khan's *Baradari* (c. 1885)  
Mayo School of Art can be seen in the background. By the time this photograph was taken, the *baradari* was functioning as the Anarkali Book Club.  
Source: National College of Arts Archives.

<sup>17</sup> “The notification reads: ‘With reference to the notification which appeared in the Punjab Gazette, Vol. II, No. 31, dated 19<sup>th</sup> June, 1958, it is hereby announced that a Committee, composed of as per Mr. W. D. Arnold, President Museum, will meet at the Rev. C. Stoggett, Lahore Museum at 10 A.M. Capt. Hucainson on the 22<sup>nd</sup> November next. Capt. Ralph Young for the examination of such candidates (being other than natives of India, for whom separate provision will be made) for Extra Assistant Commissionships, as may appear before it.’ W. D. ARNOLD Lahore October 22<sup>nd</sup>, 1858. Director of Public Instruction for the Punjab” (Chaudhry, 1998, pp. 263-264).

<sup>18</sup> Thomas Henry Thornton was appointed as the Secretary to the Punjab Government in 1864. He held this post for 12 years. He also collaborated with John Lockwood Kipling on writing a travelogue / guide to the city of Lahore, titled *Lahore, A Handbook*. It was reprinted by the National College of Arts under the title *Lahore As It Was* (Kipling & Thornton, 2002, p. x).

“[Thornton] set up a geological department and a section on ethnographic casts, arranged in eight cases in the two octagonal rooms on either side of the entrance of the Baradari. In the room on the left<sup>19</sup> were the casts of the Hindu and aboriginal tribes, and on the right those of Pathans, Turks, Tibetan and other tribesmen.” (Rehmani, 1999, p. 1)

The museum curation, at this stage of its history, seemed to be modeled after “London’s India Museum, which had been established in 1801 by the East India Company” (Qureshi, 1997, p. 72). By the year 1863, the collection had become “‘chiefly Antiquarian’ [and conveyed] to the visitor ‘clear conceptions of the ancient history of the capital of the Punjab’”(Qureshi, 1997, p. 72). When the museum ran out of space, a proposal was made by “H. Cleghorn of the Punjab Government in January 1863” (Qureshi, 1997, p. 72) to shift the museum to Lawrence Hall and re-organize the collections (Qureshi, 1997, p. 72; Rehmani, 1999, p. 2) following the South Kensington model<sup>20</sup>. This proposal for relocation was never implemented on account of the Punjab Exhibition of 1864, planning for which had been underway since 1860 (S. Bhatti, 2012, p. 57). The relationship with the South Kensington Museum, though, would become essential to the organization and functioning of the Lahore Museum in the following years, under the curatorship of J. L. Kipling.

### 2.3.1. *Punjab Exhibition of 1886*

As colonial rule took its hold, the British sought to centralize the economy of the newly annexed province. Prior to the establishment of the department of industries, the British Government’s Agriculture and Revenue Department sanctioned a survey of the “agricultural and forest products of the [p]rovince and its borders and its artistic and manufacturing industries” (Latif, 1892, p. 273), samples of which were collected

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<sup>19</sup> The *baradari* is completely symmetrical, therefore the orientation of the rooms is dependent upon the side from which the building would have been entered, of which there is no explanation.

<sup>20</sup> “A major museological requirement for the museum at this time was the implementation of a ‘professional’ ordering, classification, and displaying system for enquiring minds, and this requirement was eventually satisfied by importing the South Kensington Museum model to India”. (S. Bhatti, 2012)

from “large estates, the wealthy of the Punjab, the *sardars* (chiefs) and landowners”<sup>21</sup> (Lal, 1884, p. 409).

“The organisers, knowing the benefits of maintaining good relations with local elite, contacted the Fakir family for objects related to Ranjit Singh’s Durbar for the exhibition, since they had previously donated items to the Lahore Museum, including paintings and swords of French generals.” (S. Bhatti, 2012, p. 57)



Figure 2.7: Opening of the Punjab Exhibition of Arts and Industry at Lahore (1864)  
Source: The Illustrated London News (14<sup>th</sup> May 1864), Vol. 44. p. 472.

Three years of planning and organization culminated in the Punjab Exhibition of 1864<sup>22</sup> (Figure 2.7), for which a special temporary premises was hastily constructed (S. Bhatti, 2012, p. 57). At its closing, the best pieces from the exhibition were

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<sup>21</sup> The original Urdu text (translated by the author) " ... بڑی بڑی ریاستوں، پنجاب کے امیروں، سرداروں، جاگیرداروں ... ".

<sup>22</sup> The exhibits displayed at the exhibition were documented in the books; *Hand-book of the Economic Products of the Punjab, with a Combined Glossary and Index of Vernacular Trades and Technical Terms, &c. &c.* and *Hand-book of the Manufactures and Arts of the Punjab, Forming Vol. II. to the 'Hand-book of the economic products of the Punjab'* by B. H. Baden Powell, published in 1872 by the Punjab Printing Company, Lahore.

purchased by the Lahore Museum which, at this point, was still functioning out of Wazir Khan's *Baradari* (Kipling & Thornton, 2002, p. 98).

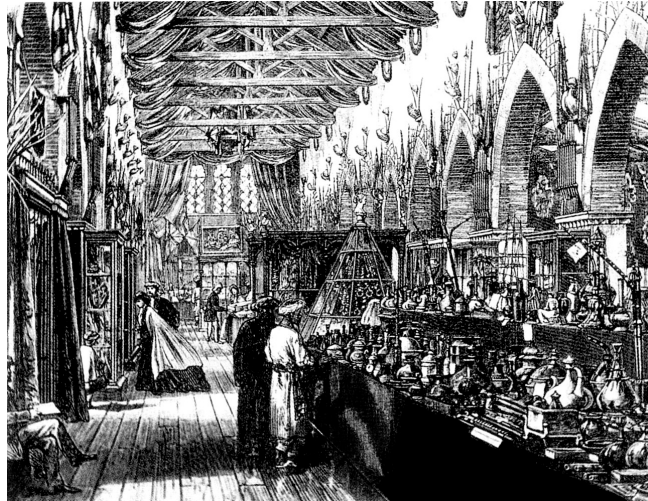


Figure 2.8: Interior of the Exhibition Building at Lahore (1864).  
Source: Source: The Illustrated London News (14<sup>th</sup> May 1864), Vol. 44. p. 472.

### 2.3.2. *The Second Premises – The Punjab Exhibition Building*

The Museum “was until mid-April of [the] year [1864] sited in Wazir Khan's Baradari” (Rehmani, 1999, p. 1). Even though the exhibition building was “intended for a temporary existence only” (Latif, 1892, p. 273; Walker, 1894, p. 301), it was handed over to the Lahore Museum, which then moved its exiting collection of ethnographic, geological and other artifacts into the building alongside the exhibition pieces retained after their acquisition. “To these were added specimens of the antiquities of the region, among which were the Græco-Buddhist<sup>23</sup> sculptures of the Yusafzai valley” (Latif, 1892, p. 273)

These artifacts made their way to Lahore after the recommendation “[i]n a memorandum written in 1883 [by] Major Cole, Curator of Ancient Monuments in India ... that the sculptures that had been excavated during that year should be deposited in the Lahore Museum” (Brown, 1908, p. 5). This decision was taken after

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<sup>23</sup> Græco-Buddhist is an earlier name used along with “Aryan, Indo-Greek, Indo-Bactrian and Græco Bactrian” (Brown, 1908, p. 3) for what is now universally called *Gandhara* named after the region of their discovery.



two separate collections of objects had been lost. One was lost in the fire at the crystal palace in London before any photographic documentation had been carried out and the other sank during shipping off the coast of Ceylon (Brown, 1908, p. 5). It was at this time “Mr. B. H. Baden-Powell, C.I.E., [was appointed] the [museum’s] first Curator” (Latif, 1892, p. 273). He was succeeded by John Lockwood Kipling.<sup>24</sup>



Figure 2.9: The Punjab Exhibition Building (1864)  
Source: British Library

### 2.3.3. *The Museum and the Art School*

Kipling’s first order of business was to set up the School of Art. Latif (1892, p. 274) offers a simplistic explanation regarding the curriculum of the Mayo School of Art, stating that “Kipling, C.I.E., [instituted a curriculum whereby [t]he courses of instruction [bore] a general resemblance to those followed in European schools with the exception that all the examples of architecture, decoration, &c., [were] oriental in character” (Latif, 1892, p. 274) and that Indian design principles were of prime importance.

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<sup>24</sup> Rudyard Kipling’s romantic description of the Museum in Lahore and its elderly curator in the opening of his book *Kim*, refers to this premises and not the present one. J. L. Kipling retired and returned to England the year the present building was nearing completion.

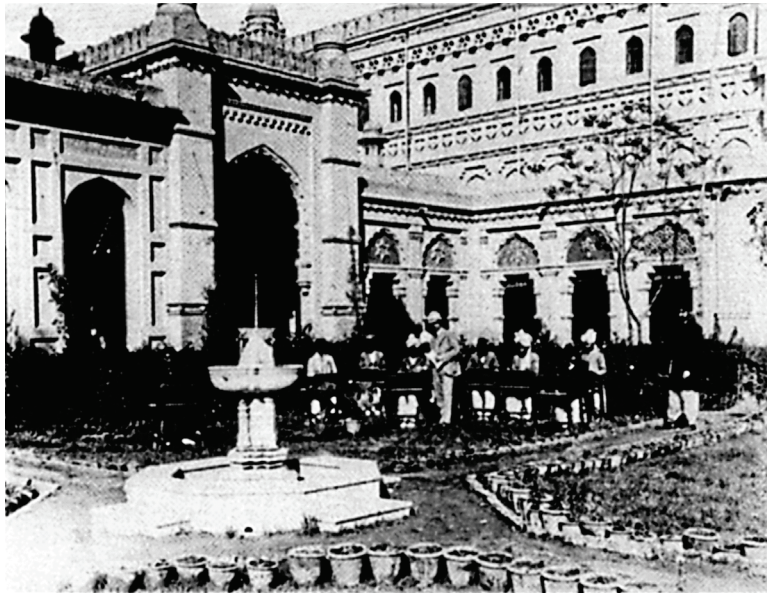


Figure 2.10: Mayo School of Art – Courtyard (c. 1907)

Now known as the Bhai Ram Singh courtyard. The image shows the carriage portico shared by the School of Art and the Museum with a covered veranda running along the western side of the museum building. This veranda and the space in front of it extending up to the edge of the portico is now completely encased inside parts of the building constructed in the 1960's and later. The portico is now exclusively part of the NCA and serves as its main entrance.

Source: Tarapor, M. (1980). John Lockwood Kipling and British Art Education in India. *Victorian Studies*, Vol. 24 No. 1, p. 67.

The situation regarding the school's curriculum and its pedagogy was much more complex. By the time of the MSA's establishment, the officials at the DSA had "realized that the untrammelled influx of mechanized products was devastating the artisanal industry of the subcontinent. South Kensington thus advocated a preservationist stance for the 'traditional' modes of production and the artifacts of India" (Dutta, 2007, p. 25). Kipling capitalized on purchases made by museum from the Punjab Exhibition of 1864 stating that the museum "already contains valuable examples, and it will doubtless grow with time till it becomes for the student a comprehensive 'object book' of reference" (Kipling, 1875, p. 162). Due to the influence of the DSA and "the South Kensington<sup>25</sup> connection, the dyad of museum and school of industrial art became the prevalent format of artistic pedagogy in India" (Dutta, 2007, p. 27).

<sup>25</sup> "Today, the V&A remains the biggest repository of South Asian wares outside of the subcontinent. Even within South Asia, the V&A's principal competitors in this respect today were all either established or significantly influenced by the South Kensington axis" (Dutta, 2007, p. 25).

“Almost all the significant advocates of artisanal production in India had substantial links with the DSA apparatus, including influential officials and pedagogues such as George Birdwood, Swinton Jacob, Thomas Holbein Hendley, Ram Singh, Caspar Purdon Clarke, and J.H. Rivett-Carnac” (Dutta, 2007, p. 27).

This pedagogical framework of the school was to be intertwined with the construction of the MSA as well as the Museum’s buildings themselves. Kipling envisioned the students of the school learning on the job, working on “[t]he details of internal plasterwork, the wall-painting and carpentry of the museum” (Kipling, 1875, p. 162). This work took place almost exactly as was planned and more so, as the design for the museum itself was undertaken at the MSA itself.

The school building received money for construction from the Mayo Memorial Fund, a “subscription raised in honor of the late Lord. Mayo,<sup>26</sup> Viceroy and Governor-General, in 1869-1872” (Latif, 1892, p. 274).

#### 2.3.4. *Victoria Jubilee Institute and its Organizational Structure*

“[F]und[s were] raised throughout the Province [for the purposes of instituting a] permanent memorial of the Jubilee of Her Majesty the Queen Empress [Victoria] celebrated in February 1887. The object was to provide a Provincial Institution containing a Museum, library and lecture rooms with sufficiently instructional staff and capable in connection with the School of Art of gradual expansion into a Technical College” (Walker, 1894, pp. 300-301)

The organizational structure of the museum in its early days was much more fluid than it is today. It crossed over function and physical space with other related organizational fragments. The earliest entity is the museum itself having been founded in the early years of the British occupation of the city. The School of Art was established in 1875 with an aim to have it function in conjunction with the museum (Kipling, 1875, p. 162). Both institutions were headed by the same person for a few decades before the directorial position of the school and the curatorial position of the museum were segregated.

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<sup>26</sup> Richard Southwell Bourke (real name) was the 6th Earl of Mayo. He was referred to as Lord Mayo in India, of which he was appointed as the fourth Viceroy in the year 1869. He was assassinated in 1872 while on an official visit to the Andaman Islands.

The Jubilee Institute (also referred as the Technical Institute) was set up as an institution for the promotion of science and technology. This occupied the western part of the museum building, approachable from a separate entrance. In addition, the School and Jubilee Institute buildings were joined together with a carriage porch placed between the old<sup>27</sup> and new structures, which served for both. These buildings were conceived as a single composition, by Kipling at the very beginning of his tenure at Lahore (Kipling, 1875, p. 162). The eastern part of the new building served as the museum, whereas the western wing included a separately accessible Lecture Hall, to the south of which were two rooms and a room towards the west which were to function as lecture rooms. These two rooms towards the south were used by the art school in the early days as workshops for repoussé work while the room towards the west was used for storage of glass slides (Department of Education, 1911, p. 166) for the magic lantern. All of these spaces that were previously shared are now part of the museum complex. The auditorium still serves the same purpose but has been interjected with a mezzanine floor that serves as the museum library and is accessible from the same staircase that leads to the Auditorium Gallery.

#### 2.3.5. *The Architects*

The building of the Lahore Museum is the combined vision and effort of three individuals (Peck, 2015, p. 160). John Lockwood Kipling, the principal of the Mayo School of Art and the curator of the museum, his protégé Bhai Ram Singh the architect, and Sir Ganga Ram, the Executive Engineer of the Punjab.

It is Bhai Ram Singh who is now largely credited with being the chief architect of the Lahore Museum following Kipling's larger vision and articulation of design elements, though in all contemporary official (colonial) documents, it is Kipling who is given credit for being the designer with Ram Singh being an assistant (Brown, 1908, 1909).

Ganga Ram is also sometimes credited for being the designer of the building though, as the Executive Engineer of the Punjab, he was responsible for the supervision

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<sup>27</sup> The Mayo School of Art was constructed in 1883, ten years prior to the Museum and Jubilee Institute (Peck, 2015, p. 159).

(Peck, 2015, p. 160) of the building's construction and in all likelihood its structural design.

### *John Lockwood Kipling*

John Lockwood Kipling graduated from the DSA, in London as part of its “first batch [along with] John Griffiths, and Henry Hoover Locke, all of whom were to become superintendents of the various schools, the last two of the Bombay and Calcutta institutions, respectively” (Dutta, 2007, p. 27). Kipling can be considered the catalyst for the Arts and Crafts in India. He worked as an educationist in India “from 1865 to 1874 as a young instructor at the Bombay School of Art ... and between 1875 and 1893 as principal of the Mayo School of Art in Lahore and curator of the city's famous museum” (Tarapor, 1980, p. 53).

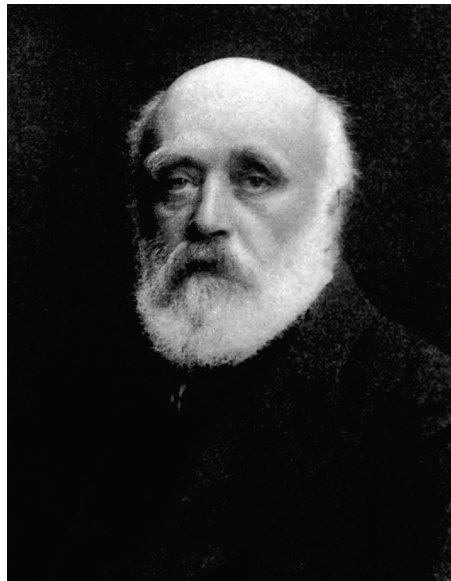


Figure 2.11: John Lockwood Kipling, (1899)  
Photo: Hollinger & Co.

Source: The Critic: An Illustrated Monthly Review of Literature, Art and Life, Vol. 35, No. 865. p.585.

He developed a new indigenous-craft oriented curriculum during his tenure at the Mayo School of Art which was set apart from the European centric educational models that had been adopted by the other schools of art established in India. “The pedagogical primacy of the Lahore school was reinforced at the Art Conference held



in Lahore in 1894, when most of the other school superintendents pointed to Kipling's creation as the model to be emulated" (Dutta, 2007, p. 32).

Kipling's recommendations to the government called for the art school to be in the vicinity of the museum (Kipling, 1875, p. 158) for the students to benefit from the artifacts and examples of craft housed therein. For the first batch of students for the school, Kipling suggested training a "few men" (Kipling, 1875, p. 159) to assist in the ornamentation of the new school and museum buildings. Two of his first students were indeed, in part designers of both buildings, if not more.

He saw the construction of the building of the school of art and the museum as laboratories and practical workshops for the training of his students (Kipling, 1875, p. 162). It was through Kipling's persistence, that the association between the school and the museum became a reality. The Lieutenant Governor of the Punjab had initially refused his plan for the combined operation of MSA and the Museum due to lack of funds, though in the "following year, the lieutenant governor expressed his satisfaction at the use made of the museum by the pupils of the Mayo School" (Kemp, 2017, p. 171)

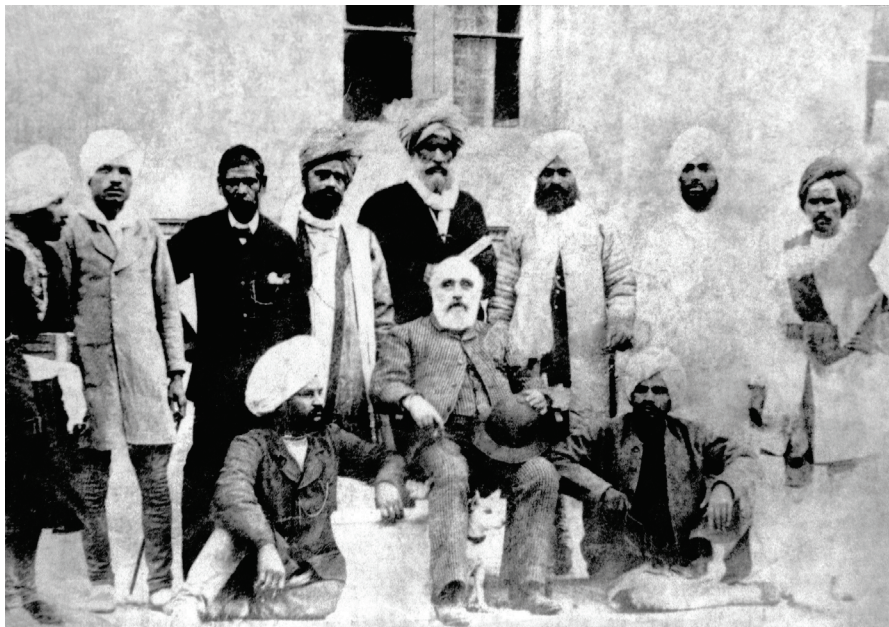


Figure 2.12: Teachers and Staff of the Mayo School of Art. (1880)  
Seated: Bhai Ram Singh John, Lockwood Kipling and Sher Muhammad.  
Source: National College of Arts Archives.

### *Bhai Ram Singh*

Bhai Ram Singh came from a family whose trade was carpentry. Being brought up as a hereditary craftsman, he had attained considerable skill before he joined the Lahore School of Carpentry<sup>28</sup>. With the closure of the school, twenty students including him, were transferred to the Mayo School of Art (Vandal & Vandal, 2006, pp. 126-127) in 1875.

It was his education at the school under Kipling that made him grow beyond his traditional training as a carpenter and achieve a higher understanding of design and architecture. By the year 1881 Kipling was so impressed with his work that he “worked on the design of the new building for the school” (Peck, 2015, p. 161). He rose in rank and was eventually “appointed Vice Principal [of the school] in 1896 and served several times as officiating Principal” (Peck, 2015, p. 161).



Figure 2.13: Bhai Ram Singh. (1890)  
At work in the Indian Room at Osborne House.  
Source: National College of Arts Archives.

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<sup>28</sup> The Lahore School of Carpentry had a short life. It operated out of the “veranda of the Director of Public Instruction's office” (Vandal & Vandal, 2006, p. 126) for two years before it was incorporated into the Mayo School of Art.

Under Kipling, the students of the school were involved in the “ornamentation of several public works projects and elite residences” (Dutta, 2007, p. 74). The commission for “a room in the ‘Indian’ style” (Dutta, 2007, p. 74), for the Queen Empress Victoria at Osborne House on the Isle of Whyte, now known as the Durbar Hall, as Arindam Dutta (2007, p. 74) says, was “delegated to and executed by Kipling’s trusted assistant and successor, Bhai Ram Singh”. The room was designed and built between 1890 and 91. Ram Singh would have completed the designs for the Lahore Museum before he left for England for the commission. He uses the same design vocabulary for the designs for the Lahore Museum, though the ornamentation at the Durbar Hall is of higher quality due to its royal patronage.

### *Sir Ganga Ram* <sup>29</sup>

Ganga Ram was trained at Thomason College of Civil Engineering at Roorkee, the British government’s premier institute for the training of “officers of the Royal Corps of Engineers” (F. M. Bhatti, 2016, p. 54). He served as Executive Engineer of the Lahore Division for “twelve years” (Bedi, 1940, pp. 37-38),



Figure 2.14: Sir Ganga Ram. (c. 1920)

Source: <http://lahore.city-history.com/personalities/Sir-Ganga-Ram/>

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<sup>29</sup> Sir Ganga Ram received his knighthood in 1922 (Bedi, 1940, p. 247).



Making his “fortune from irrigating his farmland ... [h]e is chiefly remembered now for his philanthropic gifts to the city such as his hospital <sup>[30]</sup>, but he also made various inventions to improve construction and help in calculating structural sizes” (Peck, 2015, p. 147). Late in his life, he also served as an advisor to Khem Chand and served as the first Chairman of the Model Town Society, Lahore, a sub-urban garden city based on the work of Ebenezer Howard.

#### *Munshi Sher Mohammad*

The life and works of Sher Mohammad have not received as much attention as Ram Singh’s, and thus the information about him is found sparingly. He was, like Ram Singh, trained under Kipling during the early years of the MSA. A “blacksmith by profession [when he joined the school, he was later tasked to teach] different styles of architecture, especially the use of colors in traditional decorative patterns” (Khan, 2014, p. 81). He gained a reputation for his skill as an artist and was “considered as the best artist in the field of oil painting” (Srivastava, 1983, p. 49). He eventually rose to the rank of Vice Principal of the school before retiring.

#### *2.3.6. Architecture of the British Raj: Indo-Saracenic*

In the early days of British rule in India, the East India Company mostly constructed buildings as symbols of European supremacy in a neo-classical fashion (Figure 2.15). Soon after the British Crown took over the reins of Government in India that a public debate ensued about the appropriate architectural style for the British Indian Empire. This debate “was to rage unabated for over fifty years” (Metcalf, 2005, p. 105). The two camps disagreed upon whether the government sanctioned buildings ought to reflect the best of European art or should they learn from Muslims, who emulated the architecture of the lands they conquered and “adapting it to suit their own needs and ideas” (Metcalf, 2005, p. 105).

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<sup>30</sup> The Sir Ganga Ram Hospital (previously known as Sir Ganga Ram Free Hospital) was established in 1923 (Bedi, 1940, p. 230) and is still one of the largest hospitals in the city.



Figure 2.15: Lawrence & Montgomery Halls (c. 1870)

The neoclassical Lawrence (completed 1861) and Montgomery (completed 1870) Halls face the Mall Road and are situated in the Lawrence Gardens, the trapezoidal garden situated almost at the center of and abutting the Mall Road towards the south (Figure 2.4 & Figure 2.5).

Source: British Library

Following the design and construction of the Mayo College at Ajmer, Indo-Saracenic became by default, the official architectural style<sup>31</sup> of the British Indian Government.

Kipling had suggested that “the recommendation of the Committee of 26 April 1873 be carried” out and that “Mr. [Caspar Purdon Clarke <sup>32</sup>], CE be requested to furnish a sketch plan of a museum and school of art, and that [Mr. Clarke] may be allowed to work in concert with” Kipling (1875, p. 162) himself. He also suggested Major Charles Mant, RE <sup>33</sup> as an alternative to Purdon Clarke. Major Mant had a reputation for having

<sup>31</sup> The architecture of the new imperial capital of New Delhi, established in 1911, was designed in the Indo-Saracenic style. There was never a fixed definition though, for Indo-Saracenic as the vocabulary of architectural elements and how they were amalgamated with European architecture was fluid and kept changing.

<sup>32</sup> Sir Caspar Purdon Clarke was an architect by training and the Director of the South Kensington Museum. He was appointed architect of the Indian section at the Paris Exhibition in 1878 and was eventually appointed the keeper of the Indian Museum at South Kensington prior to his directorship of SKM. He also undertook various design commissions for buildings in the Indian style.

<sup>33</sup> Major Charles Mant (1839-1881) of the Royal Engineers was one of the most prominent architects working in India towards an objective to combine the Indian and European architectures. He found the patronage of Sir Richard Temple (the Governor of Bengal and later Bombay) and through his

an “aptitude for combining the principles of the indigenous architecture ... with modern requirements [and had been] engaged on designs for the Ajmer Mayo Memorial College, new offices for the Surveyor-General, and other works” (Kipling, 1875, p. 162).

Even though, at this time Major Mant, Purdon Clarke and Samuel Swinton Jacob <sup>34</sup> were considered the main experts on Indian Architecture and that Kipling himself had requested that either of the two, Clarke or Mant, be the architects of the MSA and Museum buildings, the job of designing, for reasons unknown, fell to Lockwood Kipling himself who enlisted the natural talents of his student Ram Singh for the designs of both.

## **2.4. Early History of the Museum Building**

The following description of the early life and form of the museum building is reconstructed from descriptions printed in various contemporary official and unofficial publications. As some of these were published outside Lahore, the details and dimensions regarding various spaces in the building sometimes vary, though cross-comparison of the data clearly reveals the discrepancies.

The general description of the planimetric and volumetric features of the building are largely derived from the *Imperial Gazetteers* and government reports whereas the descriptions of the general problems relating to the building, repairs and the curation of the collections also use the Lahore Museum’s *Annual Reports* as references.

### *2.4.1. The Purpose Built Premises – 1893*

The Gazetteer of 1916 describes the “general plan of the building resembles a letter E with the entrance porch in the center of the back face” (of the E) (Aijazuddin, 2003,

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influence, secured the commission for the Mayo College at Ajmere. This building was the turning point that ushered in the age of "Indo-Saracenic" architecture (Metcalf, 2005, p. 114).

<sup>34</sup> Sir Samuel Swinton Jacob was a British army officer. Trained as an engineer and an architect he was appointed the chief engineer of the state of Jaipur, where, under his direction an extensive documentation of the architectural elements and details of the palaces of the city was carried out. These were eventually published as the “Jeypore Portfolio of Architectural Details; with the support of the Maharaja of Jaipur between 1890 and 1895” (McGowan, 2009, p. 119). This portfolio was one of the primary resources that architects used for Indo-Saracenic design.

p. 109), with the three arms being the two galleries (running north-south) and the lecture hall (all of which extend towards the south). The building faces north and is almost perfectly symmetrical, except for the eastern end, which faces the exhibition building and the western end adjoining the carriage portico. The museum, at the time of its completion in 1893, included “a Technical Lecture Hall and class rooms as well as a Museum with an area of 27,850 feet” (2587.35 sq. m) (Latif, 1892, p. 273).

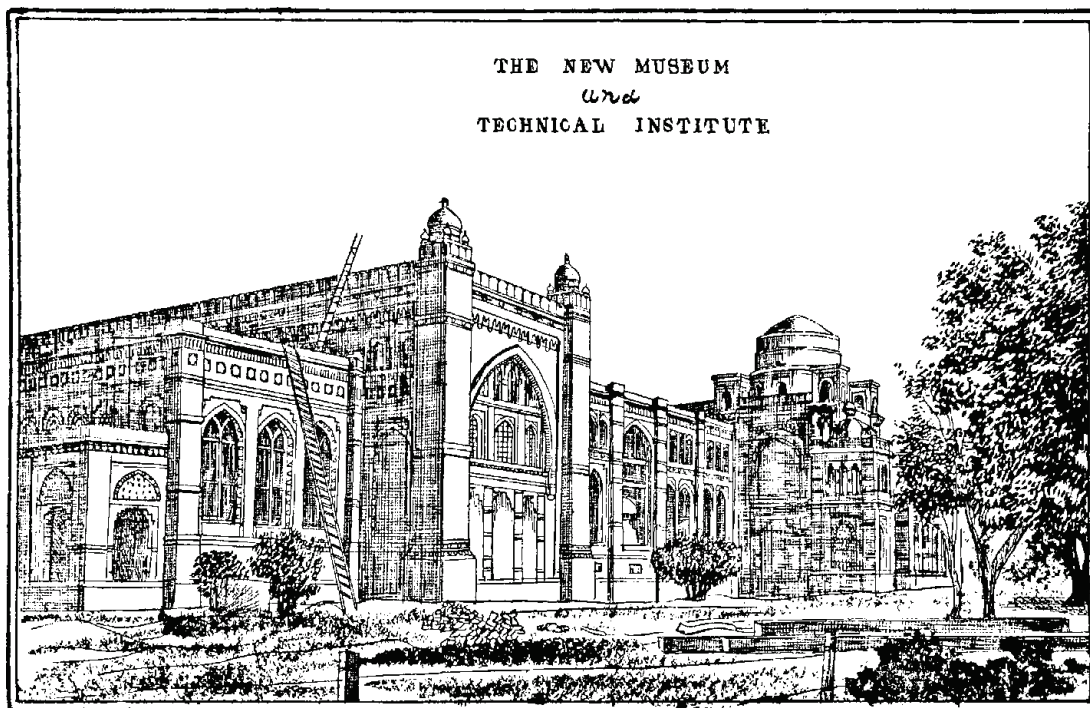


Figure 2.16: The New Museum and Technical Institute (1892)

This etching, traced from a photograph for S. M. Latif’s book, was published four years before the museum building was inaugurated. The museum can be seen here during its construction. The central dome is incomplete and the domes on the four turrets surrounding it have as yet not been constructed.

Source: Latif, S. M. (1892). *Lahore: Its History, Architectural Remains And Antiquities: With An Account Of Its Modern Institutions, Inhabitants, Their Trade, Customs, &c...* Lahore: New Imperial Press. p. 272

In the center of the building was an entrance portico (Gnd-N/01), Space A (Figure 2.17). The portico opens into “the first room [which] is a vestibule directly under the dome” (Gnd-N/02) (Walker, 1894, p. 301), which is crowned with a lantern. The inside of the dome on top of the vestibule, is decorated with “pendants in plaster work (galubkari work) and painted in oil colors ... There are two staircases, one on each side of the entrance door which open into the galleries and on to the roofs”

(Department of Education, 1911, p. 166). The galleries break the height of the vestibule at two intervals around which run “*pinjra* work wooden” (Walker, 1894, p. 301) balustrades. The vestibule also had a mosaic floor.

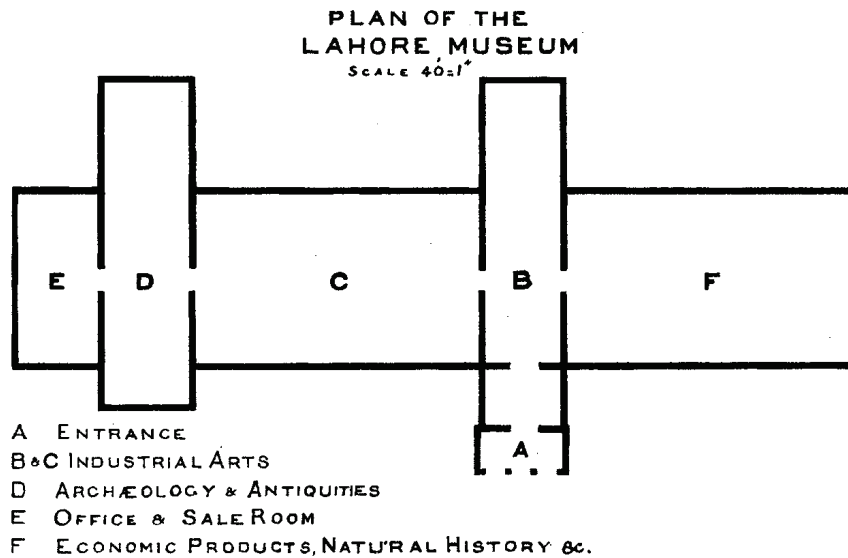


Figure 2.17: Plan of the Lahore Museum (1908)

This sketch plan is taken from visitor guide books to the Lahore Museum and only shows areas accessible to the general public. It does not show the Lecture Hall (for the Technical Institute), the two rooms behind it or the office adjoining the joint carriage porch shared with the Mayo School of Art.

Source: Brown, P. (1908). A Descriptive Guide to the Department of Archaeology & Antiquities. Lahore: Thacker Spink & Co. Calcutta, & Brown, P. (1909). A Descriptive Guide to the Department of Industrial Arts. Lahore: Thacker Spink & Co. Calcutta.

A: Entrance, B&C: Industrial Arts, D: Archæology & Antiquities, E: Office & Sale Room, F: Economic Products, Natural History &c.

The Vestibule lead into the Central Gallery (Gnd-C/01) Space B (Figure 2.17) through a “moulded and [cast] plaster” (Walker, 1894, p. 301) doorway. The blind arch on the southern wall of the Central Gallery is painted with floral motifs called “Persian” in style by Fred H. Andrews (Walker, 1894, p. 301) and “Mughal” in the report by the Department of Education (1911, p. 166). This ornamentation was carried out “by the students and masters of the Mayo School of Art under the direction of the Vice-Principal [M. Sher Mohammad], by whom also the whole of the decoration work in paint, wood and plaster have been designed” (Aijazuddin, 2003, p. 109; Walker, 1894, p. 301). On the northern wall of the gallery “is a small but well proportioned [balcony with a *pinjra* work balustrade, accessible through] three small arches [on] the first



[floor] gallery in the vestibule” (Walker, 1894, p. 301). Both eastern and western sides of the Central Gallery, “open out [into adjacent galleries through] archways adorned with works in plaster of Paris with [peacock motifs] on the [upper part of the portals]. These archways lead into two spaces” (Department of Education, 1911, p. 166).



Figure 2.18: Lahore Museum & Jubilee Institute (1893)

Source: Khan, H. A. (2014). *Artisans, Sufis, Shrines: Colonial Architecture in Nineteenth-Century Punjab*. New York: I. B. Tauris. p. Cover

Both western and eastern doorways lead into identical mirrored galleries (Gnd-W/01), Space F (Figure 2.17) on the west and (Gnd-E/01), Space C (Figure 2.17) on the east. The galleries had an industrially produced cast iron supporting as well as roofing structure described by Latif (1892, p. 273) as being “roofed in on iron columns [with] special care ... taken to secure an abundance of light”. “[T]wo rows of iron columns” (Walker, 1894, p. 301) supported a “saw-tooth [trussed] roof[ing]”

forming north facing skylights (Department of Education, 1911, p. 166). Each gallery was primarily lit by “nine large windows facing north and placed 6 ft. above the plinth” (Department of Education, 1911, p. 166).

An identical ornamental Plaster of Paris doorway topped with the peacock motif at the eastern end of the gallery (Gnd-E/01) led into the gallery (Gnd-E/03) Space D (Figure 2.17).

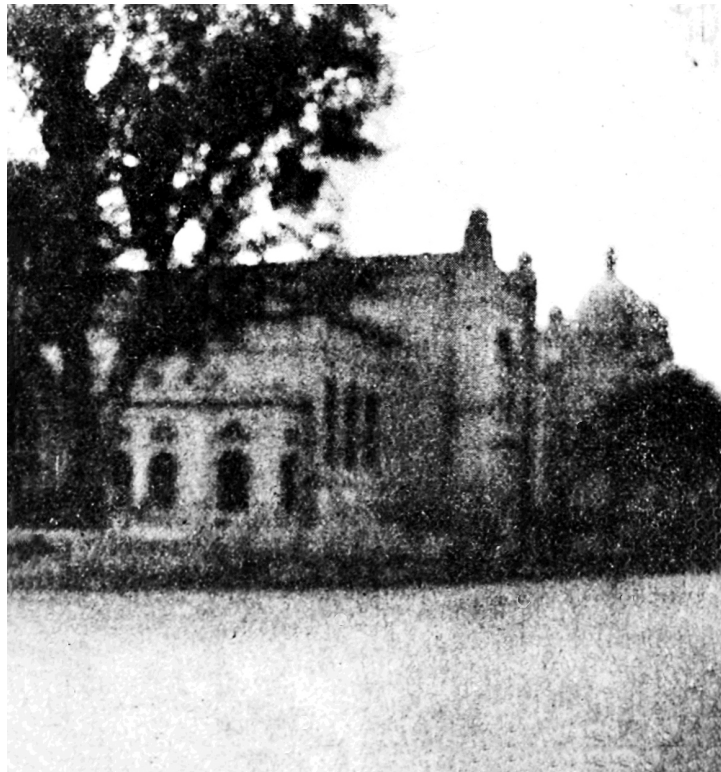


Figure 2.19: The Museum from the East (1907)

This is the only picture found of the eastern face of the Museum from its early years. The eastern veranda which has now been extensively modified and closed off is clearly visible. The detail of the veranda openings match the the ones that till exist on the western veranda, which has now been completely enveloped by later additions to the building.

Source: Popular Science Monthly (December 1907). Vol. 71. p.493

A plaster of Paris doorway on the eastern wall of the Gallery (Gnd-E/03) mirroring the one on its western wall led into the gallery (Gnd-E/04) Space E (Figure 2.17). This space was an office and library. The room also contained “three iron safes built into the wall for the reception of the valuable coin collection” (Walker, 1894, p. 301). The room also had a door open into a veranda on the eastern end of the museum facing the

exhibition building previously occupied by the museum. This veranda (Figure 2.19) served as a direct entrance into the office / library space (Gnd-E/04) which also had an additional function as a room for selling “objects of Panjab [sic] art workmanship” (Latif, 1892, p. 274).

**Table 6:** *List of Rooms (1893)*

Space Code	Room Name	Function	Size		
			L (N/S)	W (E/W)	H
Gnd-N/01	Entrance Portico	Transition Space	-	-	-
Gnd-N/02	Entrance Vestibule	Staging Area	20 ft. 6 m	20 ft. 6 m	65 ft. 19.8 m
Gnd-N/03	Room	-			
Gnd-N/05	Room	-			
Gnd-C/01	Central Gallery	Industrial Arts Display	96.5 ft. 29.4 m	26.5 ft. 8 m	39 ft. 11.9 m
Gnd-E/01	Gallery	Industrial Arts Display	60 ft. 18.2 m	100 ft. 30.5 m	25 ft. 7.6 m
Gnd-E/03	Gallery	Antiquities Display	60 ft. 18.2 m	100 ft. 30.5 m	25 ft. 7.6 m
Gnd-E/04	Office	Office / Library / Sale Room	60 ft. 18.2 m	28 ft. 8.5 m	25 ft. 7.6 m
Gnd-W/01	Gallery	Economic Products & Natural History Display	60 ft. 18.2 m	100 ft. 30.5 m	25 ft. 7.6 m
Gnd-W/09	Lobby	Transition Space	-	-	-
Gnd-W/10	Lecture Hall	Auditorium	60 ft. 18.2 m	30 ft. 9.1 m	40 ft. 12.2 m
Gnd-W/11	Classroom	Used as room for storing slides and preparation of gas for the working of the Magic Lantern used in the lecture hall.	-	-	-
Gnd-W/26	Classroom	MSA repoussé and blacksmith class.	18 ft. 5.5 m	30 ft. 9.1 m	25 ft. 7.6 m
Gnd-W/27	Classroom	MSA repoussé and blacksmith class.	18 ft. 5.5 m	30 ft. 9.1 m	25 ft. 7.6 m

Note: These sizes have been transcribed from the source documents without any modification. These values have been rounded off to whole numbers, by the authors of the period documents, and do not exactly match the values obtained during measured survey.

Source: (Department of Education, 1911, p. 166; Walker, 1894, p. 301)

“Adjoining the museum on the western side is the Technical Institute; consisting of a lecture hall [and] three class rooms attached” (Walker, 1894, p. 301). The lecture hall (Gnd-W10) was accessed through a separate entrance lobby (Gnd-W09) from which a winding staircase led to “a wooden gallery” (Department of Education, 1911, p. 166).



The lecture hall exited into a veranda facing the MSA. One adjoining classroom (Gnd-W11) opened both into the lecture hall and the veranda and abutted the carriage portico between the Museum and the MSA towards the west. Three windows on the north wall of the room showed up as the three western most windows on the north elevation.

The other two classrooms (Gnd-W26) and (Gnd-W27) were situated towards the south of the lecture hall (Gnd-W10), accessible only through the veranda. These were given up to MSA for use as repoussé and blacksmith classes.

#### *2.4.2. Building Changes & Expansion*

Extensive modifications, mostly additions, were made to the museum building to cater for additional space required for the museum's expanding collection. The ambitious scale and design of the project led to unforeseen problems for which repair works had to be carried out over a number of years. Details of works carried out on the building are recorded in the museum's Annual Reports on the working of the museum along with archival documents from the Museum's official records.

##### *Modifications*

The entrance portico was modified in the year 1906-07 (Revenue and Agricultural Department, 1906, 1907). The new design was prepared by Bhai Ram Singh and was built in two stages. The two central columns were removed and replaced with carved dodecagonal white marble columns and two pilasters on the jambs of the opening. The columns and pilasters had tapered square bases and capitals formed of *muqarnas* (squinches), all in white marble. These columns, along with the brackets that topped them, and the solid marble lintels they supported (Figure 1.4), were inserted into the existing brick masonry structure (Figure 2.20). The marble revetments carved with arabesques in bas-relief were then applied to the piers on the sides and the parapet of the terrace above (Figure 2.21).

##### *Repair Works*

The most frequent issue faced by the museum building was leaking roofs and gutters, which damaged exhibits almost every year. Various roofs of the museum building

were repaired, multiple times (Central Museum, 1919, 1923, 1926; Lahore Museum, 1908; Revenue and Agricultural Department, 1894, 1895, 1897, 1900, 1901, 1902, 1903, 1904, 1905, 1906). Though a complete overhaul of the entire roofing system was also carried out in 1899–1900 (Revenue and Agricultural Department, 1900), roof leakage problems persisted well into the first quarter of the 20<sup>th</sup> century.

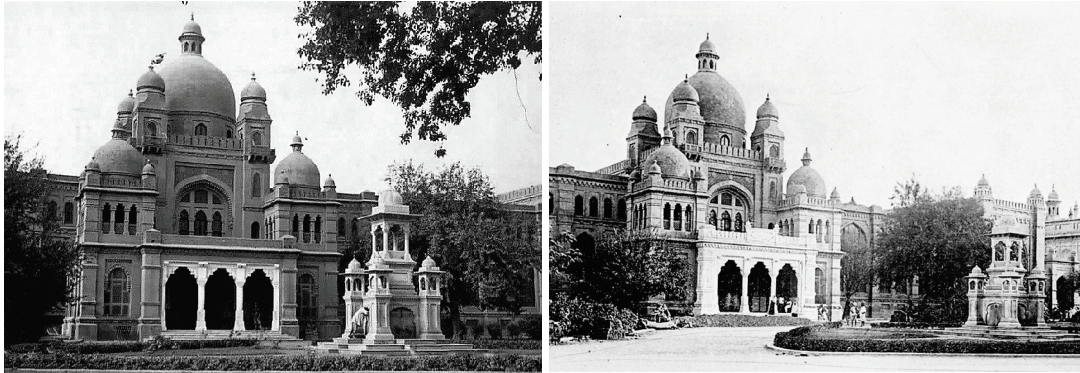


Figure 2.20: Entrance Portico – Before and After (1907 ; 1908)  
Colonnade has been replaced with marble structure (left), Application of marble revetments to the exterior surfaces of the Entrance Portico (right)  
Source: National College of Arts Archives

The original mosaic floors wore out quickly. They were repaired in 1900–1901 and then completely replaced in 1903–1904 (Revenue and Agricultural Department, 1901, 1904). Ornamental patterned floors in black and white marble were laid down in strips passing through the middle of the rooms (Gnd-E/01) and (Gnd-W/01) (Figure 2.22), “and the rest of the room[s were] floored with Tarraki stone slabs” (Department of Education, 1911, p. 166). The floors of the Entrance Portico (Gnd-N/01), the Entrance Vestibule (Gnd-N/01) and the Central Gallery (Gnd-C/01) were completely replaced with patterned marble designs. The floors in the Entrance Portico and Vestibule had been repaired and partly re-laid in the year 1985 (Javaid, 1985).

### *Additions*

In 1904, an ornamental drinking fountain designed again by Bhai Ram Singh was constructed in line with the central axis of the museum, towards the north (Revenue and Agricultural Department, 1904). The fountain was built in an island bounded by

the arcing driveway leading towards the museum's entrance towards the south and, the Mall Road towards the north (Figure 2.24).

Two cloak rooms (Gnd-N/04) and (Gnd-N/19) were constructed 1906. These were accessed by the rooms on the east (Gnd-N/03) and west (Gnd-N/05), respectively, of the entrance portico (Revenue and Agricultural Department, 1906).



Figure 2.21: Entrance Portico (1946)  
Photo: Margaret Bourke-White  
Source: The LIFE Picture Collection / Getty Images

The rate at which the museum was acquiring items does not seem to have been anticipated by the administration. Between the years 1914 and 1916, the curator called for the expansion of the museum building due to the lack of display space. The building was expanded by adding an extra gallery (Gnd-E/02) Space 4 (Figure 2.23), south of the gallery (Gnd-E/01). The new gallery along with an office (Gnd-E/17), a library (Gnd-C/04) and printing and a workshop for *mistreees* (craftsmen) was built at the rear (south) of the building (Central Museum, 1914, 1915, 1916; Lahore Museum, 1910, 1911, 1912, 1913).

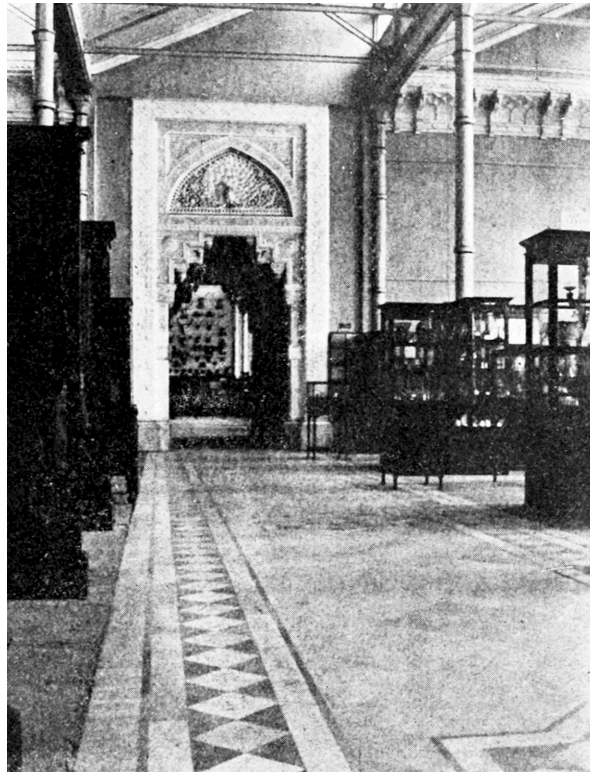


Figure 2.22: The Hall of Native Arts (Gnd-E/01) (1907)  
Source: Popular Science Monthly (December 1907). Vol. 71. p.495

In the year 1928-29, a new Coin Room (Gnd-S/01) Space 1/2 (Figure 2.23) was built adjoining the library (Gnd-C/04) towards the south. An additional gallery (Gnd-W/02) Space 5 (Figure 2.23) was also built towards the south of the gallery (Gnd-W/01) along with a godown,<sup>35</sup> and two bathrooms, one for the curator and one for the office staff. The toilets were “fitted”, as mentioned in the annual report of 1929, pointing to the possibility that veranda around the southern rooms which the toilets are built into may have existed since 1916, when the offices and library were constructed. Alternatively, the toilets and the veranda may have been constructed along with the Coin Room (Gnd-S/01) (Central Museum, 1928, 1929). A drawing of the museum (Figure 2.23) from 1929 shows state of the museum building in that year. This is the last major extension carried out before the repairs, renovation, and reorganization of the building post-independence in 1967 (Lahore Museum, 1968).

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<sup>35</sup> Another word for warehouse used in the Indian subcontinent.

## 2.5. Legal Standing of the Lahore Museum

The Lahore Museum at its inception, started as an entity under the Agriculture and Revenue Department of the Government of Punjab. Later, in 1908, it was made an independent institution. It was elevated to the position of the Central Museum for the province of Punjab in the year 1914. Though the museum has been closely associated with both the Department of Education and the Department of Archaeology and Museums, it has not been directly under the control of these authorities. The museum has been governed by its own Board of Governors since 1988, notified under the Lahore Museum Regulations, 1987 ("The Lahore Museum Regulations, 1987," 1988).

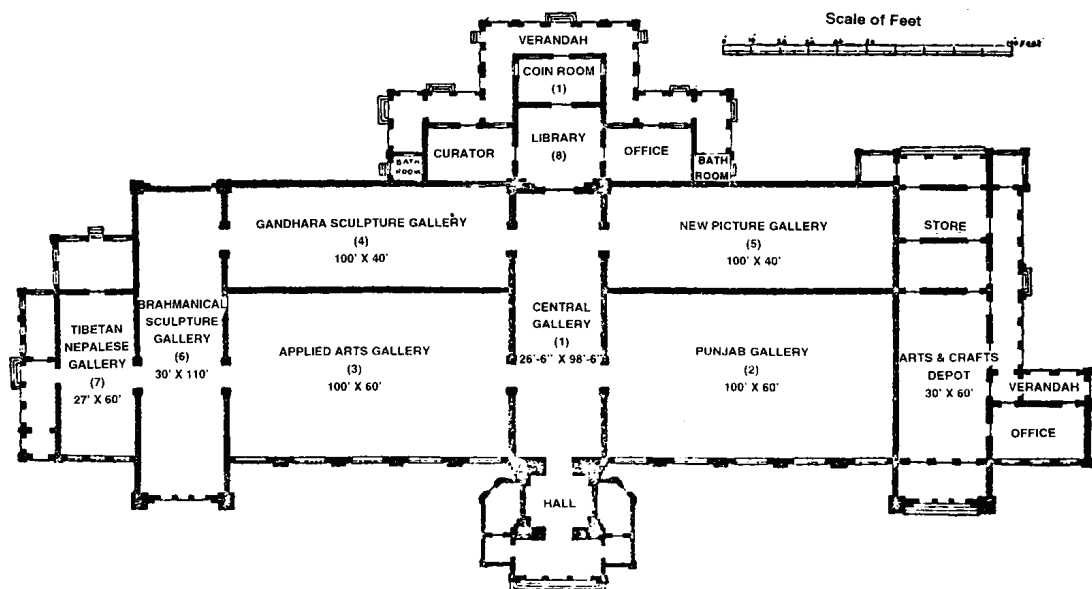


Figure 2.23: Plan of the Lahore Museum (1929)

Source: Rehmani, A. (Ed.). (1994). Lahore Museum Bulletin: Centenary Issue (1894-1994) (Vol. 7 No. I & II). Lahore: Lahore Museum.

- 1: Central Gallery, 2: Punjab Gallery, 3: Applied Arts Gallery, 4: Gandhara Sculpture Gallery, 5: New Picture Gallery, 6: Brahmanical Sculpture Gallery, 7: Tibetan Nepalese Gallery, 8: Library, 1/2: Coin Room.

The Museum building along with the NCA was registered under The Punjab Special Premises (Preservation) Ordinance, 1985 (APPENDIX C) as a single property. This is the legislation that provides protection to the building and governs the conservation works to be carried out on the museum building. The legislation is rudimentary and has an arbitrary system for approvals of conservation works. These approvals are



provided by a temporary committee appointed by the Provincial Government. While this law does provide protection to the building as a whole, no committee, till date, has shown any interest in or paid attention to the haphazard repair and construction works carried out in, and on the buildings in the museum premises.



Figure 2.24: Central Museum, Lahore (1963)

The Lahore Museum before the 1967 remodeling. The museum lot does not have a boundary wall or fence.

Source: Rajput, A. B. *Architecture in Pakistan*. Karachi: Pakistan Publications. plate 32.

## CHAPTER 3

### UNDERSTANDING THE LAHORE MUSEUM

This chapter describes the state of the Lahore Museum as it exists today. The description will follow the sequence from general to specific, beginning with a short note on the museum's location in the city and its immediate setting. This will be followed by descriptive notes on the building's mass characteristics, volumetric and planimetric features. After which are short descriptions of the spaces in the building, with the exception of a few that could not be accessed for documentation. Dimensions of the unmeasured spaces have been inferred from adjacent spaces and the thickness of walls continuing into horizontally and / or vertically adjacent rooms. The system used for the coding of spaces has been described in detail in Section 1.2.3 of this thesis.

#### 3.1. The Location of the Museum and its Setting

The Lahore Museum is located in the city of Lahore, the administrative capital of the province of Punjab, Pakistan. The museum is located at 31°34'6.35"N and 74°18'29.20"E (centered on the dome). The museum faces north, towards the Mall Road, with the center of the building set back from the road at a distance of 26.8 m (Figure 3.1).

##### *Building Environs – The Cultural Precinct*

As discussed briefly in Chapter 2.1.22, the part of the city that the museum sits in is one of the earliest developments by the British in Lahore. This area forms the city's cultural hub, which branches out towards the east along the length of the Mall Road (Figure 3.2 & Figure 3.3). Other cultural and educational institutions line the Mall, up to its eastern most limit, before the road enters the Lahore (military) Cantonment.

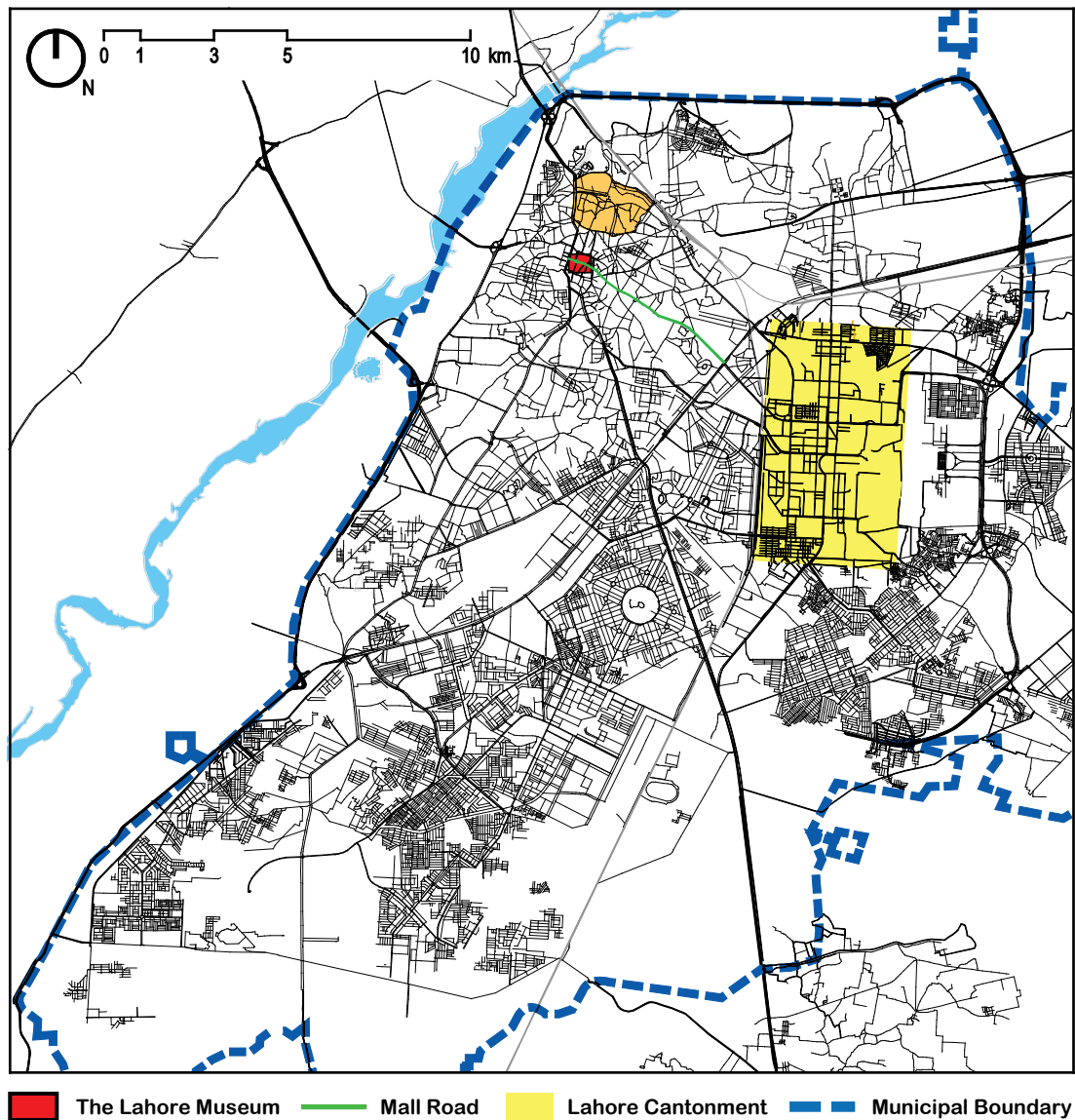


Figure 3.1: Location of the Museum within Lahore (2017)  
 Drawn by author. Base map source: <https://cadmapper.com/>

The Museum and the NCA, sit on the north of a city block bounded by the Mall Road towards the north, Library Road towards the east and Prof. Ashfaq Ali Khan Road (formerly known as Bank Road) towards the west (Figure 3.5 & Figure 3.6).

In the city block towards the north of the museum, across the Mall Road, are situated the buildings of the Punjab University, which amongst other faculties, houses the fine arts, design and architecture departments. The university lot begins in the east, where the Library Road meets the Mall Road and stretches till its western limit, at the western end of the city block, bounded by Prof. Ashfaq Ali Khan Road.



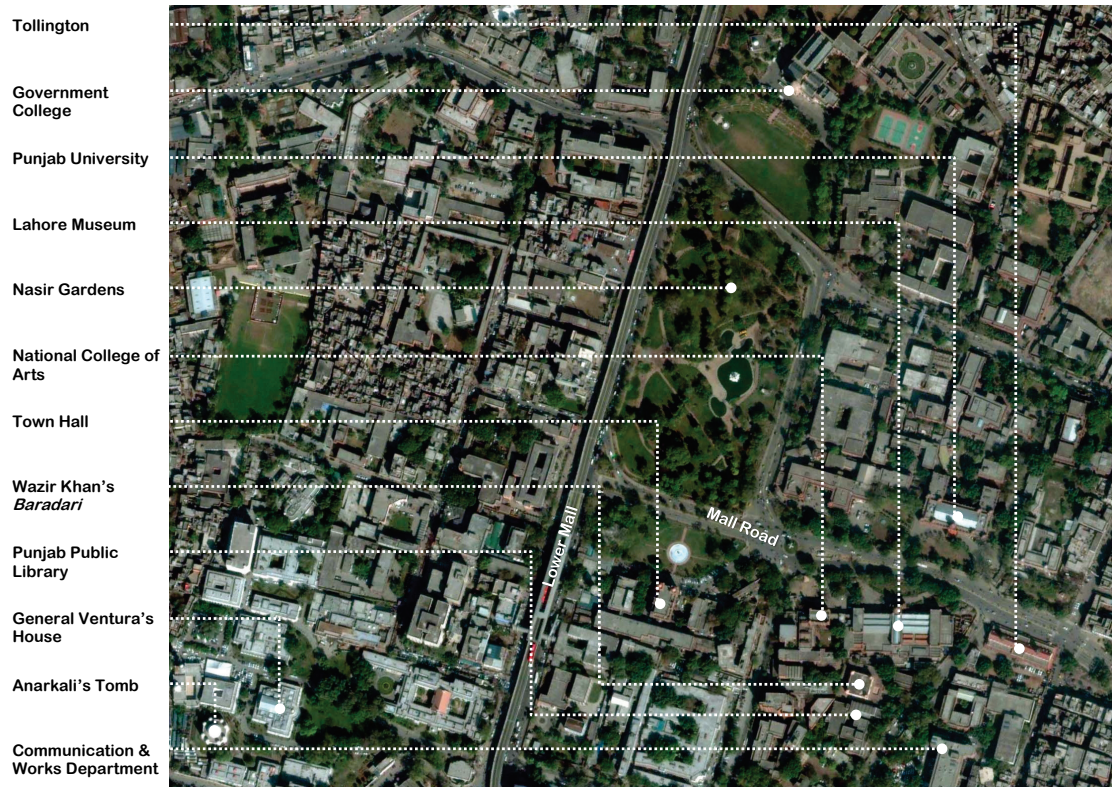


Figure 3.2: Lahore: The Cultural Precinct – Satellite Image (2017)  
Source: Google Earth

Across Library Road, the Tollington<sup>36</sup> occupies the entire width at the northern end of the city block towards the east of the museum. This building is also under the ownership of the Lahore Museum authorities. In the year 2006, the building was restored and its ownership was transferred back to the Museum. It has since been renamed the City Heritage Museum. At the moment, it serves primarily as a temporary exhibition space while the southern end of the lot is empty and serves as the public car parking area for the museum visitors as well as the NCA's students and visitors.

<sup>36</sup> The *Tollington Market*, sometimes written as *Tollinton* is a building that was the premises of the Punjab Exhibition of 1864 and later the Lahore Museum till 1893. From 1894 to 1994 it served as a public marketplace.

South of the Tollington, are the offices of the Department of Irrigation, and those of the Communication and Works Department (C&W).<sup>37</sup>

Nasir Gardens<sup>38</sup> encompass the entire city block towards the west of the Punjab University. Towards the north of the gardens, lie the Indo-Gothic buildings of the Government College University, while its western end is bounded by the Lower Mall.

In the city block towards the west of the museum, lies the Lahore Town Hall.<sup>39</sup> The stretch of road at the western end of the Mall, which separates the Town Hall and Nasir Gardens, terminates at the Postmaster General's Office, forming a T-junction between the Lower Mall running in the north-south, and the Mall running in the east-west direction.

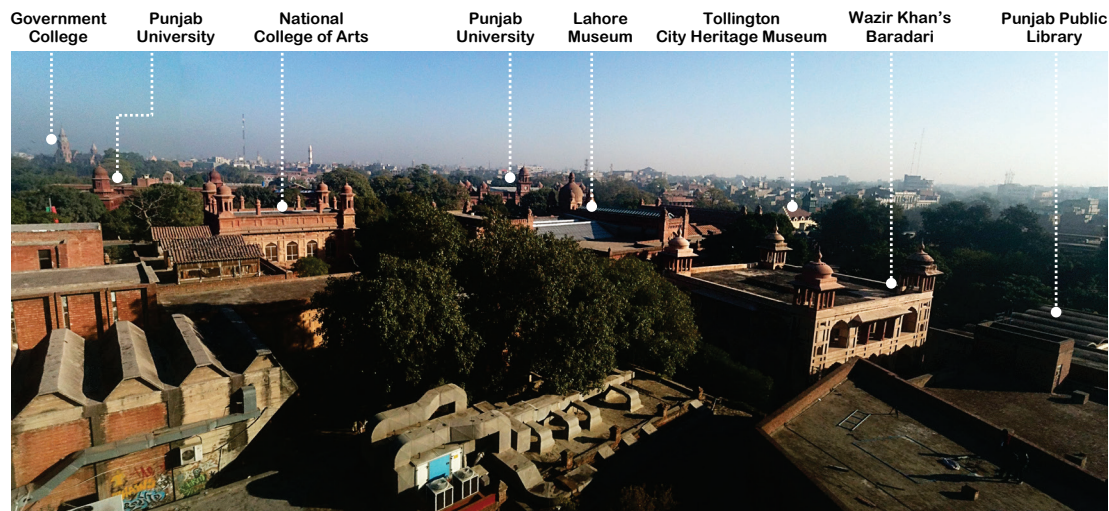


Figure 3.3: Environs of the Lahore Museum (2013)

### *The Immediate Surroundings of the Museum*

Towards the south of the museum lot, separated by a boundary wall, is the Punjab Public Library (Figure 3.6). The main building of the library is situated towards the

<sup>37</sup> Formerly known as the Public Works Department (PWD) and before that the Building and Roads (B&R) department.

<sup>38</sup> Formerly known as Anarkali Gardens, or Company Gardens in the vernacular.

<sup>39</sup> Formerly known as the Victoria Jubilee Town Hall.

south, with the *baradari* of Wazir Khan situated towards the north of the library lot. The *baradari* currently functions as a reading room for the library. Prior to the year 2008 and the deterioration of the security situation in the city, the *baradari* formed an open pedestrian link between the NCA and Library Road.

Towards the west, the Museum adjoins the building of the NCA. The plot line that separates the Museum and the NCA is staggered towards its northern end so that the western most room of the Museum faces the NCA's parking lot. The museum is built up against the western edge of the lot, with its western wall facing the *Bhai Ram Singh* (main) *Courtyard* inside the NCA premises.

#### *Within the Museum Lot*

The museum lot has a total area of 10101 sq. m. The footprint of the museum building, proper, occupies an area of 5225 sq. m. Additional structures, namely the *Annex building* (204.4 sq. m.), the *Servant Quarters* (211.7 sq. m), the *Tube well* (14.13 sq. m) and the *Canteen* (31.9 sq. m) occupy a total of 462.13 sq. m of space (Figure 3.6). Altogether 56.30 % of the total area to the lot has been constructed upon (not including temporary or removable structures such as fences and sheds).

Out of the empty space on the lot (4413.82 sq. m), the area between the north façade of the building and Mall Road (3330.32 sq. ft.), is a manicured lawn and has been since building was constructed in 1893.<sup>40</sup> The northern end of the lot is fenced with an iron grille interspersed with brick masonry columns. The museum had no fencing or boundary wall towards the north as far back as the 1970's (Figure 2.24). Due to growing security concerns, a 1.2 m high fence (above the sidewalk) was installed in the 1980's. This fence was raised to a height of 2.3 m, in 2008, by adding an additional tier of grilles above the earlier ones (Figure 3.4).

There is a semicircular driveway (now used only by guests of honor or dignitaries) that passes through the lawn. It arcs in, entering from north-east, passes in front of

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<sup>40</sup> The front lawn also doubles as a display area for a handful of large items in the museum's collection, such as cannons and large architectural artifacts. These include parapet crestings depicting the 'Royal coat of arms of the United Kingdom', removed from the Lahore High Court and stone statuary from Hindu and Jain temples. These are now attached to the north wall of the building.



the Entrance Portico and curves back, out of the lot from the north-west. The driveway is entered and exited directly from Mall Road through two iron grille gates set into the fencing on the northern boundary of the lot. The Entrance Portico, which is at the center of the north façade of the building, is set back from the Mall Road by 23.5 m.

There is an ornamental drinking fountain<sup>41</sup> at the northern end of the lot, directly opposite to the Entrance Portico. The fountain was constructed in the middle of an island as can be seen in Figure 2.20, but due to successive road expansions, the lot boundary has moved southward and now passes through its center. The northern end of the fountain's sandstone platform is now buried under the sidewalk. (Figure 3.4).



Figure 3.4: Lahore Museum – Northern Fence & Drinking Fountain (2006 ; 2015)  
1.2 m high fence, with barbed wire (left), Fence raised to 2.3 m (right)

<sup>41</sup> The fountain is out of order. The stonework is also deteriorating and some of the finials have fallen off.





Figure 3.5: SI-PL-LP – Satellite Image – Location Plan (2016)





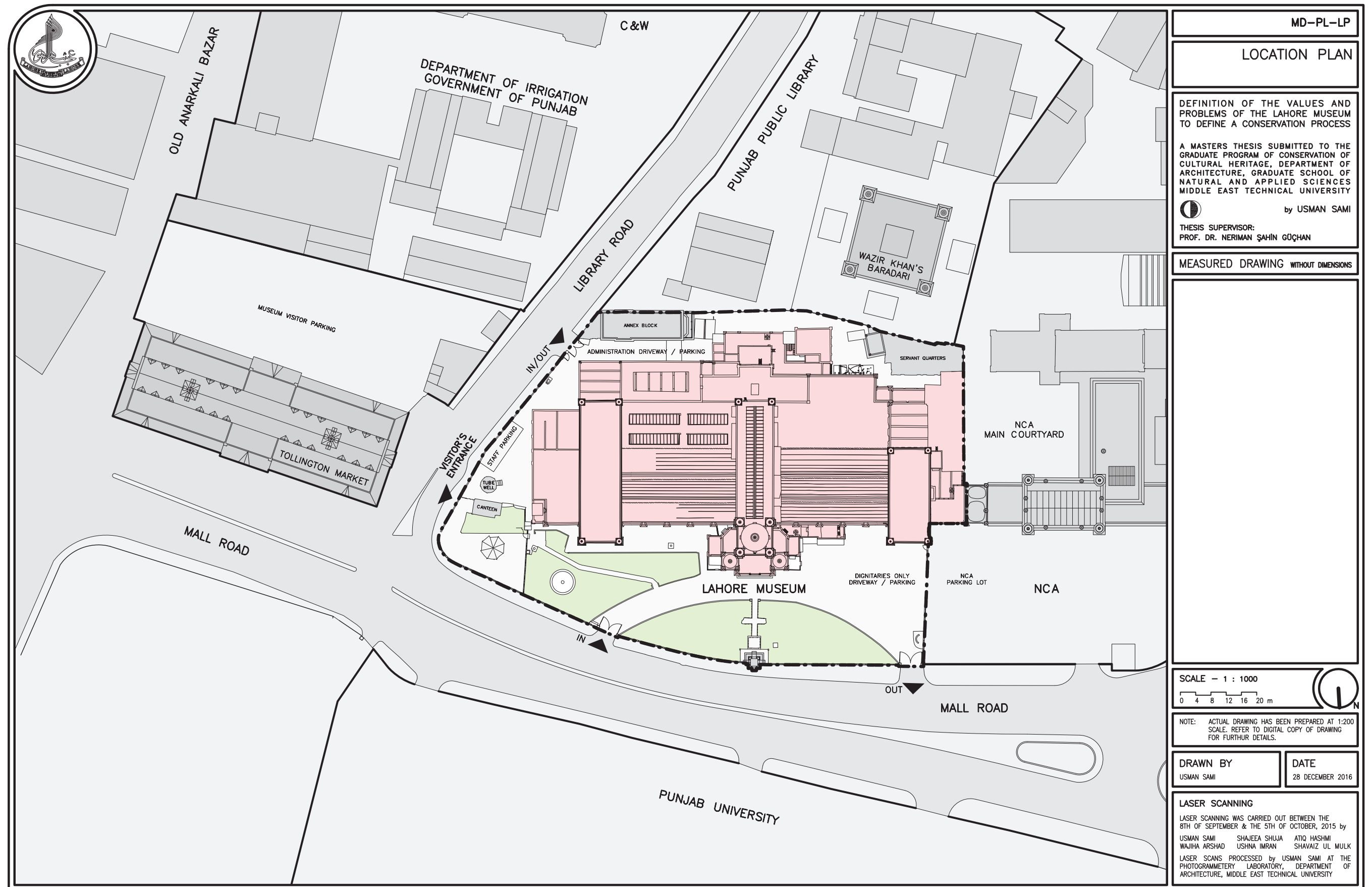


Figure 3.6: MD-PL-LP – Measured Drawing – Location Plan (2016)





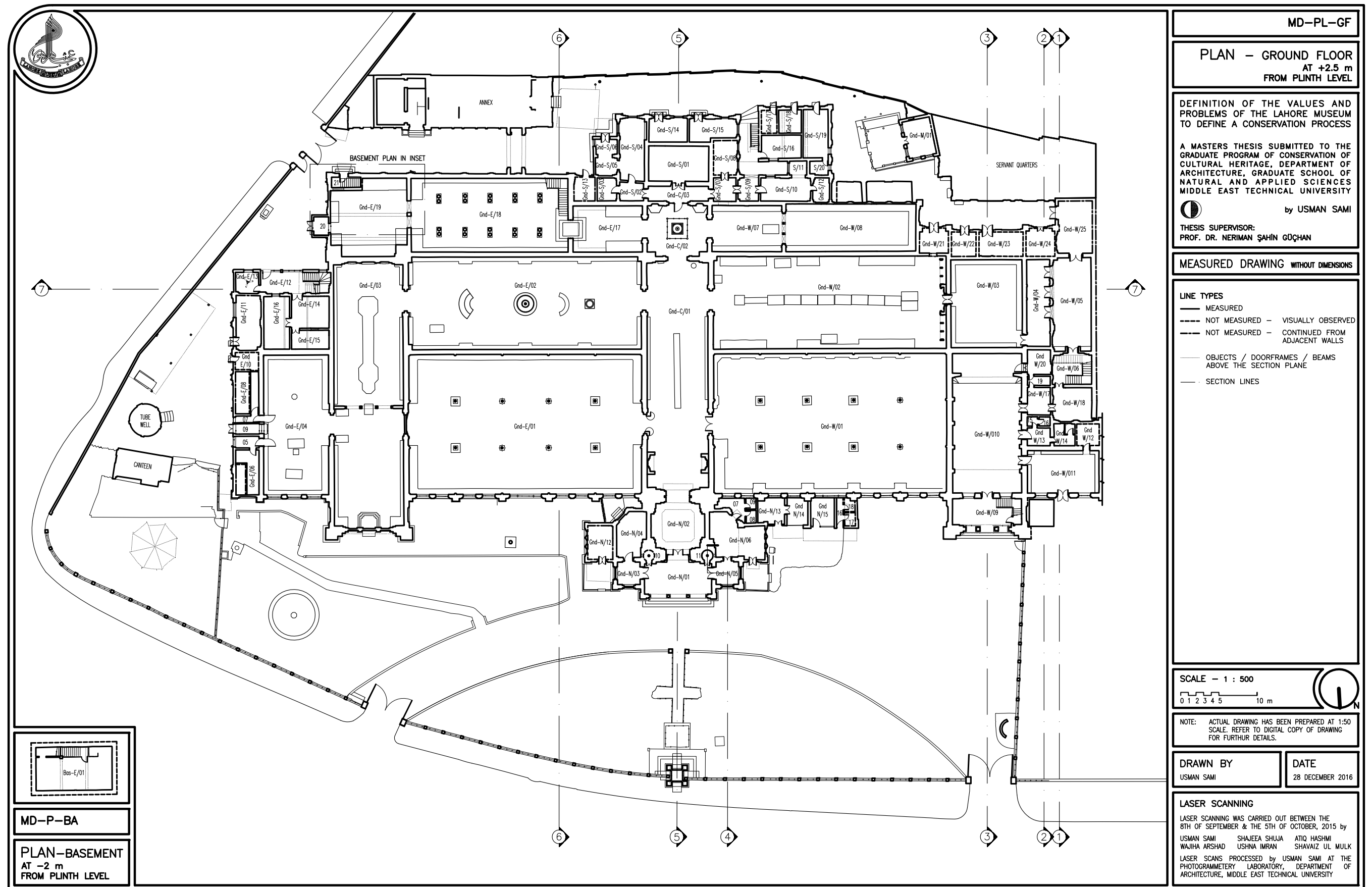


Figure 3.7: MD-PL-GF / BA – Measured Drawing – Plan – Ground Floor (2016)



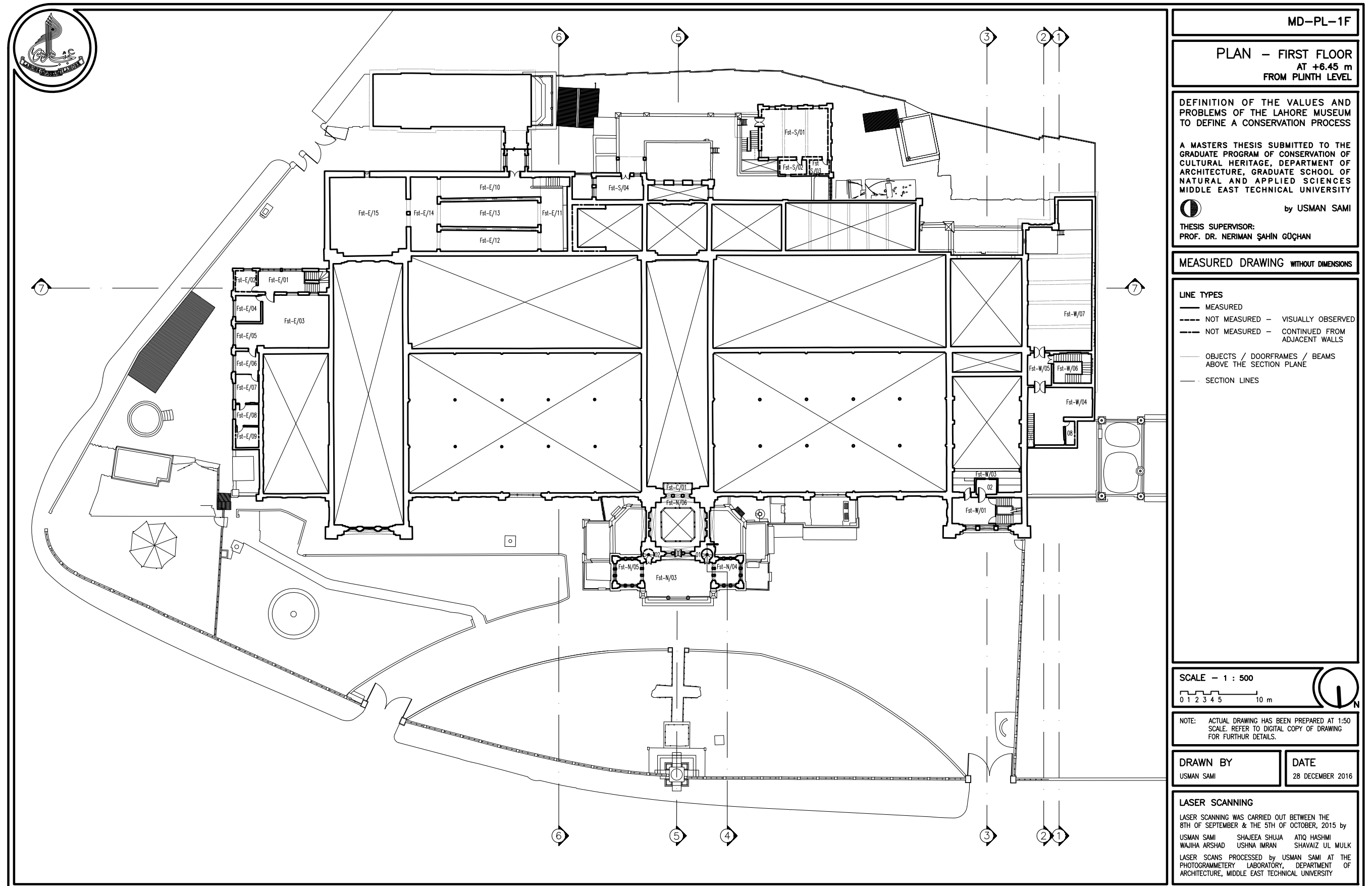


Figure 3.8: MD-PL-1F – Measured Drawing – Plan – First Floor (2016)



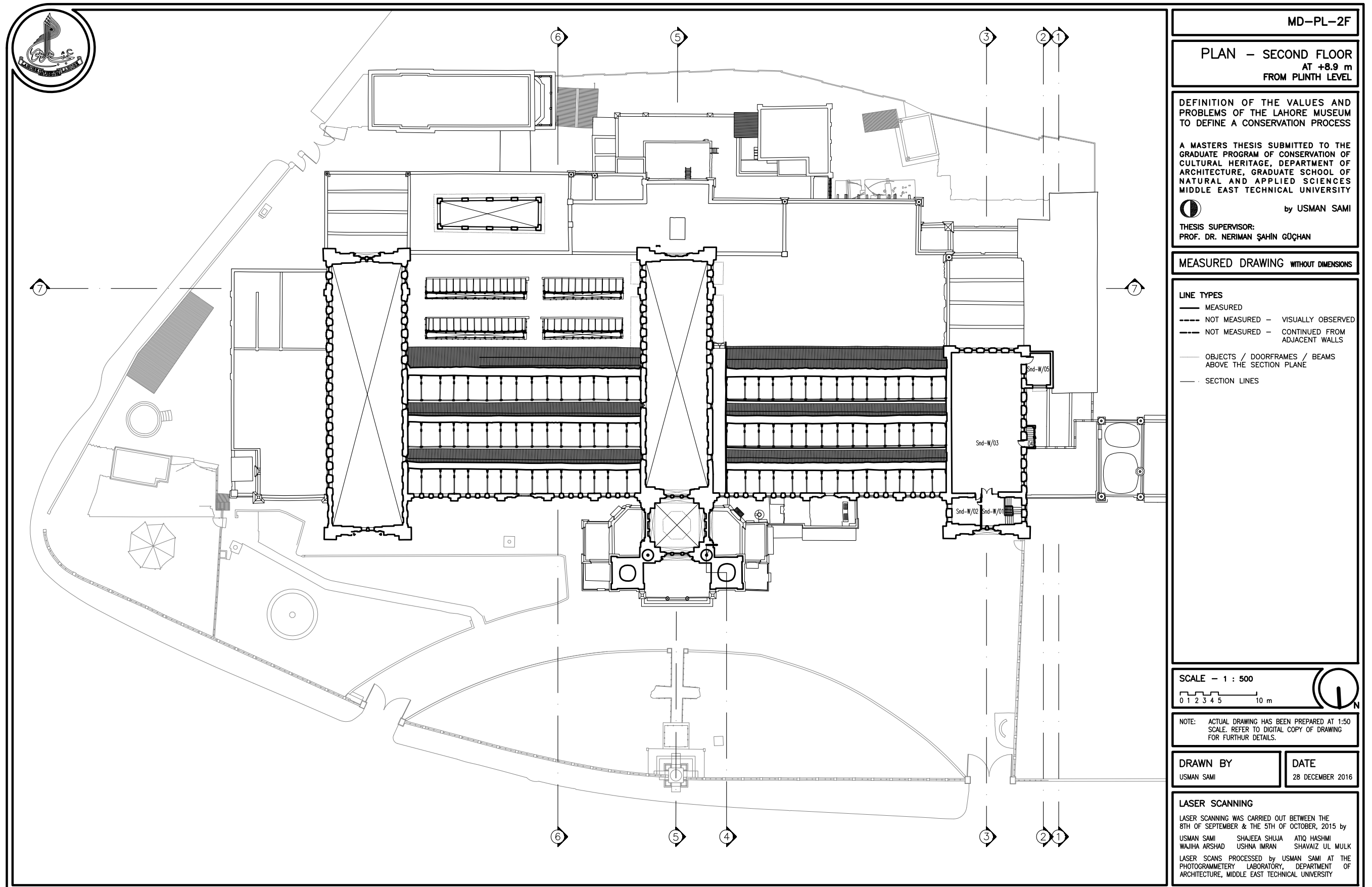


Figure 3.9: MD-PL-2F – Measured Drawing – Plan – Second Floor (2016)



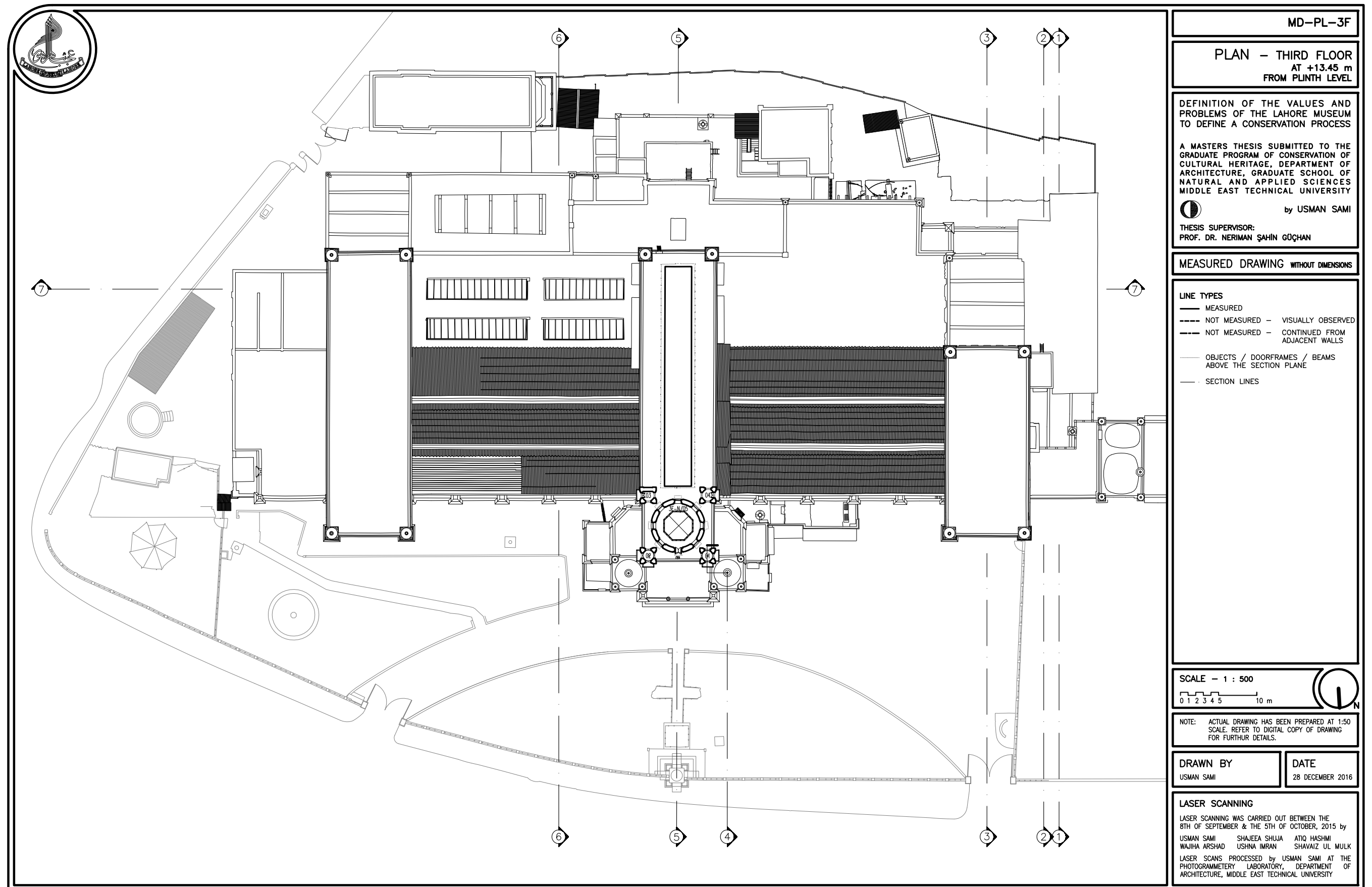


Figure 3.10: MD-PL-3F – Measured Drawing – Plan – Third Floor (2016)







Figure 3.11: LS-PL-RF – Laser Scan – Roof Plan (2016)



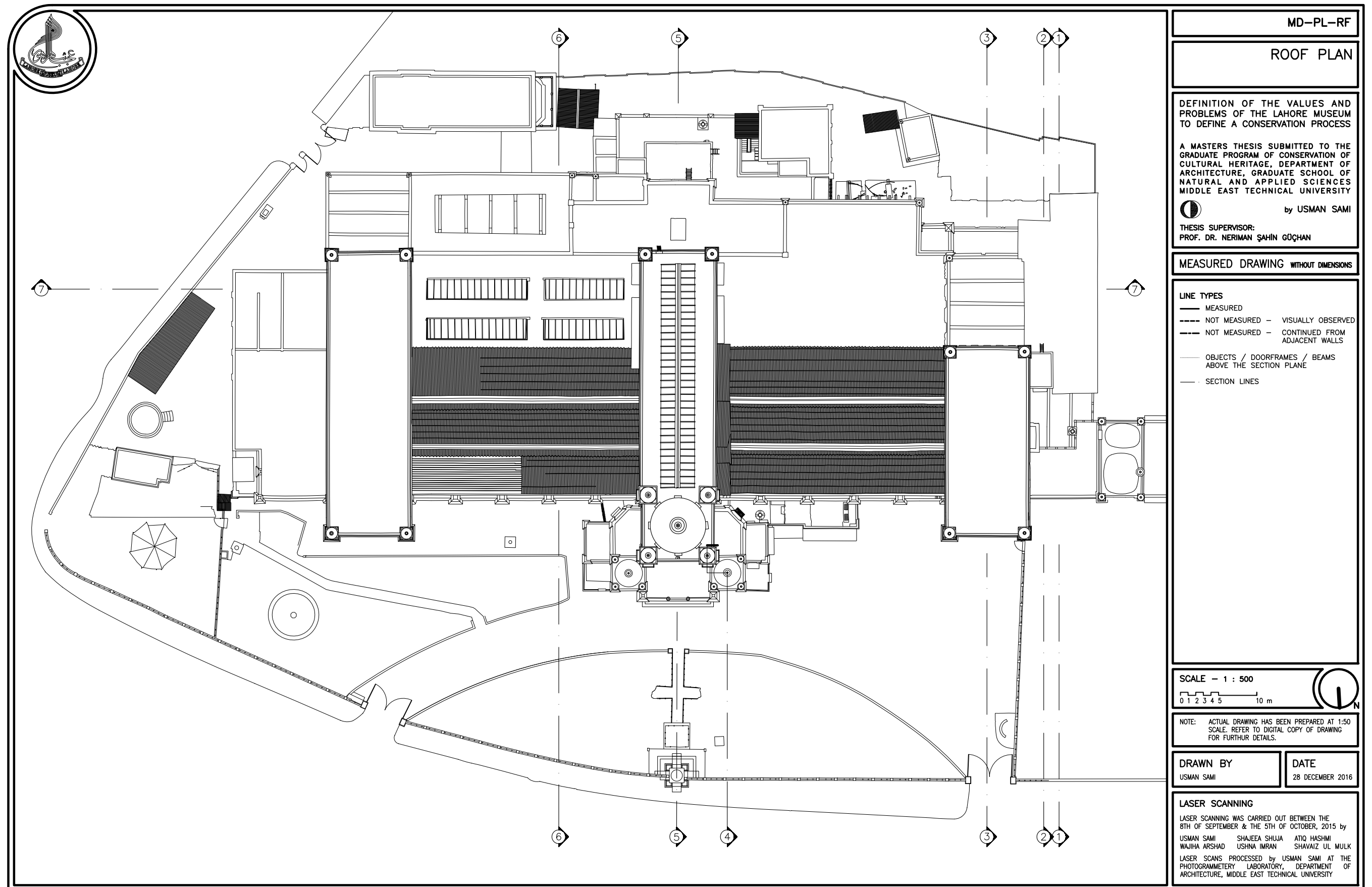
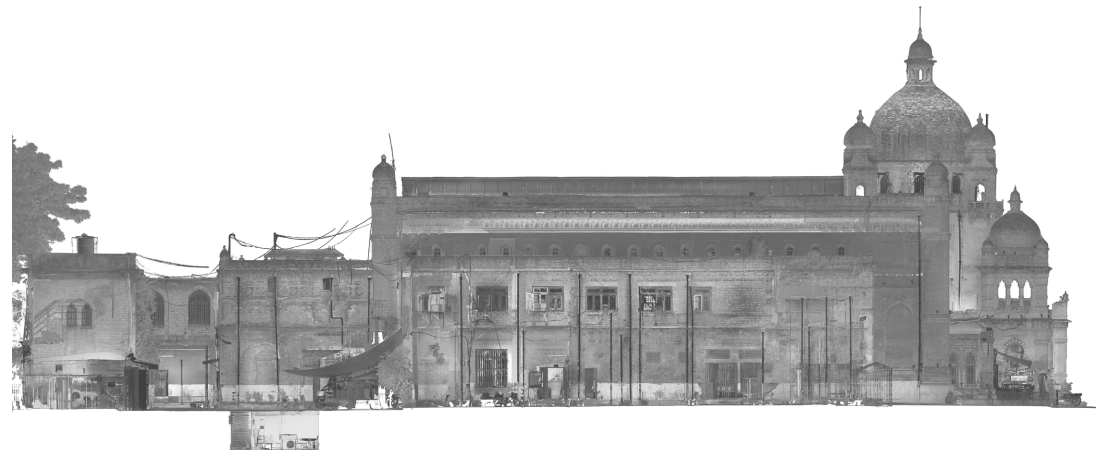


Figure 3.12: MD-PL-RF – Measured Drawing – Roof Plan (2016)

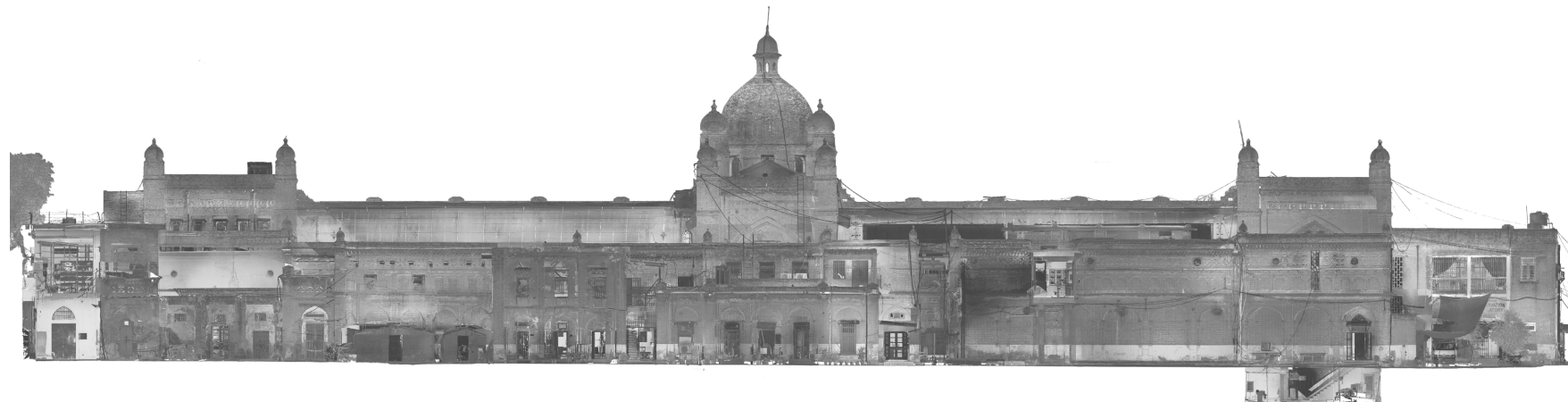




NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION

LS-EL-N/E/S

## ELEVATIONS

NORTH / EAST / SOUTH

DEFINITION OF THE VALUES AND PROBLEMS OF THE LAHORE MUSEUM TO DEFINE A CONSERVATION PROCESS

A MASTERS THESIS SUBMITTED TO THE GRADUATE PROGRAM OF CONSERVATION OF CULTURAL HERITAGE, DEPARTMENT OF ARCHITECTURE, GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES MIDDLE EAST TECHNICAL UNIVERSITY



by USMAN SAMI

THESIS SUPERVISOR:  
PROF. DR. NERIMAN ŞAHİN GÜÇHAN

## LASER SCAN

SCALE — 1 : 500

0 1 2 3 4 5 10 m

NOTE: ACTUAL DRAWING HAS BEEN PREPARED AT 1:50 SCALE. REFER TO DIGITAL COPY OF DRAWING FOR FURTHER DETAILS.

DRAWN BY  
USMAN SAMI

DATE  
28 DECEMBER 2016

## LASER SCANNING

LASER SCANNING WAS CARRIED OUT BETWEEN THE 8TH OF SEPTEMBER & THE 5TH OF OCTOBER, 2015 by  
USMAN SAMI SHAJEEA SHUJA ATIQ HASHMI  
WAJHA ARSHAD USHNA IMRAN SHAHAIZ UL MULK  
LASER SCANS PROCESSED by USMAN SAMI AT THE  
PHOTOGRAMMETRY LABORATORY, DEPARTMENT OF  
ARCHITECTURE, MIDDLE EAST TECHNICAL UNIVERSITY

Figure 3.13: LS-EL-N/E/S – Laser Scan – Elevation –North / East / South (2016)





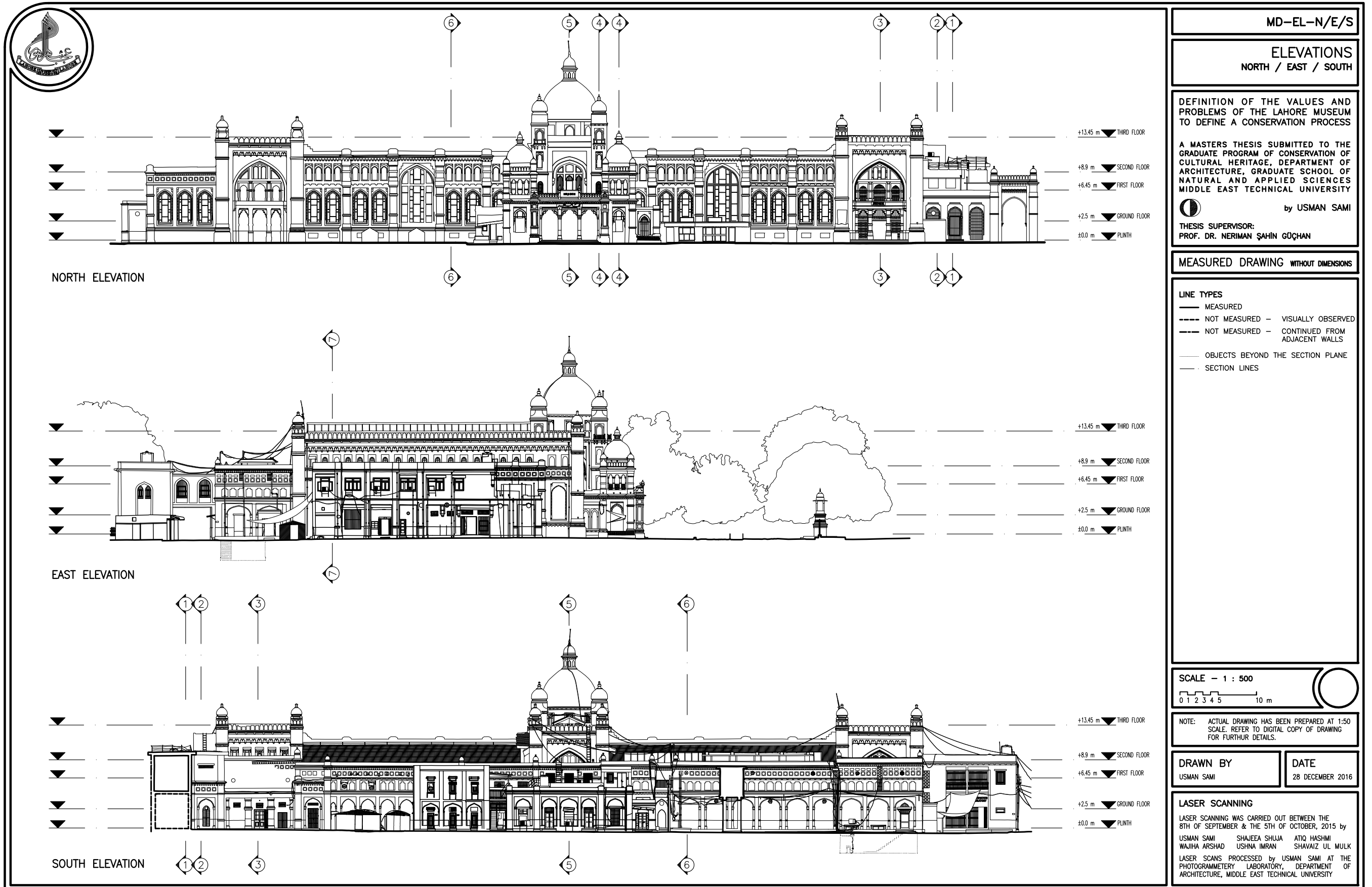


Figure 3.14: MD-EL-N/E/S – Measured Drawing – Elevation – North / East / South (2016)





Figure 3.15: LS-SE-1/2/3 – Laser Scan – Sections – 1 / 2 / 3 (2016)



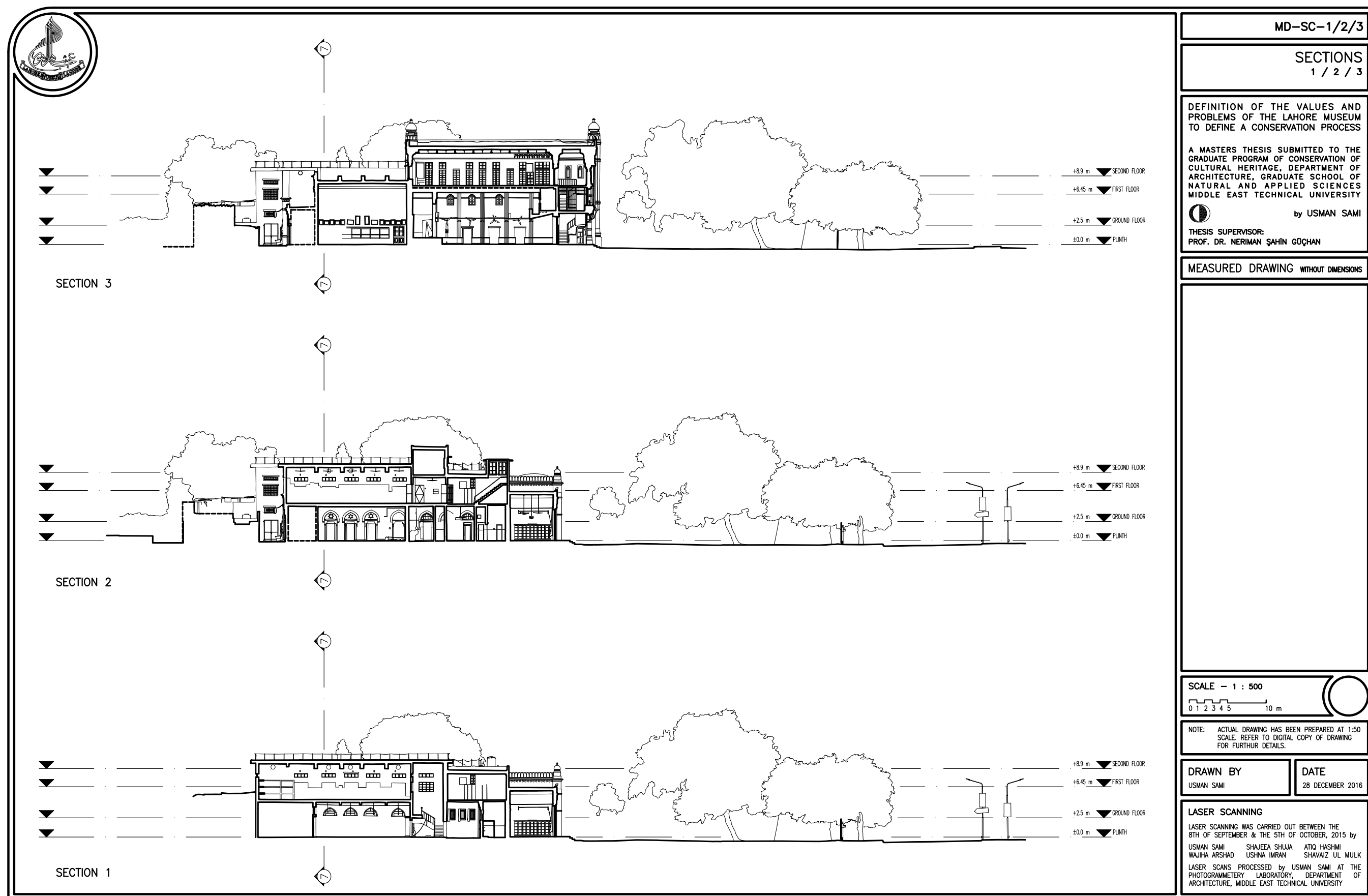
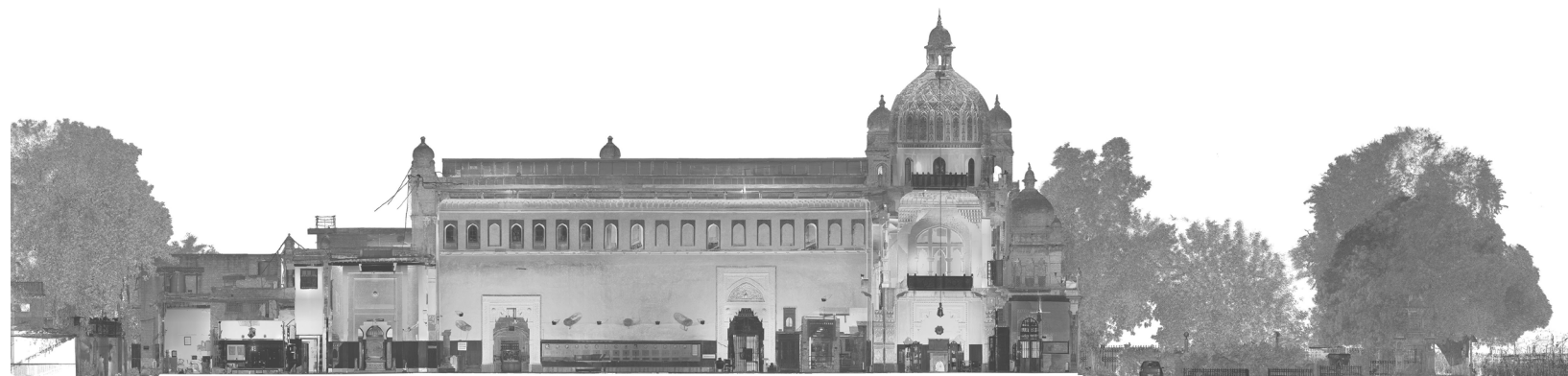
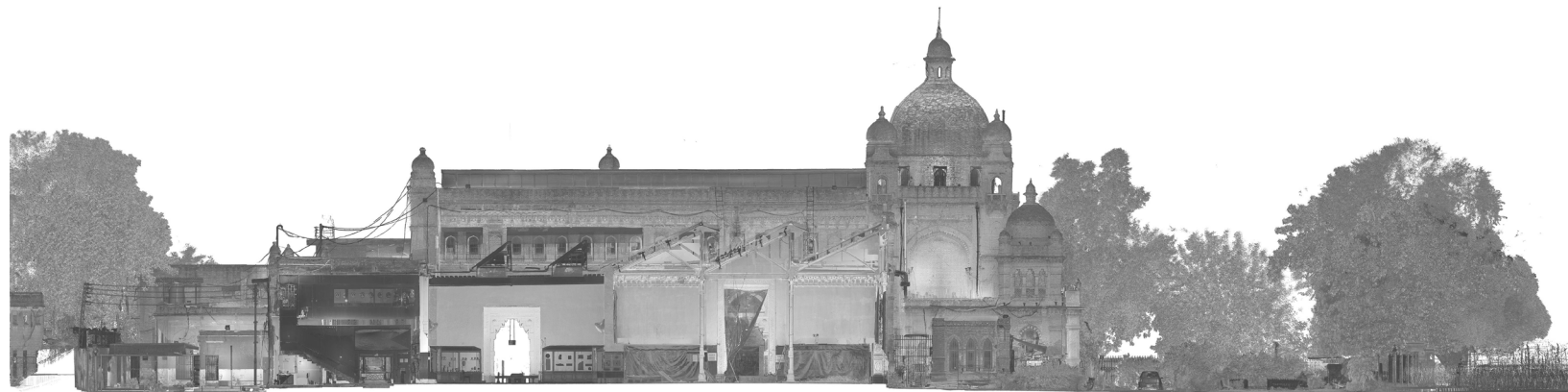


Figure 3.16: MD-SE-1/2/3 – Measured Drawing – Sections – 1 / 2 / 3 (2016)





LS-SC-5/6/7

SECTIONS  
5 / 6 / 7

DEFINITION OF THE VALUES AND PROBLEMS OF THE LAHORE MUSEUM TO DEFINE A CONSERVATION PROCESS

A MASTERS THESIS SUBMITTED TO THE GRADUATE PROGRAM OF CONSERVATION OF CULTURAL HERITAGE, DEPARTMENT OF ARCHITECTURE, GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES MIDDLE EAST TECHNICAL UNIVERSITY

by USMAN SAMI

THESIS SUPERVISOR:  
PROF. DR. NERIMAN ŞAHİN GÜÇHAN

LASER SCAN

SCALE — 1 : 500

0 1 2 3 4 5 10 m

NOTE: ACTUAL DRAWING HAS BEEN PREPARED AT 1:50 SCALE. REFER TO DIGITAL COPY OF DRAWING FOR FURTHER DETAILS.

DRAWN BY  
USMAN SAMI

DATE  
28 DECEMBER 2016

LASER SCANNING

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LASER SCANS PROCESSED by USMAN SAMI AT THE  
PHOTOGRAMMETRY LABORATORY, DEPARTMENT OF  
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Figure 3.17: LS-SE-5/6/7 – Laser Scan – Sections – 5 / 6 / 7 (2016)





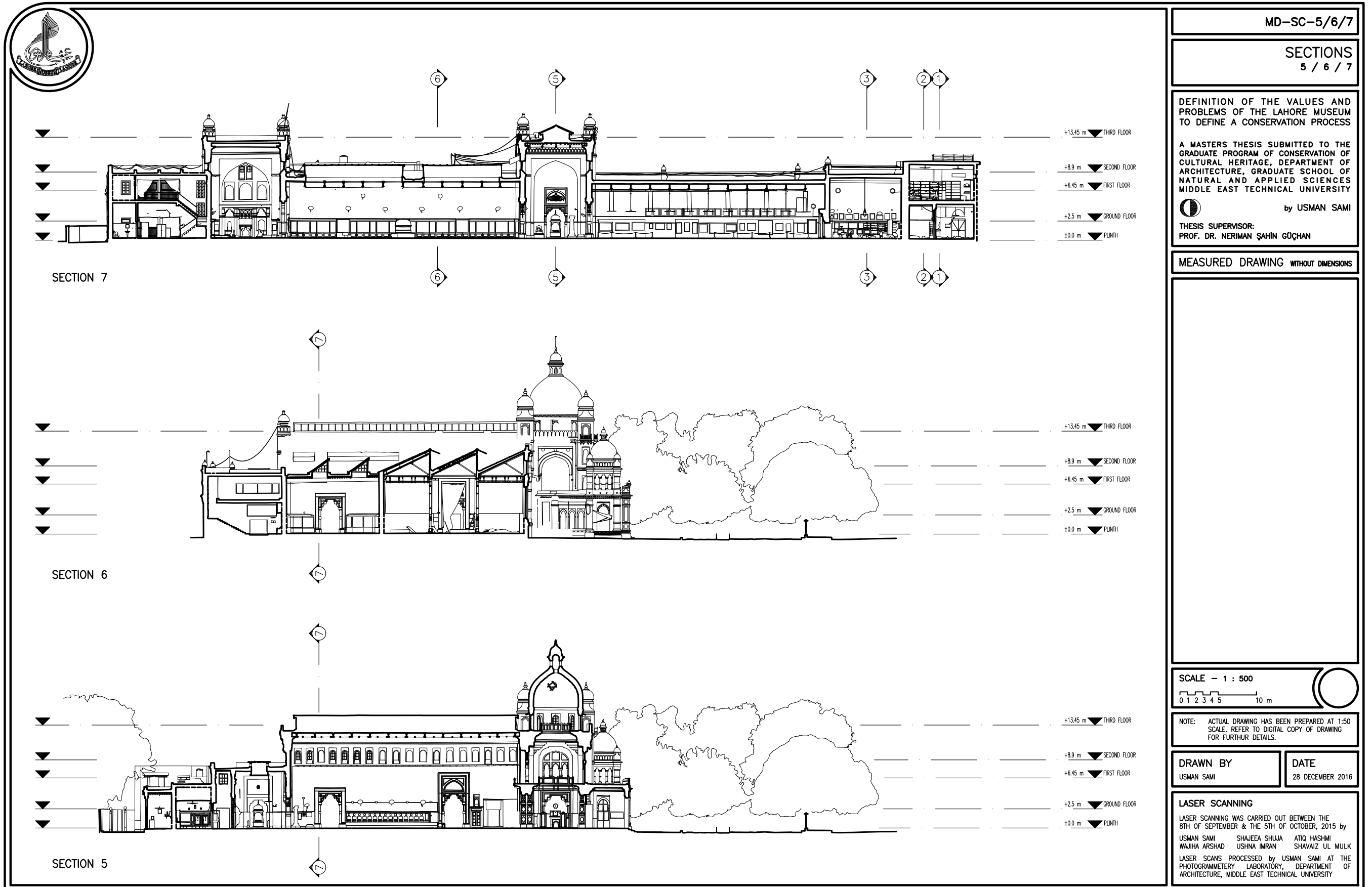


Figure 3.18: MD-SE-5/6/7 – Measured Drawing – Sections – 5 / 6 / 7 (2016)



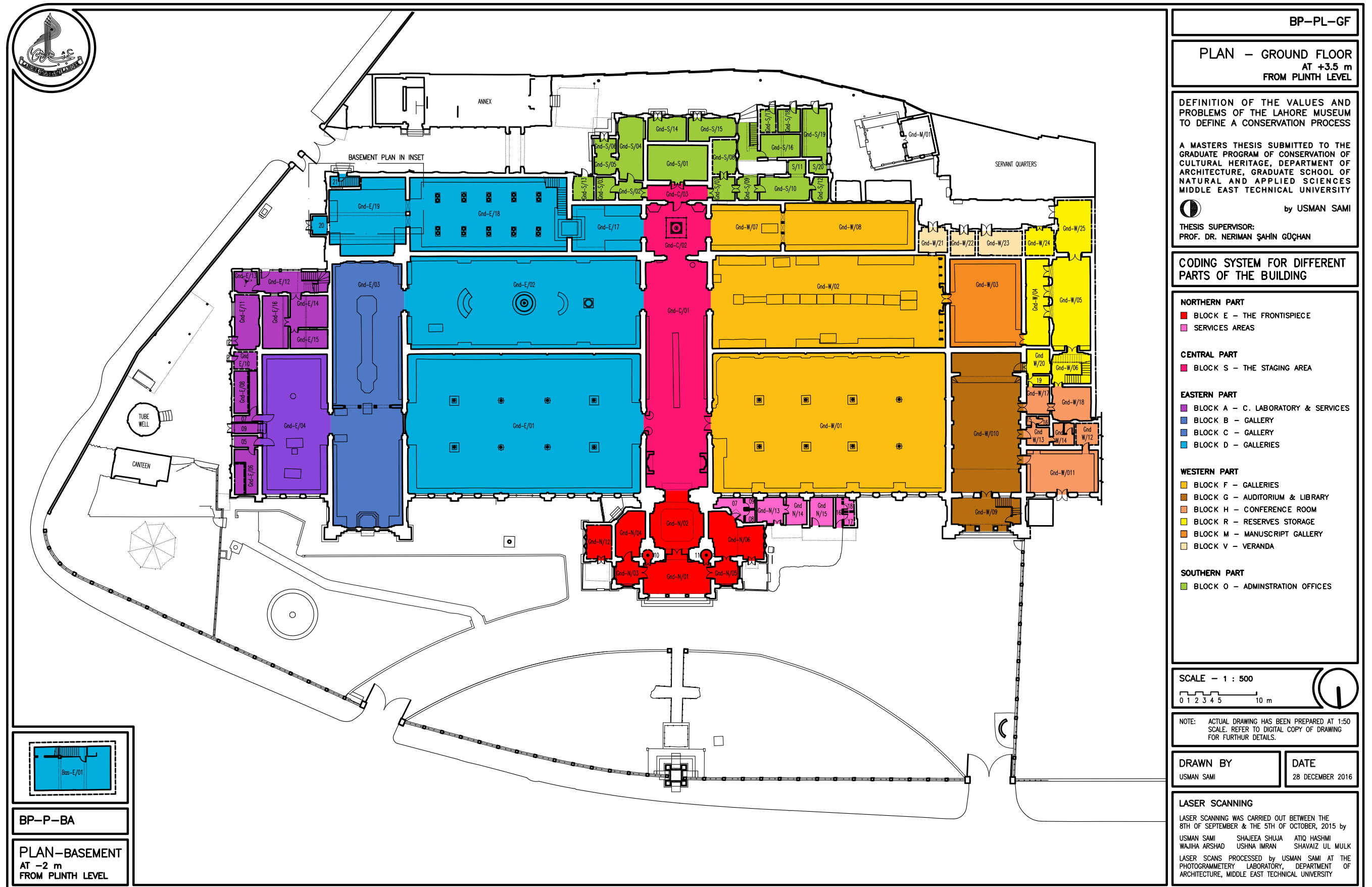


Figure 3.19: BP-PL-GF / BA – Parts of the Building (2016)



### 3.2. General Description of the Museum Building

The Lahore Museum is a large building constructed entirely with exposed load-bearing red English brick. The building has a homogenous volume that is subdivided internally and is accessed through multiple entrances.

At the core of the building are seven huge rooms that function as exhibition galleries. There are eight smaller galleries towards the south of the larger ones.

There are additional parts of the building that can only be accessed from the exterior of the building. Towards the east, is a part of the building that contains the Conservation Laboratory and towards the south are the Administrative Offices. The offices are primarily accessed from the exterior but have an internal link to the exhibition areas. Towards the west is the Auditorium & Library. This part of the building also contains the conference room, as well as some small storage rooms, and the museum's main Reserve Stores (Figure 3.178).

#### 3.2.1. *Mass Characteristics and Volumetric Features*

The museum's exterior is defined by its northern (primary) façade, which is 114 m wide and faces the Mall Road (Figure 3.21). The features of this façade are essentially linked to the volumes of the building (Figure 3.20). These volumes are composed in a nearly symmetrical arrangement and can be visually divided into eight Blocks A – H (Figure 3.21) when viewed from the north.

At the center of this arrangement, is the main focus of the building, referred to in period documents as “The Frontispiece” (Brown, 1908, 1909) (**Block E**). This block is composed in three levels and set forward (northward) from both Blocks D & F at a distance of 13.2 m. A white marble portico, the main entrance to the museum, is placed at the ground level of this arrangement (Figure 3.23). This is flanked by two domed turrets on the first floor level. The combined width of the arrangement is 17.26 m while the pinnacle of the main dome that crowns the Frontispiece, the highest point in the composition of the cascading arrangement of domes forming the upper part of the Block, peaks at 24.5 m above the plinth.

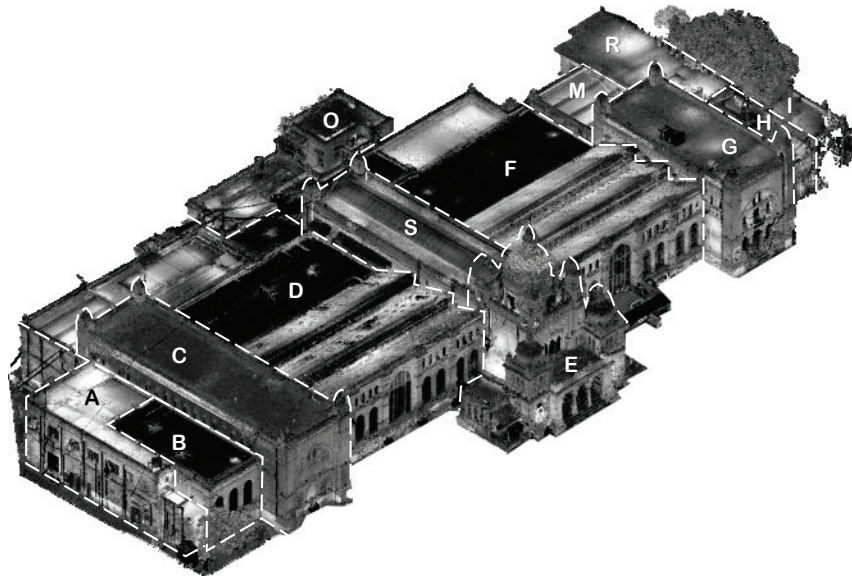


Figure 3.20: Lahore Museum – Massing (2016)

Isometric projection of the laser scan point-cloud.

A: Laboratory, B/C/D/F/M: Galleries, E: Frontispiece, G: Auditorium and Library, H: Conference Room, I: NCA – Entrance Portal, S: Central Gallery / Staging Area, O: Administrative Offices, R: Reserves Store.

The two central northern galleries, **Blocks D & F** on the eastern and western side of Block E, are each 30 m wide with a height of 11.7 m. They are setback (southward) from Block C at a distance of 5 m. The large halls with saw-tooth trussed roofs have three ridges, sloping towards the south. They extend towards the south to a depth of 19.34 m. Transitioning into a flat roof, Block D extends another 21.25 m towards the south, behind, and wrapping (counterclockwise – towards the east) around Block C. Block F transitions into a flat roof towards the south of the saw tooth truss section and extends further south for another 19.3 m.

Sandwiched between the two central northern galleries and south of the Frontispiece is the Miniature Painting Gallery (**Block S**). This Block is 9.45 m wide, 14.5 m high and extends 31.3 m towards the south, the same distance as the flanking galleries (D & F).

Towards the east of the three central volumes, the Frontispiece and the North Eastern Gallery (Block D) is **Block C**, the Hindu and Brahmanical Gallery, which is 11.4 m wide, 13.82 m high and set forward by 5 m from Block B & Block D. It extends 38 m



towards the south and each of its corners terminates in a pier, surmounted by a small domical crown.

At the eastern most end of the building are the Conservation Laboratory (**Block A**) and the Indus & Prehistoric Galleries (**Block B**). Block A, 3.28 m wide, wraps around Block B, which is 9.48 m wide, 9.54 m high and is set forward (northward) from Block A at a distance of 5 m. Together they form a single volume 12.76 m wide, which extends 30.5 m towards the south, having a height of 5.1 m above the plinth.

Towards the west of the North Western Gallery (Block F) is the Auditorium & Library (**Block G**). Though similar in dimension to Block C, it extends to a shorter distance of 25.2 m towards the south. This block also terminates in piers on every corner, surmounted by a small domical crowns. South of Block G, is the Manuscript Gallery (**Block M**). This volume has the same width as Block G, but is shorter in height and extends 12.2 m towards the south.

At the eastern most end of the building, sandwiched between the Entrance Portal (formerly Carriage Portico) of the NCA, and the Auditorium is the Conference Room (**Block H**). It is 8.78 m wide and 6.53 m high, set back at 5.37 m from the front of Block G. It extends 14.4 m towards the south. South of this block is the Reserves Storage (**Block R**), a large volume of the same width, extending a further 24.83 m towards the south and rising to a height of 10 m above the plinth.

Towards the south of Block S, are the Administrative Offices (**Block O**) this block is 28.5 m wide extending 8.7 meters towards the south. The eastern part of the block rises to a height of 5.95 m, while the western part rises to a height of 8.2 m above the plinth.

### 3.2.2. *Façade Features*

The *North Façade* of the Museum and the NCA have single a continuous elevation, which runs east to west along the whole length of the city block. The length of the façade of the museum is broken up and accented with three volumes (Blocks C, E & G) rising vertically as well as protruding slightly towards the north. Out of these, Block E, the Frontispiece, is the most elaborately designed and forms the pivot around which the rest of the elevation is hinged.

The rest of the building elevation is symmetrically laid out on both sides of this Block. While, Blocks F & G on the east of the Frontispiece (Block E), are mirrored in Blocks D & C, respectively.<sup>42</sup> Block H is not a mirrored version of Block B. It is instead a near-mirrored version of Block J on the western side of Block I, the Carriage Portico / Entrance Portal to the NCA. Blocks H & J vary from each other only in surface detailing but not their proportioning. Block B has the same width as Block H, but is much higher. Block A is a narrow low Block, that has no large openings towards the north. Block K is the NCA building, the first part of the composition to be constructed.

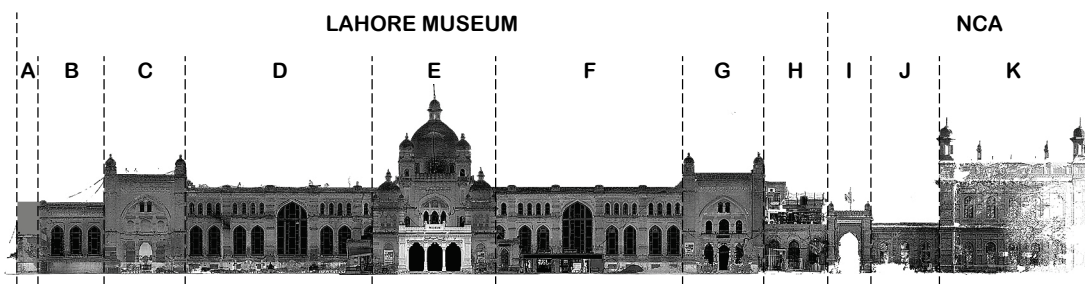


Figure 3.21: Lahore Museum and NCA – Northern Façade (2016)  
 Orthographic projection from laser scan and photogrammetric point-clouds (NCA).  
 A: Laboratory, B/C/D/F: Galleries, E: Frontispiece, G: Auditorium and Library, H: Conference Room,  
 I: NCA – Entrance Portal, J/K: NCA

The northern face of Block A is the eastern most part of the northern façade and is also the smallest in width. This block has no openings towards the north. Block B adjoins Block A towards the west. The block has three arched windows. These four cross-centered arched windows are 1.78 m wide and 4.27 m high and are separated by 52 cm wide pilasters. The base of the arches is 2.1 m above the plinth and the springer of the arch is 5.33 m above the plinth.

Block C adjoins Block B towards the west. This protruding block is flanked by 1.6 m wide piers on either side that culminate in small ornamental domed canopies 2.7 m high placed above the height of the block; i.e. the pinnacle of the dome is at a height of 16.43 m above the plinth. These domed canopies are purely ornamental and constructed of brick masonry which is solid to the core. Between the piers is placed, a

<sup>42</sup> With minor differences.

large triple-cross-centered arch 6.5 m wide set forward by 47 cm from the surface of the wall behind. The intrados of the arch, is lined with terracotta bulbs. The wall framed by the arch is divided into a grid of nine unequal sections. The lowest part of the grid is 4.53 m high. It is separated from the middle section with a horizontal band 56 cm high. The middle section is 2.6 m high separated by a horizontal band 30 cm high, from the top section which has a maximum height of 2.1 m.

The lowest section is divided horizontally into three sections, separated by 53 cm wide brick columns. The central section is 1.85 m wide while the two flanking sections are each 1.3 m wide. The brick columns, which are at a height of 3.93 m from the plinth, are spanned by flat arches in brick masonry supported by two triple-tiered, molded, terracotta brackets, one on each side of every opening.

The middle level has three triple-cross-centered arches. The central arch is 1.47 m wide and 2.15 m high. The base of the arch is 5.12 m above the plinth and the springer is 6.51 m above the plinth. The arches on the sides are placed at an interval of 91 cm from the central arch. They are 9.6 m wide and 2 m high. The base of these arches is 5.12 m above the plinth and the springer is 6.51 m above the plinth.



Figure 3.22: Turrets and central arch (2016)  
View from the roof of the portico.

The central section of the top level has two triangular arches 70 cm wide and 1.7 m high with an interval of 31 cm between them. The base of these arches is 7.92 m above the plinth and the springer is 9.45 m above the plinth. Centered on top of the two windows is a horizontal diamond shaped window 67 cm wide and 34.5 cm high with its lowest point 9.55 m above the plinth.

All the archways and bracketed openings are blind, infilled with recessed masonry walls. The middle part of the lowest section has a statue of Vishnu attached to it by means of iron clamps.

Block D adjoins Block C towards the west. This block has a long horizontal composition. The block is divided into five bays horizontally at equal intervals separated by a 30 cm wide pilasters built into the brick masonry. The central bay has a single triple-cross-centered arched window 4.2 m wide and 7.68 m high. The base of the arch is 2.1 m above the plinth and the springer is 7.38 m above the plinth. The two bays on the left and right of the central bay are further divided into sections. Each of these bays is in two parts, divided by horizontal ornamental bands made of specially molded bricks, 50 cm in height, placed at a height of 7 m above the plinth.

The lower part of the bay has two, four-cross-centered arched windows 1.78 m wide and 4.27 m high. The base of the arch is 2.1 m above the plinth and the springer of the arch is 5.33 m above the plinth. The upper section of the bay has four, triple-cross-centered arched ventilators 70 cm wide and 1.72 m high. The base of the arch is 7.82 m above the plinth and the springer is 9.12 m above the plinth.

Block E, the Frontispiece, is at the center of the composition. It is flanked by Block D toward the east and Block F towards the west. At the ground level, is a white marble entrance portico (Figure 3.23), through which the museum is entered. At the center of the portico is a colonnade with three openings bounded with pilasters on the sides and two marble columns in the middle. The portico is framed with marble revetments which have arabesques carved in bas-relief. The parapet of the portico holds up a marble cresting in the center, carved with the word *MUSEUM*, below which is inscribed, its Urdu translation.<sup>43</sup>

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<sup>43</sup> 'عجائب گھر' ... 'Ajayib Ghar'

The marble portico is flanked on both sides by double storied turrets. On the ground floor of these turrets are rooms that are accessed through the portico. The exterior faces of these rooms (north and east of the eastern room and north and west of the western room), are closed by means of carved sandstone *jalis* (Figure 3.24).<sup>44</sup> The upper storeys of the turrets are open chambers (Fst-N/04 & Fst-N/05), with three corbelled openings on each of the northern, eastern and western sides. The southern sides of the chambers have blinded openings of the same kind.<sup>45</sup> The chambers open onto the roof of the portico (Fst-N/03). They are covered by double domes which are surmounted with lanterns.<sup>46</sup>

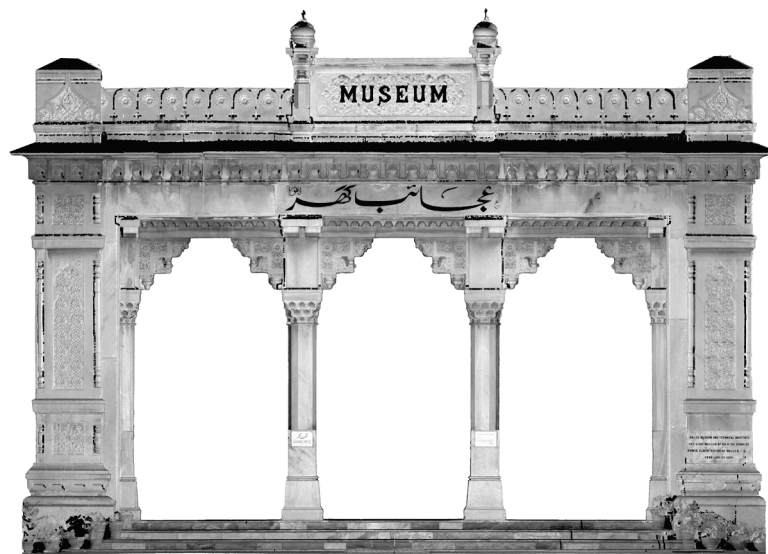


Figure 3.23: Marble Portico (2016)  
Orthographic projection from laser scan point-cloud.

Between the turrets is a monumental four centered arch 4.49 m wide, rising 1.98 m above the springing line, the intrados of which is lined with terracotta bulbs, the same as the ones on Block C. The highest point of the arch lies at 10.56 m above the plinth.

<sup>44</sup> A *Jali* is a perforated stone, terracotta, or in contemporary examples, concrete screen. In the case of the Lahore Museum, most of the *jalis* are made with specially molded terracotta units in multiple geometrical arrangements.

<sup>45</sup> The corbelled openings are constructed in the same manner as the open ones though they are closed by means of recessed brick masonry walls.

<sup>46</sup> The lanterns on the tops of these domes, constructed in brick masonry, are solid to the core and are thus, purely ornamental.



The spandrels above the arch are fitted with a specially molded terracotta *jalis* (Figure 3.22). Inside the archway there is a second, smaller arch placed at a setback of 57.15 cm from the first. It is 3.53 m wide and rises 1.61 m above the springing line. This archway is divided into six, with three sections on top and three at the bottom. The upper sections are also fitted with terracotta *jalis* while within each of the lower divisions is an arch. These archways are affixed with two floor length windows on the sides and a door in the middle, leading to (Fst-N/06). The whole arrangement is crowned by a monumental dome with a diameter of 7 m, peaking at 25 m. It is surrounded by four small domed canopies. The canopies have balconies supported on corbelled masonry brackets, facing north, east and west. These balconies have terracotta *jali* balustrades with sandstone balusters and railings.

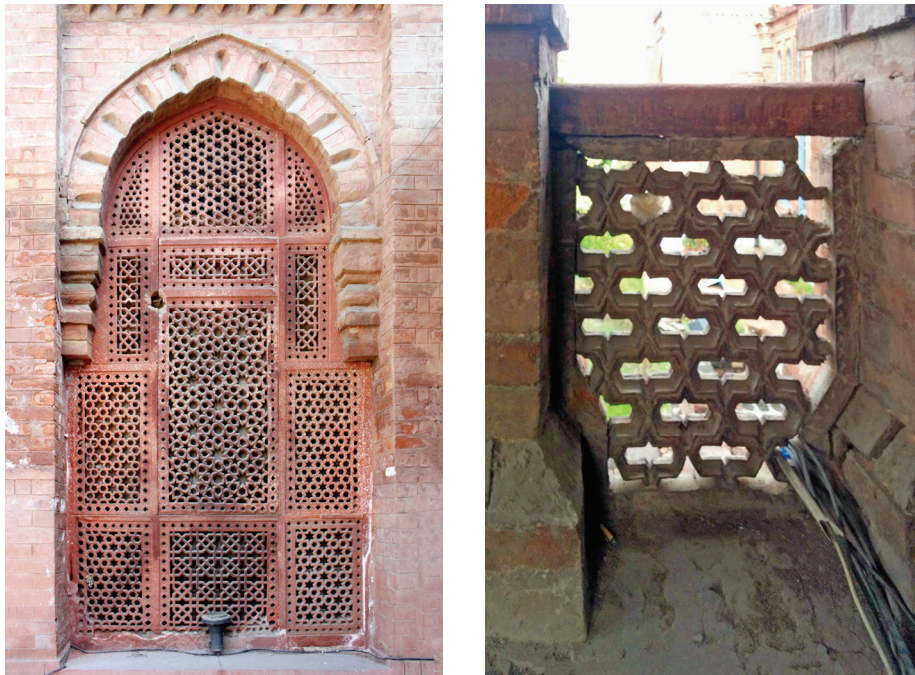


Figure 3.24: Sandstone and Terracotta *Jali* screens (2016)  
Sandstone screen from (Gnd-N/05-WW) and Terracotta screen from (Fst-N/05-EW)

Block F adjoins Block E towards the west, set back (southward) from Block E at a distance of 13.2 m. This block is symmetrically placed with respect to Block D and has identical dimensions and detailing. The only difference between the two is the row of small rooms (Gnd-N/07 – 09 & 13 – 17) constructed on the eastern end, sandwiched

between the western side of Block E and the northern face of Block F. The roof of these rooms is level with the base of the windows on Block F.

Block G adjoins Block F towards the west. This block is symmetrically placed with respect to Block C. Block G has with the same dimensions and detailing as the one on the west except that all the arches and bracketed openings facing north are open and that the brackets in the openings are structural and not only ornamental, and thus made of sandstone and not terracotta. They have the same details as the corresponding ones on Block C.

The openings at the lowest section are closed by means of iron grilles, the central part of which is foldable and leads to the space Gnd/W-09. The arches on the middle level are closed by means of a fixed iron grille. At the base of the arches is a cast-iron balustrade topped with a wooden railing. The two triangular arched openings in the central section of the top level are fitted with windows

Block H adjoins Block G towards the west. This block is part of the museum premises, but it faces the parking area in the adjoining lot of the NCA. The elevation of Block H has three triple-cross-centered arches 2 m wide with a height of 4.21 m from the plinth. The springer of the arch lies 3.45 m above the plinth. The interval between the central and side arches is 87.4 cm. The eastern arch is offset 79 cm from Block G and the western arch is offset 84.5 cm from Block I.

Block J is the Entrance Portal of the NCA. This portal shares a wall with the spaces (Gnd-W/11 & 12). Block J adjoins the NCA's Entrance Portal (Block J) on its western side and matches the size and proportions of Block F. The main block of the NCA building, Block K adjoins Block J towards the west.

The *Eastern Façade* is primarily composed of the eastern faces of Blocks A, B and D. Towards the east of the elevation is the eastern face of southern end of Block D. This part of the elevation is a dead wall, with two blind four-cross-centered arches on its lower level. The southern arch shows traces of a doorway, blocked with a cement plastered masonry wall. There is a small 2 m by 3 m chamber, constructed in front of the northern arch. The upper level of the wall has two rectangular openings for exhaust fans fitted with metal flaps.





Figure 3.25: Lahore Museum— Eastern Façade (2016)  
Orthographic projection from laser scan point-clouds.  
A: Laboratory, B/C/D: Galleries, E: Frontispiece.

Block A is a rectangular cuboid volume. On the eastern face of the block, is an unsystematic arrangement of openings punctured into the façade. The upper part of the façade has six rectangular windows towards the southern end of the wall. The first of which (from south to north) is 1.2 m wide, the next four 2.1 m wide and the last, again 1.2 m wide. This is the only systematic arrangement of openings on this façade.

The lower part of the wall (from south to north), has a large opening fitted with an iron grille, a glazed wooden double door with an outer iron grille gate, a small solid wooden door above which is a circular exhaust fan opening, two rectangular ventilators high up on the wall (fitted with iron grilles) above which is a circular exhaust fan opening, a large opening with a slit window fitted with an iron grille, a large metal gate with a ventilator above (fitted with an iron grille), a large opening along with a ventilator above it (fitted with iron grilles), and an exhaust fan opening on the upper part of the northern end of the façade.

A small part of Block B is visible at the upper part of the northern corner of the elevation. This is a blind wall, partly obscured by the concrete water tank constructed on top of the northern end of Block A.

The façade is dotted with traces of earlier archways blocked with brick masonry walls, through which newer openings have been punctured, later. The whole façade is also covered with arbitrarily placed fresh water and storm water drainpipes. The chaos is added to, by numerous exposed electrical cables crisscrossing the façade.

The *Southern Façade* of the building is composed of a haphazard arrangement of cuboid volumes (Blocks R, V, O, D & A). Except for Blocks V, and the eastern part

of Block O, both of which have a height of 5.2 m, the rest of the Blocks forming the elevation have a constant height of 8.6 m.

Block V is a veranda / portico with five openings, all of which have been blocked with plastered masonry walls fitted with doors and ventilators, except for the second blocked opening from the west, which only has a ventilator. The blinded openings on the eastern and western ends are formed by three-cross-centered arches, while the three openings in the middle have flat brickwork lintels. The upper floor of Block R is constructed on top of the western archway. This wall has a horizontal slit ventilator.



Figure 3.26: Lahore Museum– Southern Façade (2016)  
Orthographic projection from laser scan point-clouds.  
A: Laboratory, C/D/F/M/S: Galleries, E: Frontispiece, G: Auditorium and Library,  
R: Reserves Storage, V: Stores

The visible part of Block F is a dead wall with five two-cross-centered blind arches on the ground level. The one towards the east is much narrower than the other four. The upper part of the wall is ornamented with regularly distributed recessed panels on two levels.

The western part of Block O is a cuboid volume, the southern face of which is divided into a grid of six. The three bays at the ground level have four-cross-centered blinded archways, punctured and fitted with doors, above which are ventilators, while the upper three bays have blank walls, each fitted with a rectangular window, each of which has a ventilator above it. The eastern part of Block O is a single storeyed structure with five blinded four-cross-centered arches, punctured and fitted with doors, windows and ventilators. The first arch from the west is fitted with a window, the second with a door, the third, again with a window (which has been boarded up with plywood), and the fourth with a door and the fifth with a window (fitted with an iron grille). There is a small volume attached to the east of Block O, 3 m wide and 4 m high.

The southern face of Block D is a long horizontal dead wall. It is separated from Block O by a blocked, single storeyed two-cross-centered arch, fitted with a door, above which is an opening for an exhaust fan. The lower part of the southern wall of Block D has nine, blind, four-cross-centered arches, only the eastern most of which is fitted with a two-cross-centered arched door of a smaller size. The upper part of the wall is ornamented with regularly distributed recessed panels on two levels.

On the eastern most part of the southern façade is Block A, the Conservation Laboratory. There are two vertical slit windows, one on top of the other towards the west of the elevation. In the middle of the elevation, there are two openings on the ground level, and two on the upper level. These are all fitted with iron grilles, of which the eastern one on the ground level is openable. On the eastern side of the wall, there is a ventilator on the ground level and a rectangular window on the upper level.

### 3.2.3. *Planimetric Features*

The museum is one large covered space with no intermittent open areas. It has a largely symmetrical composition, especially towards the northern end of the building. Almost a third, 87 out of a total of the 132 individual spaces, in the museum are on the ground floor. For easier orientation, the building can be divided into five distinct parts. The Frontispiece is a separate block towards the north while the Administrative Offices are a separate block towards the south. The spaces in between are largely mirrored on either side of the Central Block (S). The remaining spaces are distributed on the east and west of the central block. The parts of the museum can thus be defined by the cardinal directions as the building is also oriented towards the north. The parts of the building have thus been named *North*, *East*, *South* and *West*. The central spine that connects these four parts has been named *Central* part.

The **Ground Floor** is accessed from three directions. The exhibition areas, the only areas where the museum visitors are allowed, are accessed through the *Entrance Portico* (Gnd-N/01) (Block E), while the Auditorium & Library (Block G) is accessed through the separate *Entrance Lobby* for the *Auditorium & Museum Library* (Gnd-W/09), both at the north of the building. The *Resting Room* for the staff (Gnd-E/11), and adjacent

*Toilet* (Gnd-E/10), and two (openings for servicing) *Ventilation Extractors* (Gnd-E/09 & 20) are accessed from the east of the building. The *Electric Control Room* (Gnd-S/13) and most of the administrative areas including the *Director's Office* (Gnd-S/04 – 06), other administrative offices (Gnd-S/08 / 10 – 11 / 14 – 19), and *Stores* (Gnd-W/21 – 25) are all accessed from the south of the building.

There is only one room in the **Basement**, which can only be accessed from the southern alleyway. There used to be access to the basement from inside the building, from (Gnd-E/19), but the doorway has been walled up and blocked.

The general public (visitors), enter the museum though the Entrance Portico (Gnd-N/02) at the center of the northern façade. They are led through a processional way from the highly ornamented portico to an even more elaborate Entrance Vestibule (Gnd-N/02), finally reaching the Miniature Painting Gallery (Gnd-C/01). This large volume is the central spine for all visitor movement in the museum. These three spaces are highly ornamented and are designed as a staging area.

From the Miniature Painting Gallery, the visitor has the option of moving into any of the three galleries towards the east or the three towards the west. All of these directions lead into other galleries, and terminate in dead ends, thus the visitor has to backtrack to move towards other gallery spaces. All of these galleries hold independent collections and are not in any sequential order. The visitor does not have a choice but to pass through a collection to reach another one. The toilets for use of the visitors are situated at the north-eastern dead end.

The **First Floor** areas are in five separate parts, accessible by their own separate staircases. The first floor of the Northern Part is accessible by means of the two stairwells (Gnd-N/10 & 11). These exit onto the open *Terrace* (Fst-N/03) on the first floor. The rest of the spaces on this part of the floor, are only accessible through this exterior space. The *Conservation Workshop* areas (Fst-E/03 – 09) along with an office (Fst-E/02), situated on the first floor of the Eastern Part of the building, are accessible through the *Stair Hall* (Fst-E/01). The *Office* (Fst-S/01) and *Record Room* (Fst-S/04), situated on the first floor of the Southern Part of the building, are accessible by a staircase that rises from the southern alleyway, while the *Auditorium Gallery* (Fst-W-

03) and the *Projector Room* (Fst-W-02), situated on the first floor of the Western Part of the building, are accessed by the *Stair Hall* (Fst-W-01).

Only the Auditorium & Library (in the Western Part) of the Museum houses rooms on the **Second Floor** level. This primarily includes the *Library* (Snd-W-03), *The Chief Librarian's Office* (Snd-W-02) and the *Digitization Room* (Snd-W-05). These are accessed from the *Stair Hall* (Snd-W/01).

Only the Northern Part of the Museum houses spaces on the **Third Floor** level. The spaces are all housed in separate structures which are arranged in a symmetrical composition. There are four domed towers (covered with canopies) placed around a central dome on its north-eastern, north-western, south eastern and south western corners. These spaces are accessed through the two spiral staircases (Thd-N/01 & 02) which rise through the floors of the two northern canopies. These staircases are the only way to access the roof / terrace, apart from a (temporary) rickety ladder installed towards the southern end of the roof.

### 3.3. Descriptions of Spaces

The spaces on this each floor and part of the building are coded / labeled and described in the sequence in which they can be accessed (see Section 1.2.3) (Figure 3.178). In general, there are very few spaces which connect multiple spaces. Most spaces are reached through a sequence of spaces and culminate in dead ends. The descriptions of spaces are thus listed roughly by the sequence in which they can be accessed.

The Ground Floor can be divided in two parts – the Exhibition Areas, which are accessible to the users through the main entrance (Gnd-N/01) of the building along with some areas that are only accessible from the building exterior. Out of the externally accessible areas, the Curio and Book Shops can be accessed by the general public, however access to the Offices, Services and Ventilation systems, is restricted only to the museum administration.

### 3.3.1. *Ground Floor – Building Interior*

Visitors to the Lahore Museum experience it through the following sequences of spaces. They enter the museum through the spaces (Gnd-N/01 – 02) into the space (Gnd-C/01) – the Staging Area. From this, the Central / Miniature Painting Gallery, they can move into any one of six directions, which all terminate in dead ends. These space sequences are, (Gnd-E/01 / 02) leading to (Gnd-E/03 & 04), galleries towards the east, at the end of which are toilets for the visitors (Gnd-E/05 – 08). The visitors can also move into (Gnd-W/01) or (Gnd-W/02 – 03) galleries towards the west, or move into (Gnd-C/02), which leads to (Gnd-E/17 – 19), the south eastern galleries. (Gnd-E/18) leads up to additional galleries (Fst-E/10 – 15) placed above these spaces. (Gnd-C/02) also leads to the galleries (Gnd-W/07 – 08).

The entrance to the Reserves Storage (Gnd-W/04 – 06) is restricted to the museum administration, and are accessible only through the gallery (Gnd-W/03).

#### 3.3.1.1. Northern & Central Parts – The Staging Area

##### **Gnd-N/01**

This is the *Entrance Portico*. It was built in the year 1893 and was modified from its original design in exposed brick masonry in 1906. The space is 8.8 m wide by 3.98 m deep and the soffit of the ceiling is at a height of +5.3 m, above the plinth. The walls are constructed in exposed brick masonry and the chamber has a carved wooden ceiling ornamented with geometric patterns inset with floral reliefs.

The space is entered through three openings on the northern wall (Gnd-N/01-NW). The openings are formed between two dodecagonal solid white marble columns in the middle and halved columns on the sides forming pilasters. The pilasters on the sides are attached to brick piers that have a white marble veneer on the jambs. The columns carry solid marble lintels supported on triple-stepped-brackets on which the northern end of the roof rests. On the eastern wall (Gnd-N/01-EW) there is a two-cross-centered arched door (Gnd-N/01-EW-D1). On the southern wall (Gnd-N/01-SW) there are three doors (Gnd-N/01-SW-D1 – D3). D2 is the main entrance to the museum while D1 and D3 are two-cross-centered arched doors, behind which are staircases (Gnd-N/10 & 11)

leading to the first and third floor levels of the northern section. Directly above D1 and D2 are two-cross-centered arched ventilators (Gnd-N/01-SW-V1 – V2) respectively. They are fitted with terracotta *jalīs*. On the western wall (Gnd-N/01-WW) there is a two-cross-centered arched door (Gnd-N/01-WW-D1).



Figure 3.27: Gnd-N/01 – Entrance Portico (2017)  
Looking South

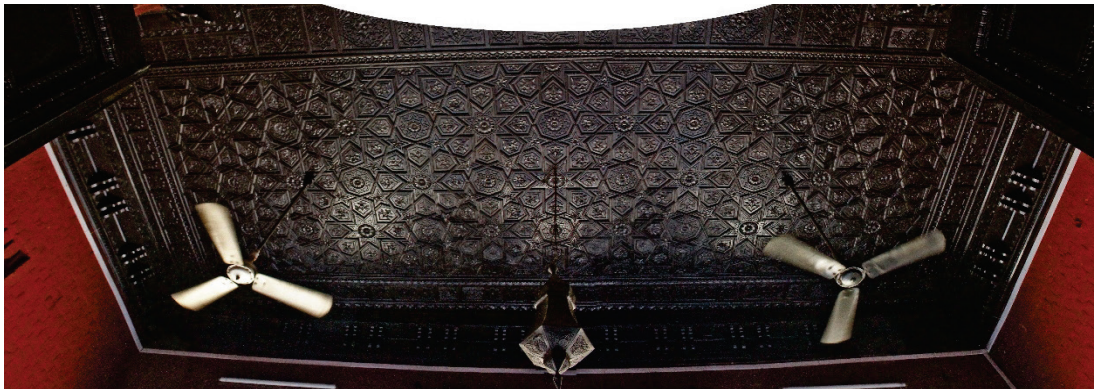


Figure 3.28: Gnd-N/01 – Entrance Portico (2017)  
Looking up

The roofing structure cannot be observed as it is obscured by the carved wooden ceiling. The room has a black and white geometrically patterned marble floor.

The exposed brick surfaces of the walls have been repointed in cement mortar. The re-pointing process seems to have also included the use of cement to even out the



surfaces of the bricks. Cement flakes are falling off in multiple places exposing the powdering bricks underneath (01–L2/L3 – Figure 4.12Figure 4.12).



Figure 3.29: Gnd-N/01 – Entrance Portico (2016)  
Powdering of brick and flaking of the thin surface layer of red tinted cement.

## **Gnd-N/02**

This space is the *Entrance Vestibule*. It was built in the year 1893. This is the most ornamented space in the whole museum. The decorative effect is multiplied but the visual connection, through openings in the upper storeys, to the two highly ornamented chambers, (Fst-N/06) and (Thd-N/05), directly above this space. The space is 5.78 m wide by 5.78 m deep and the soffit of the ceiling is at a height of +5.58 m, above the plinth. The walls and soffit are painted yellow with the ornamentation accented in white.

This space is entered through the door (Gnd-N/01-SW-D2) on the northern wall (Gnd-N/02-NW). This is a double-layered, large, four panel, carved wooden door. The outer four panels are made of solid wood and fold out onto the walls of the Entrance Portico. The inner four panels are glazed out of which the middle two open inwards. The door is fitted in the flat arched opening which is supported on masonry brackets. This is the main entrance to the museum. The eastern (Gnd-N/02-EW) southern (Gnd-N/02-SW) and western (Gnd-N/02-WW) walls, all have identical ornamented plasterwork doorways. These doorways have a flat lintels supported on triple-tiered brackets. The surface ornamentation is a veneer in plaster of Paris, attached to the wall by means of an underlying wooden

framing.<sup>47</sup> The masonry structure underneath mirrors the surface and can be seen from the other sides of the walls, from inside the spaces (Gnd-N/04 & 06). The eastern and western doorways are blind and have been fitted with ornamental fireplaces for their display. The southern doorway (Gnd-N/02-SW-D1) is open and leads to the space (Gnd-C/01). The lower parts of the walls, excluding the plaster of Paris doorways, have been fitted with a dado in wooden paneling.



Figure 3.30: Gnd-N/02 – Entrance Vestibule (2017)  
Looking South-East (left), Looking Up (right)

The ceiling above is cantilevered from all sides, supported on three pairs of brackets on each side, interspersed with *Qalibkari*<sup>48</sup> with a quarter-round profile. There is a truncated square opening in the middle of the ceiling, forming a balcony all around.

The room has a black and white geometrically patterned marble floor.

<sup>47</sup> The wood framing was observed through cracks in some damaged portions of the plaster of Paris panels. These cracks were too deep and narrow to be photographed.

<sup>48</sup> “[G]halibkari or *Qalabkari* ... [is a L]attice or network of ribs in stucco plaster or brick masonry applied to the curved surface of domes and vaults. The word “Qalab” probably refers to the formwork or centering used in the construction of domes and arches, but sometimes incorporated into the body of the structure as ribs. The typical ghalibkari design appears as a starburst” (Mumtaz, 2010, p. 49).



Figure 3.31: Gnd-N/02 – Entrance Vestibule – Deterioration (2016)  
Flaking paint on the Eastern Wall (Gnd-N/02-EW) (left), Flaked paint on and detachment of molded Plaster of Paris panels – (Gnd-N/02 EW) (right)



Figure 3.32: Gnd-N/02 – Entrance Vestibule – Deterioration (2016)  
Flaking of pain on the wall and efflorescence on glazed tiles – Southern Wall Gnd-N/02-EW

Discoloration of paint in the eastern (Gnd-N/02-EW) and western (Gnd-N/02-WW) walls is visible due to dampness, above the dado level. The paint has also swelled and flaked off at various places (Figure 3.31).

The south-east and south-west corners have glazed tiles from the 17<sup>th</sup> century tomb of Mian Mir<sup>49</sup> framed into the dado (Figure 3.32). These have been attached to the wall with cement mortar which is visible at the corners. There is visible efflorescence at the corners of the tiles where the glazed surfaces have flaked off (02-D1/P4 – Figure 4.12).

### **Gnd-C/01**

This space currently functions as the *Miniature Painting Gallery*. Though a few miniature paintings are displayed on the eastern and western walls of the gallery, effectively, this is the central hallway and staging area of the museum. All other exhibition areas are accessed through this space. It was built in the year 1893 and its roof was modified in 1920. The room is 8 m wide by 29.4 m deep and the soffit of the ceiling is at a height of +12.43 m, above the plinth. The walls and are plastered painted light grey, while the plaster of Paris and other plasterwork is accented in white. The ceiling is painted off-white. At the top of the walls runs a cornice ornamented with *Qalibkari*. The cornice has a quarter-round profile and thus forms a cantilever. There is a recessed cavity above the cornice into which the I-section beams recess and rest.

This space is entered through the doorway (Gnd-N/02-SW-D1) on the northern wall (Gnd-C/01-NW). This doorway is incorporated into the larger plaster of Paris ornamentation<sup>50</sup> which almost entirely covers the north wall. The ornamentation is framed within a large arch. At the lower part of the arch is a large bracketed opening (Gnd-N/02-SW-D1), connecting the space to the Entrance Vestibule. Above the doorway is a balcony (Fst-C/01), supported on three pairs of brackets interspersed with *Qalibkari* with a quarter-round profile. This balcony is access from three archways

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<sup>49</sup> Mian Mir, real name Baba Sain Mir Mohammed Sahib, was a sufi saint who lived in Dharampura, near Lahore between the mid 16<sup>th</sup> century and early 17<sup>th</sup> century C.E. He was a direct descendant of the third Caliph, Umar ibn al-Khattab and spiritual mentor to Dara Shikoh, the eldest son of Mughal emperor Shah Jahan.

<sup>50</sup> Aijazuddin (2003, p. 109) paraphrases from the Gazetteer of 1916 “The south wall of the gallery has been decorated in Persian style by the students and teachers of the Mayo School of Art from designs by the present Vice-Principal, M. Sher Muhammad, who also designed the whole of the wood and plaster work seen in the building”.

(Fst-N/06-SW-D1 / D2 / D3). There are three openings, one above each of the archways fitted with a terracotta *jali*.

There are two large doorways (Gnd-C/01-EW-D1 & D2) on the eastern wall (Gnd-C/01-EW). Along the top of the wall, are eighteen four-cross-centered arches among which seventeen are fitted with ventilators (Gnd-C/01-EW-V1 – V10). Starting from left to right, the first two arches are blind. Arch number three has a ventilator (Gnd-C/01-EW-V1). Arches four, five and six are blind. The seventh arch has a ventilator (Gnd-C/01-EW-V2). Arches number eight and nine are blind. Arches number ten to fifteen have the ventilators (Gnd-C/01-EW-V3 – V8). Arch number sixteen is blind. Arches number seventeen and eighteen are the ventilators (Gnd-C/01-WW-V9 & V10).

On the southern wall (Gnd-C/01-SW) is a corbelled-bracketed doorway (Gnd-C/01-SW-D1). Above the doorway is ornamentation in raised plasterwork in the shape of a two-cross-centered stilted arch framed by a rectangular frame with the same width as that of the doorway below it. The arch frames a stylized and mirrored calligraphic *Bismillah, ar-Rahman, ar-Rahim* ( بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ ). This arrangement of the doorway the arch and their frame is further framed by a large four-cross-centered arch, spanning the whole width and height of the wall. The arch is decorated with tiles in the Persian ‘style’ according to Walker (1894, p. 301). The spandrels and thin vertical bands along the sides of the arch are covered with glazed tiles in turquoise and cobalt blue tiles with white floral motifs.

There are two large doorways (Gnd-C/01-WW-D1 & D2) on the eastern wall (Gnd-C/01-WW). Along the top of the wall, are eighteen four-cross-centered arches among which seventeen are fitted with ventilators (Gnd-C/01-WW-V1 – V10), four of which are boarded up. Starting from left to right, the first two arches are the ventilators (Gnd-C/01-WW-V1 & V2). The third arch is blind. Arches four to seven are the ventilators (Gnd-C/01-WW-V3 – V6). Arches number eight and nine have ventilators (Gnd-C/01-WW-V7 & V8) which have been blocked off with plywood painted white to match the walls. Arches number ten and eleven are blind. The twelfth arch has a ventilator (Gnd-C/01-WW-V9) which has been blocked off with plywood painted white to match the walls. Arches number, thirteen, fourteen and



fifteen are blind. Arches number sixteen also has a ventilator (Gnd-C/01-WW-V10) which has been blocked off with plywood painted white to match the walls. The remaining two arches (seventeen and eighteen) are again blind.



Figure 3.33: Gnd-C/01 – Miniature Painting Gallery (2017)  
Looking South



Figure 3.34: Gnd-C/01 – Miniature Painting Gallery (2017)  
Looking South-East and up

The roofing of the room is supported on I-section beams running in the east-west direction. On top of this are wooden battens, which run in the north-south direction. These are topped with wooden boarding. There is a metal framing grid suspended from the ceiling. This frame was used to mount the *Sadiquain ceiling mural*, which has been removed for several years for conservation works. The room has a black and white geometrically patterned marble floor.

There is swelling of plaster midway up both the eastern (Gnd-C/01-EW) and western (Gnd-C/01-WW) walls (Figure 3.34), (50–P1 – Figure 4.12). The patterned marble floor was also damaged (51–L4 – Figure 4.12) in parts but has since the documentation been hastily repaired the same as in other spaces (Figure 3.56).

### **Gnd-C/02**

This space currently functions as the *Jain Gallery (I)*. It previously functioned as the museum Library. It was built in the year 1916 and modified in 1969. The room is 7.88 m wide by 1.93 m deep and the soffit of the ceiling is at a height of +7.57 m, above the plinth. There is a high wooden paneled dado on the walls above which walls are plastered and painted white. The ceiling is painted dark brown.



Figure 3.35: Gnd-C/02 – Jain Gallery (I) (2016)  
Looking South



This space is entered through the doorway (Gnd-C/01-SW-D1) on the northern wall (Gnd-C/02-NW). There is a doorway (Gnd-C/02-EW-D1) on the eastern wall (Gnd-C/02-EW). There is a large wooden door in the middle of the southern wall (Gnd-C/02-SW) leading to the administrative areas. Flanking the door on both sides are small marble *jharokas* from a Jain Temple, on display having been built into the wall. There is a doorway (Gnd-C/02-WW-D1) on the western wall (Gnd-C/02-WW).

The roofing of the room is supported on two I-section beams running in the east-west direction. On top of this are wooden battens, which run in the north-south direction. These are topped with wooden boarding. The room has a grey terrazzo floor in the middle of which is a white marble platform. A Jain Temple alter has been reconstructed onto this platform.

The space has no visible signs of deterioration.

### 3.3.1.2. Eastern Part – Galleries & Services

#### **Gnd-E/01**

This space currently functions as the *Islamic Arts Gallery*. It previously functioned as the Industrial Art Gallery till 1907 and the Arts and Manufacture Gallery in 1911. It was built in the year 1893 and its roof was modified in 2016. The room is 30.5 m wide by 18.3 m deep and the soffit of the ceiling is at a height of +7.45 m, above the plinth. The walls and ceiling are plastered and painted off-white.



Figure 3.36: Gnd-E/01 – Islamic Arts Gallery (2017)  
Looking East

On the northern wall (Gnd-E/01-NW), there are nine four-cross-centered arched windows (Gnd-E/01-NW-W1 – W9). These windows have been covered and closed off with calligraphic paintings, fitted within the arched openings. Above these windows are sixteen ventilators (Gnd-E/01-NW-V1 – V16). On the eastern wall (Gnd-E/01-EW) there is a door (Gnd-E/01-EW-D1). There are no architectural features of import on the southern wall (Gnd-E/01-SW). This space is entered through the door (Gnd-C/01-EW-D1) on the western wall (Gnd-E/01-WW).

The roofing is a composite structural system with the supporting structure constructed with steel railway girder beams forming a saw tooth profile truss. These saw tooth trusses are supported on cast-iron columns, eight of which stand in the middle of the room in two, east-west rows of four columns each, while sixteen of them are partially embedded in the masonry walls. This arrangement of columns forms a grid of three (north-south) by five (east-west) squares. There are fourteen trusses that run in the north-south direction. They are supported on the two double I-section beams supported by the central columns, running in the east-west direction. Each truss forms three peaks towards the north. The valleys are towards the south. The vertical surfaces face north, and are fitted with windows (which are now blocked with G. I. sheets from the exterior). The soffits are finished in wooden boarding. The whole roofing system is painted a deep off-white.



Figure 3.37: Gnd-E/01 – Islamic Arts Gallery – Roof Repairs (2015)  
Looking west over the roof (left), A pile of the lime concrete and brick tiles removed from the roof of the Islamic Gallery (Gnd-E/01) during repair works (right).

The room has a black and white patterned marble floor strip passing through the center in an east-west direction. The larger part of the floor, north and south of the central strip, has grey terrazzo flooring.

During the modification of the roof in 2016, the insulation, composed of oversized brick-tiles laid in lime mortar, were broken and removed from the roofing system in the process of replacing the G. I. sheets and repairing the wooden planks of the soffit. The gap between the G. I. Sheets and the wooden planks was not filled. There is no insulation from heat or moisture anymore while the dead-weight of the roof has been greatly reduced changing its loading patterns (12–L1 – Figure 4.12).

### **Gnd-E/02**

This space currently functions as the *Gandhara Gallery*. It originally functioned as an exhibition hall and storage area. It was built in the year 1916. The room is 30.5 m wide by 12.1 m deep and the soffit of the ceiling is at a height of +7.25 m, above the plinth.

The walls are plastered and painted white and the ceiling is painted dark brown.

There are no architectural features of import on the northern wall (Gnd-E/02-NW). On the eastern wall (Gnd-E/02-EW) there is a doorway (Gnd-E/02-EW-D1). There are no architectural features of import on the southern wall (Gnd-E/02-SW). There is a large doorway (Gnd-C/01-EW-D2) on the western wall (Gnd-E/02-WW) through which the room is entered.

The roofing of the room is primarily supported on steel I-section beams running in the north-south direction. On top of these beams run wooden battens in the east-west direction, which are topped with wooden boarding. In the middle of the roof are four narrow rectangular skylights, in two rows of two each, running in the east-west direction. These skylights have pitched roofs sloping towards the south with windows on the northern, eastern and western sides. The room has a black marble floor.

Some efflorescence can be seen along surfaces the brick masonry retaining walls of the skylights (Figure 3.39), (13–D2 – Figure 4.12).





Figure 3.38: Gnd-E/02 – Gandhara Gallery (2016)  
Looking East



Figure 3.39: Gnd-E/02 – Gandhara Gallery – Skylight (2016)  
Looking up and West

### Gnd-E/03

This space currently functions as the *Hindu and Buddhist Gallery*. It previously functioned as the Sculpture Gallery. It was built in the year 1893 and its roof was modified in 1965. The room is 9.07 m wide by 34.2 m deep and the soffit of the ceiling is at a height of +12.36 m, above the plinth. At the top of the walls runs a cornice ornamented with *Qalibkari*. The cornice has a quarter-round profile and thus forms a cantilever. There is a recessed cavity above the cornice into which the I-section beams

recess and rest. The walls and the ceiling are plastered painted maroon while the cornice and a molding beneath the ventilators is accented in white.

On the northern wall (Gnd-E/03-NW) is a large blind arch divided into a grid of nine. The geometry of divisions mirrors that of its exterior and is thus of the same dimensions as described in Section C of the northern elevation.

There are is a large doorway (Gnd-E/03-EW-D1) on the eastern wall (Gnd-E/03-EW). Along the top of the wall, are twenty one four-cross-centered arches among which seventeen are fitted with ventilators (Gnd-E/03-EW-V1 – V17). Starting from left to right, the first three arches are blind, after which there are (Gnd-E/03-EW-V1 – V15). After V15, there is one blind arch, following which are the remaining two ventilators (Gnd-E/03-EW-V16 & V17).

The southern wall (Gnd-E/03-SW) mirrors all the details of the northern wall (Gnd-E/03-NW) with the exception that the two triangular arches in the central grid on the top row are not blind and fixed with glazed windows in wooden frames.

There are two large doorways (Gnd-E/03-WW-D1 & D2) on the western wall (Gnd-E/03-WW) through which the room is entered. Along the top of the wall, are twenty one four-cross-centered arches, among which ten are fitted with ventilators (Gnd-E/03-WW-V1 – V10). Starting from left to right, the first two arches are the ventilators (Gnd-E/03-WW-V1 & V2). The third arch is blind. Arches four to nine are the ventilators (Gnd-E/03-WW-V3 – V8). Arches number ten and eleven are blind. The eleventh arch is the ventilator (Gnd-E/03-WW-V9). Arches number thirteen, fourteen and fifteen are blind. Arches number sixteen is the ventilator (Gnd-E/03-WW-V10) and the remaining two arches are again blind.

The roof is an RCC slab supported on steel I-section beams running in an east-west direction. The flooring of the room is grey terrazzo, with a black and white patterned marble floor strip passing through the center of the room in an east-west direction. It passes through the doors (Gnd-E/01-EW-D1) and (Gnd-E/03-WW-D2). There is an additional strip of similar patterned marble flooring extending from the middle of the east-west strip of marble flooring, extending towards the northern wall (Gnd-E/03-NW).

There is swelling of plaster at the mid-height level on both eastern and western walls, (14-P2 – Figure 4.12), (Figure 3.41), as well as some flaking of paint on the eastern wall (15-P4 – Figure 4.12).



Figure 3.40: Gnd-E/03 – Hindu and Buddhist Gallery (2017)  
Looking North (left), Looking South (right)



Figure 3.41: Gnd-E/03 – Hindu and Buddhist Gallery – Deterioration (2017)  
Plaster Swelling on Gnd-E/03-EW (left) and paint flaking on Gnd-E/03-SW (right)

#### **Gnd-E/04**

This space currently functions as the *Prehistoric / Indus (Valley Civilization) Gallery*. It previously functioned as an Office, Library and Sale Room in the year 1907. It was



built in the year 1893 and its roof was modified in 2007. The room is 8.51 m wide by 18.3 m deep and the soffit of the ceiling is at a height of +4.64 m, above the plinth. The walls are plastered and painted beige and the ceiling is painted dark brown.



Figure 3.42: Gnd-E/04 – Prehistoric / Indus Gallery (2017)  
Looking South-East

On the northern wall (Gnd-E/04-NW) are three windows (Gnd-E/04-W1 – W3), the geometry of which mirrors that of their exteriors and are thus of the same dimensions as described in Section B of the northern elevation. On the eastern wall (Gnd-E/04-EW) is a wooden screen built into the display cases, behind which is a ventilation extractor. On either side of this, also built into the display cases are two doors (Gnd-E/04-EW-D1 & D2) leading to the men's and ladies toilets. On the upper level of the wall are ten identical, equally spaced, vertical rectangular recessions. To the far right of these is a blind four-cross-centered arch. In the middle of and high on the southern wall (Gnd-E/04-SW), there is a blind four-cross-centered arch. This space is entered through the door (Gnd-E/03-EW-D1) the western wall (Gnd-E/04-WW).

The roofing of the room is primarily supported on steel I-section beams running in the east-west direction. On top of these beams run wooden battens in the north-south direction which are topped with wooden boarding. The room has a grey terrazzo floor which is broken by two strips of black terrazzo running east-west in alignment with the east-west marble flooring strip running through (Gnd-E/02 & 03).



The eastern wall (Gnd-E/04-EW) has a large patch towards the north where the paint has flaked off and the wall is damp (16-D1/P4 – Figure 4.12). Towards the south of the wall, another thin long patch for flaked paint can be seen just above the display cases (Figure 3.42). The central window in the northern wall (Gnd-E/04-NW-W2) has a structural crack passing through it (Figure 3.43), (17-S1 – Figure 4.12).



Figure 3.43: Gnd-E/04 – Prehistoric / Indus Gallery – Structural Crack (2016)  
Looking South

### **Gnd-E/05**

This is a *Vestibule* between the gallery spaces and the men's toilets and was previously part of the eastern Veranda. It was built in the year 1893 and it was modified in the year 1965. The room is 3.04 m wide by 1.52 m deep and the soffit of the ceiling is at a height of +4.64 m, above the plinth. The walls are clad with ceramic tiles up till the door lintel level. Above this, the walls and the ceiling are plastered painted white.

There is a door (Gnd-E/05-NW-D1) towards the western end of the northern wall (Gnd-E/05-NW). On the eastern wall (Gnd-E/05-EW) there is a window (Gnd-E/05-EW-W1) that spans the width of the room. On top of this window is a ventilator (Gnd-E/05-EW-V1). There are no architectural elements of import on the southern wall (Gnd-E/05-SW). This space is entered through the door (Gnd-E/04-EW-D1) on the western wall (Gnd-E/05-WW).

The roof is an RCC slab and the room has a ceramic tile floor.

The ceiling has discoloration and drip marks due to dampness (Figure 3.45), (18-D1– Figure 4.12).



Figure 3.44: Gnd-E/05 – Vestibule outside Men's Toilets (2015)  
Looking East



Figure 3.45: Gnd-E/05 – Vestibule outside Men's Toilets – Roof – Deterioration (2015)  
Looking Up

### **Gnd-E/06**

This space currently functions as the *Men's Toilets* and was previously part of the eastern Veranda. It was built in the year 1893 and it was modified in the year 1965.

The room is 3.06 m wide by 5.88 m deep and the soffit of the ceiling is at a height of +4.64 m, above the plinth. The walls are clad with ceramic tiles up till the door lintel level. Above this, the walls and the ceiling are plastered painted white.

There is an exhaust fan high in the middle of the northern wall (Gnd-E/06-NW). High on the eastern wall (Gnd-E/06-EW) there are 2 exhaust fans. Towards the north-east corner of the room are three toilet stalls built in brick masonry and clad with the same ceramic tiles. The room is entered through the door (Gnd-E/05-NW-D1) on the on the southern wall (Gnd-E/06-SW). There are no architectural elements of import on the western wall (Gnd-E/08-WW).

The roof is an RCC slab and the room has a ceramic tile floor.

The ceiling and the upper part of the eastern wall (Gnd-E06-EW) has discoloration and drip marks along with flaking paint in various areas. (Figure 3.46), (19-D1 – Figure 4.12).

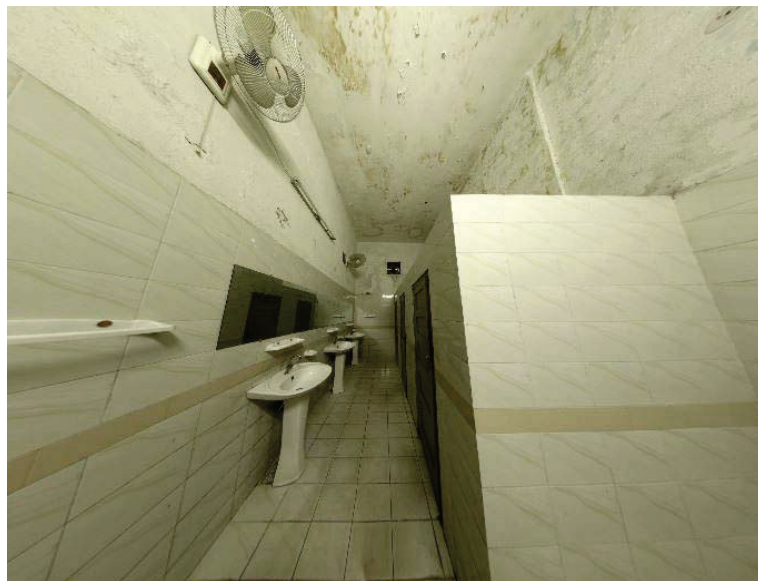


Figure 3.46: Gnd-E/06 – Men's Toilets (2015)  
Looking North

### **Gnd-E/07**

This is a *Vestibule* between the gallery spaces and the ladies' toilets and was previously part of the eastern Veranda. It was built in the year 1893 and it was modified in the

year 1965. The room is 3.07 m wide by 87.4 cm deep and the soffit of the ceiling is at a height of +4.64 m, above the plinth. The walls are clad with ceramic tiles up till the door lintel level. Above this, the walls and the ceiling are plastered painted white.



Figure 3.47: Gnd-E/07 – Vestibule outside Ladies Toilets (2016)  
Looking East

There are no architectural elements of import on the northern wall (Gnd-E/05-NW). On the eastern wall (Gnd-E/07-EW) there is a window (Gnd-E/07-EW-W1) that spans the width of the room. There is a door (Gnd-E/07-SW-D1) towards the western end on the southern wall (Gnd-E/07-SW). This room is entered through the door (Gnd-E/04-EW-D2) on the western wall (Gnd-E/07-WW).

The roof is an RCC slab and the room has a ceramic tile floor.

This space has no visible signs of deterioration.

### **Gnd-E/08**

This space currently functions as the *Ladies Toilets* and was previously part of the eastern Veranda. It was built in the year 1893 and it was modified in the year 1965. The room is 3.07 m wide by 5.51 m deep and the soffit of the ceiling is at a height of



+4.64 m, above the plinth. The walls are clad with ceramic tiles up till the door lintel level. Above this, the walls and the ceiling are plastered painted white.



Figure 3.48: Gnd-E/08 – Ladies Toilets (2016)  
Looking South

The walls have a high dado of white ceramic tiles. This room is entered through the door (Gnd-E/07-SW-D1) on the northern wall (Gnd-E/08-NW). On the eastern wall (Gnd-E/08-EW) there are 2 horizontal ventilators (Gnd-E/08-EW-V1 & V2). There is an exhaust fan above V1. There are no architectural elements of import on the southern (Gnd-E/08-SW) and western (Gnd-E/08-WW) walls.

The roof is an RCC slab and the room has a ceramic tile floor.

There is flaking of paint at the upper part of the western wall (Gnd-E08-WW) (Figure 3.48), (20–P4 – Figure 4.12).

### **Gnd-E/17**

This space currently functions as the *Jain Gallery (II)*. It previously functioned as the Curator's Office when it was built in the year 1916. The room is 9.1 m wide by 6.05 m deep and the soffit of the ceiling is at a height of +7.66 m, above the plinth. There is a

high wooden paneled dado on the walls above which walls are plastered and painted white. The ceiling is painted dark brown.

A carved wooden balcony from a Jain Temple has been affixed to the northern, (Gnd-E/17-NW) eastern, (Gnd-E/17-EW) and southern, (Gnd-E/17-SW) walls, above eye level. There is a doorway (Gnd-E/17-EW-D1) on the eastern wall (Gnd-E/17-EW) under the balcony. Due to there being not enough clearance under the balcony, the floor descends to –31 cm, below the plinth, into a double-stepped square white marble trough centered under the doorway. The other side of the depression ascends two steps in the adjoining room (Gnd-E/18). This space is entered through the doorway (Gnd-C/02-EW-D1) on the western wall (Gnd-E/17-WW).



Figure 3.49: Gnd-E/17 – Jain Gallery (II) (2017)  
Looking East



Figure 3.50: Gnd-E/17 – Jain Gallery (II) – Deterioration – South & West walls (2016)  
Looking West



The roofing of the room is primarily supported on steel I-section beams running in the north-south direction. On top of these beams run wooden battens in an east-west direction which are topped with wooden boarding. The room has grey terrazzo flooring.

There is swelling of plaster at the top of the south wall (Gnd-E/17-SW), (26-P1 – Figure 4.12) and the paint has flaking off on the upper part of the western wall (Gnd-E/17-WW) (Figure 3.50), (27-P4 – Figure 4.12).

### **Gnd-E/18**

This space currently functions as the *Armory Gallery*. It was built in the year 1972. The room is 20.53 m wide by 9.66 m deep and the soffit of the ceiling is at a height of +4 m, above the plinth. The ceiling is plastered and painted white.



Figure 3.51: Gnd-E/18 – Armory Gallery (2016)  
Looking East

In the middle of the room stand eight pairs of round RCC columns on rectangular platforms in two east-west rows of four each. The northern wall (Gnd-E/18-NW) is completely obscured with deep display cases. On the eastern wall (Gnd-E/18-EW), which is clad in black marble, are two semicircular arched doorways (Gnd-E-18-EW-D1 & D2). On the south-west corner of the room is a staircase that rises southward along the

western wall (Gnd-E/18-WW) before turning towards the east along the southern wall (Gnd-E/18-SW). This room is entered through the door (Gnd-E/17-EW-D1) on the western wall (Gnd-E/18-WW).

The roof is an RCC slab and the room has grey terrazzo flooring.

The space has no visible signs of deterioration in this space.

### **Gnd-E/19**

This space currently functions as the *Reserves' Store* for the museum's painting collection. It previously functioned as the Ethnographic Gallery. It was built in the year 1972. The room is 10 m wide by 10.24 m deep and the soffit of the ceiling is at a height of +4.2 m, above the plinth. The walls and ceiling are plastered and painted white.

The northern wall (Gnd-E/19-NW) is completely obscured with deep display cases. On the eastern wall (Gnd-E/19-EW) there is a wooden screen behind which is a ventilation extractor. On the eastern corner of the southern wall (Gnd-E/19-SW) are traces of blocked off doorway that used to lead to the staircase (Gnd-E/21) that descends to the basement. This space is entered through two semicircular arched doorways (Gnd-E-18-EW-D1 & D2) on the western wall (Gnd-E/19-WW).

The roof is an RCC slab supported on two concrete beams<sup>51</sup> suspended from the ceiling, running in an east-west direction. They are 39 cm wide and drop 40 cm from the soffit. The center of the first beam is 2.3 m from the northern wall (Gnd-E/19-NW) wall and the center of the second is 3.15 m from the center of the first. The room has a grey terrazzo floor.

The space has no visible signs of deterioration in this space.

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<sup>51</sup> There is a high probability that a third beam exists towards the south of the other two, flush with the display cases on the southern wall (Gnd-E/19-SW). This beam is not visible as it is hidden behind the surface of the display case. The beam to beam span is almost exactly equal to that between the other two beams the configuration would also mimic the three inverted beams supporting the roof of the space directly above this one.



Figure 3.52: Gnd-E/19 – Reserves' Store (2016)  
Looking East

### 3.3.1.3. Western Part – Galleries & Reserves

#### **Gnd-W/01**

This space currently functions as the *General Gallery*. It previously functioned as the Raw Product Gallery. It was built in the year 1893 and its roof was modified in 1983. The room is 30.5 m wide by 18.3 m deep and the soffit of the ceiling is at a height of +7.45 m, above the plinth. The walls and ceiling are plastered and painted off-white.

On the northern wall (Gnd-W/01-NW) nine four-cross-centered arched windows (Gnd-W/01-NW-W1 – W9). These windows have been covered with calligraphic murals fitted within the arched openings. Above these windows are sixteen ventilators (Gnd-W/01-NW-V1 – V16). This space is entered through the door (Gnd-C/01-WW-D1) on the eastern wall (Gnd-W/01-EW). There are no architectural features of import on the southern (Gnd-W/01-SW) or western (Gnd-W/01-WW) walls.

The roofing is a composite structural system with the supporting structure constructed with steel railway girder beams forming a saw tooth profile truss. These saw tooth trusses are supported on cast-iron columns, eight of which stand in the middle of the room in two, east-west rows of four columns each, while sixteen of them are partially embedded in the masonry walls. This arrangement of columns forms a grid of three



(north-south) by five (east-west) squares. There are fourteen trusses that run in the north-south direction. They are supported on the two double I-section beams supported by the central columns, running in the east-west direction. Each truss forms three peaks towards the north. The valleys are towards the south. The vertical surfaces face north, and are fitted with windows (which are now blocked with G. I. sheets from the exterior). The soffits are finished in wooden boarding. The whole roofing system is painted a deep off-white.



Figure 3.53: Gnd-W/01 – General Gallery (2017)  
Looking East



Figure 3.54: Gnd-W/01 – General Gallery (2017)  
Looking East (left), Looking North-West (right)

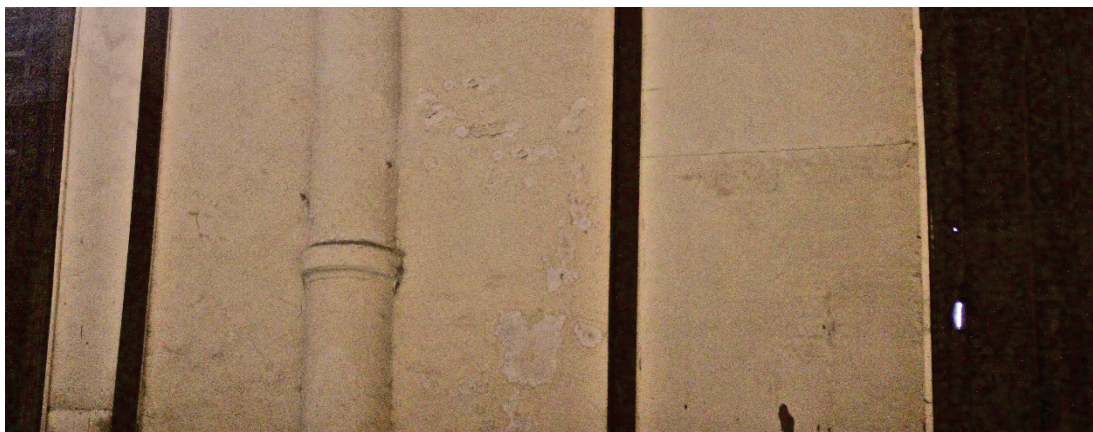


Figure 3.55: Gnd-W/01 – General Gallery – Deterioration (2016)  
Looking North

The room has a black and white patterned marble floor strip passing through the center in an east-west direction. The larger part of the floor, north and south of the central strip, has grey terrazzo flooring.

The walls embedded with cast iron columns between the windows (Gnd-W/01-NW-W5 / W6 / W7 / W8 & W9) on the north wall, have discoloration and flaking of paint at near the sill level of the window (Figure 3.55). The room flooring is also being altered currently and repaired with marble that does not match the tone of the original flooring (Figure 3.56) as can be seen in earlier repairs made to the same floor (Figure 3.53), (34–P4 – Figure 4.12).



Figure 3.56: Gnd-W/01 – General Gallery (2017)  
Floor Repair



## Gnd-W/02

This space currently functions as the *Contemporary Painting Gallery*. It previously functioned as the Painting Gallery when it was built, probably housing different pieces in the museum's collection, as most of the collection housed in the gallery today has been acquired post-1947. It was built in the year 1929 and its roof was modified in 1965. The room is 30.5 m wide by 12.1 m deep and the soffit of the ceiling is at a height of +7.1 m, above the plinth. The room has plastered walls which are painted white. The roof is painted dark brown.

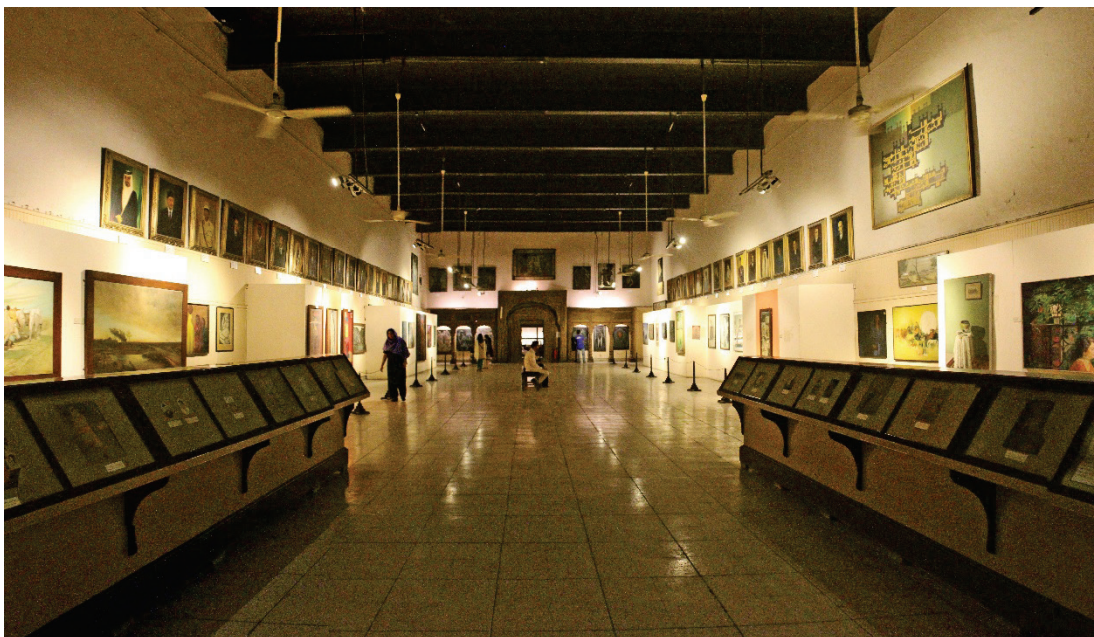


Figure 3.57: Gnd-W/02 – Contemporary Painting Gallery (2017)  
Looking West



Figure 3.58: Gnd-W/02 – Contemporary Painting Gallery (2016)  
Looking up and South



The northern wall (Gnd-W/02-NW) has no architectural elements of import. This space is entered through the door (Gnd-C/01-WW-D1) placed in the middle of eastern wall (Gnd-W/02-EW). The southern wall (Gnd-W/02-SW) has a wooden screen on the far right of the wall, behind which is the third extractor for ventilation. On the western wall (Gnd-W/02-WW) there is a carved wooden doorway (Gnd-W/02-WW-D1) set in the middle of the wall, which leads to the Manuscript Gallery (Gnd-W/03). It is flanked by a triad of carved wooden arches on both sides.

The roofing is a hybrid system involving an RCC slab supported on steel I-section beams. The room has grey terrazzo flooring, separated by glass strips into a square grid.

There is detachment of a small chunk of concrete from the roof, exposing the steel rebars near the southern wall (Gnd-W/02-SW), (Figure 3.58), (35–L4 – Figure 4.12).

### **Gnd-W/03**

This space currently functions as the *Manuscript Gallery*. It previously functioned as the Art School Repoussé Room / Metal Workshop. It is temporarily being used as a store and will be returned to its regular function in late 2017. It was built in the year 1893 and modified in 1965. The room is 9.35 m wide by 11.5 m deep and the soffit of the ceiling is at a height of +7.9 m, above the plinth. The walls and ceiling are plastered and painted white.

The northern wall (Gnd-W/03-NW) has no architectural elements of import. This space is entered through the door Gnd-W/02-WW-D1 on the eastern wall (Gnd-W/03-EW). There are two circular openings (Gnd-W/03-SW-V1 / V2) for ventilation on the southern wall (Gnd-W/03-SW) and both have a diameter of 50 cm. The center of the eastern opening is placed at a height of +6.24 m, above the plinth and 1 m from the eastern side of the southern wall (Gnd-W/03-SW) and the center of the western opening is placed at a height of +6.22 m, above the plinth and 1.3 m from the western side of the wall. On the northern end of the western wall (Gnd-W/03-WW) is the door (Gnd-W/03-WW-D1).

The roof is an RCC slab and the room has a square grey terrazzo tile flooring.

The space has no visible signs of deterioration.



Figure 3.59: Gnd-W/03 – Manuscript Gallery (2015)  
Looking South-West



Figure 3.60: Gnd-W/03 – Manuscript Gallery (2005)  
Looking West

Source: Bhatti, S. T. (2005). *Exhibiting & Viewing Culture, Curiosities & the Nation at the Lahore Museum*. (Doctoral Thesis), University College London. p. 26.

#### **Gnd-W/04**

This space currently functions as the *Museum Reserves Storage*. This space was previously part of the western veranda. It was built in the year 1893 and modified in 1965. The room is 3 m wide by 11.35 m deep and the soffit of the ceiling is at a

height of +4.4 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural elements of import on the northern wall (Gnd-W/04-NW). This space is entered through the door (Gnd-W/03-WW-D1) on the northern end of the eastern wall (Gnd-W/04-EW). The southern wall (Gnd-W/04-SW) has the traces of a recently blocked doorway. Both eastern (Gnd-W/04-EW) and southern walls (Gnd-W/04-SW) walls, have been freshly cement plastered. On the western wall (Gnd-W/04-WW) there are three doors (Gnd-W/04-WW-D1 / D2 / D3) that all lead to the space (Gnd-W/05). These openings have a four-cross-centered profile and the doorframes are placed below the springer line of the arches. There are terracotta *jalis* fixed in the arches above the door frame / springer lines.



Figure 3.61: Gnd-W/04 – Museum Reserves Storage (2015)  
Looking South (left), Looking North (right)

The roof is an RCC slab, plastered and painted white. The room has white terrazzo flooring, separated by glass strips into a square grid.

The eastern and southern walls have been freshly cement plastered (36–P3 – Figure 4.12).



## Gnd-W/05

This space is the *Museum Reserves Storage*. This is the western most room in the museum building and shares its western wall (Gnd-W05/WW) with the NCA. It was built in the year 1969 on space that was previously part of the NCA's main courtyard. The room is 4.98 m wide by 11.64 m deep and the soffit of the ceiling is at a height of +4.5 m, above the plinth. The walls and ceiling are plastered and painted white except the eastern wall (Gnd-W05/EW) which still retains its original detailing in exposed brick.



Figure 3.62: Gnd-W/05 – Museum Reserves Storage (2015)  
Looking East

On the northern wall (Gnd-W/05-NW) there is a door (Gnd-W/05-NW-D1) that leads to the staircase that services the Reserve Storage room above the ones on the ground floor. There is a concrete shelf built above the door and is supported on the extended jambs of the doorway. This space is entered through the any of the three doors (Gnd-W/04-EW-D1 / D2 / D3) on the eastern wall (Gnd-W/05-EW). These openings have a four-cross-centered profile and the doorframes are placed below the springer line of the arches. There are terracotta screens fixed in the arches above the door frame / springer lines. On the southern wall (Gnd-W/05-SW) is a door (Gnd-W/05-SW-D1). There is a ventilator (Gnd-W/05-SW-V1) above the door affixed with a concrete *jali*. On the

western wall (Gnd-W/05-WW), there are four ventilators (Gnd-W/05-WW-V1 – V4) with a four-cross-centered profiles. The windows terminate at the springer line. These windows are affixed with glazed with steel frames with iron grilles on the exterior. The wall below the ventilators has been freshly cement plastered.

The roof is an RCC slab. The room has white terrazzo flooring, separated by glass strips into a square grid.

The surface of the eastern wall (Gnd-W/05-EW) had been painted white. This paint has flaked off from most of the wall surface (37–P4 – Figure 4.12). The terracotta *jails* fixed inside the arches are powdering in some places (Figure 3.62). The western wall has been re-plastered (38–P3 – Figure 4.12).

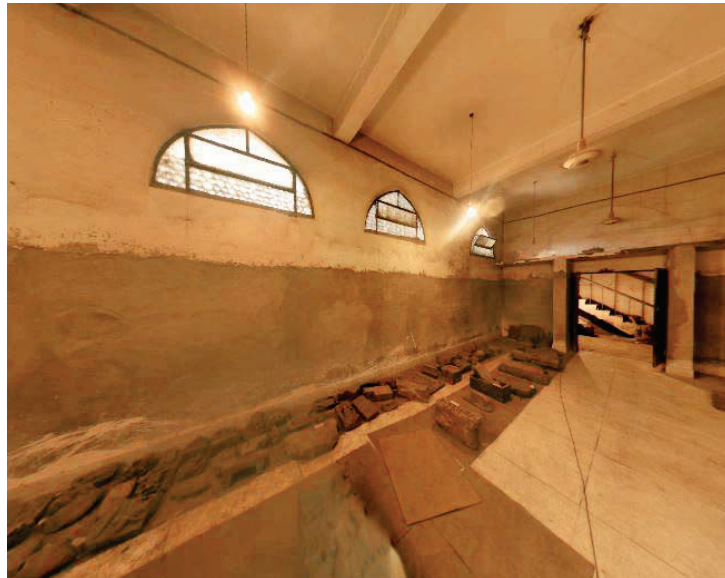


Figure 3.63: Gnd-W/05 – Museum Reserves Storage (2015)  
Looking North-West

### **Gnd-W/06 & Fst-W/06**

This space currently functions as the *Stairwell* that connects the museum Reserves Storage spaces on the ground and first floors. It was built in the year 1969 on space that was previously part of the NCA's main courtyard. The room is 5 m wide by 3.8 m deep and the soffit of the ceiling is at a height of +9.64 m, above the plinth. The walls and ceiling are plastered and painted white.

On the northern wall (Gnd-W/06-NW) is a door (Gnd-W/06-NW-D1) towards the eastern end of the room. The staircase itself is placed along the western end of the wall. On the eastern wall (Gnd-W/06-EW) there is a blind arch with a recently blocked doorway. The wall has been freshly cement plastered. This space is entered through the door (Gnd-W/05-NW) on the southern wall (Gnd-W/06-SW). High on the western wall (Gnd-W/06-WW) is a ventilator (Gnd-W/06-WW-V1).

The staircase rises through the space which transitions into (Fst-W/06), the same stairwell space on the first floor level. The staircase is 1.25 m wide and each step has an average riser of 18.7 cm. The staircase rises eastward along the northern wall and reaches the first platform landing in the north-west corner of the room at a height of +1.48 m, above the plinth. It continues rising southward along the western wall and reaches the second platform landing in the south west corner of the room at a height of 2.5 m. The staircase continues rising eastward along the southern wall and reaches the final landing on the first floor in the south west corner of the room at a height of 4.9 m.

The roof is an RCC slab and the space has a terrazzo floor.

The space has no visible signs of deterioration.



Figure 3.64: Gnd-W/06 & Fst-W/06 – Reserves' Stairwell (2015)  
Looking up and South-West



### Gnd-W/07

This space currently functions as the *Swat Gallery (I)*. It previously functioned as an Office. It was built in the year 1916 and modified in 1969. The room is 9.13 m wide by 6 m deep and the soffit of the ceiling is at a height of +7.67 m, above the plinth. The walls plastered and painted white and ceiling is painted dark brown.

There are no architectural features of import on the northern wall (Gnd-W/07-NW). This space is entered through a (Gnd-C/02-WW-D1) doorway on the eastern wall (Gnd-W/07-EW). Along the top of the southern wall (Gnd-W/07-SW) are two ventilators (Gnd-W/07-SW-V1 & V2). On the western wall (Gnd-W/07-WW) is an architectural ornament formed of three horseshoe arches supporting three smaller two-cross-centered arches fitted with *jalis*, framed by a large four-cross-centered arch. This element is the transition between this and the space (Gnd-W/08).

The roofing of the room is primarily supported on steel I-section beams running in the north-south direction. On top of these beams run wooden battens in an east-west direction which are topped with wooden boarding. The room has terrazzo flooring with grey and black aggregate.

The space has no visible signs of deterioration.



Figure 3.65: Gnd-W/07 – Swat Gallery (I) (2017)  
Looking West

## Gnd-W/08

This space is the *Swat Gallery (II)*. It was built as an extension to Swat Gallery (I) in the year 1969. The room is 17 m wide by 6.24 m deep and the soffit of the ceiling is at a height of +7 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Gnd-W/08-NW). This space is entered through the architectural ornament on the eastern wall (Gnd-W/08-EW), formed of three horseshoe arches supporting three smaller two-cross-centered arches fitted with *jalis*, framed by a large four-cross-centered arch. This element is the transition between this space and (Gnd-W/07). Along the top of the southern wall (Gnd-W/08-SW) two exhaust fans and two windows (Gnd-W/08-SW-W1 & W2) also fitted with exhaust fans. The two windows are in the middle while the exhaust fans are at the east and west sides of the room. There are also no architectural features of import on the western wall (Gnd-W/08-WW).

The roof is an RCC slab supported on concrete beams which are 28.5 cm wide and drop 38 cm from the soffit. The center of the first beam from the western wall is 3.85 m. The center of the second from the first is 3.22 m, the third from the second 2.51 m, fourth from the third 2.55 m, and the fifth from the fourth is 2.53 m. The room has terrazzo flooring with grey and black aggregate.



Figure 3.66: Gnd-W/08 – Swat Gallery (II) (2017)  
Looking East



Figure 3.67: Gnd-W/08 – Swat Gallery (II) – Deterioration (2016)  
Looking up and East (left), Looking up and South (right)

There are drip marks and discoloration (39–D1 – Figure 4.12) around almost every electrical point on the ceiling, suggesting that the electrical conduits are not watertight. Paint is also flaking at the top of the southern wall (Gnd-W/08-SW) (Figure 3.67), (40–P4 – Figure 4.12).

### 3.3.2. *Ground Floor – Auditorium, Library and Other Areas Accessed Externally*

These spaces are part of the museum building, but not part of general visitor experience. The Auditorium (Gnd-W/10) is used for special events, and the Library (Snd-W/03) above the auditorium is mostly used by researchers, though it is publically accessible. The library is reached though the stair halls (Gnd-W/09), (Fst-W/01) and (Snd-W/01) in the Auditorium & Library (Block G), in the western part of the building.

#### 3.3.2.1. Northern Part – Public Relations, Security Offices and Commercial Areas

##### **Gnd-N/03**

This space currently functions as the Security Office. It was previously an intermediary space for accessing the eastern cloak room. It was built in the year 183 and modified with the addition of a door (Gnd-N/03-SW-D1) in 1906. The room is 2.95 m wide by



2.95 m deep and the soffit of the ceiling is at a height of +5.79 m, above the plinth. The has room plastered walls up till a height of +2.5 m, above the plinth, above which the room has exposed brick walls, all of which have been painted off-white.

On the northern (Gnd-N/03-NW) and eastern (Gnd-N/03-EW) walls are arches, fitted with sandstone *jalis*.<sup>52</sup> These screens have been blocked with brick curtain walls laid in cement mortar<sup>53</sup> that rise to a height of +2.5 m, above the plinth. On the southern wall (Gnd-N/03-SW) is a four-cross-centered arched door (Gnd-N/03-SW-D1). The room is entered through the four-cross-centered arched doorway (Gnd-N/01-EW-D1) on the western wall (Gnd-N/03-WW). The doorway is fitted with a steel grille door, glazed above mid-level.

The roofing of the room is primarily supported on steel railway girders acting as beams running in the north-south direction. On top of these beams run wooden battens in an east-west direction which are topped with wooden boarding. The room has a black and white patterned marble floor.



Figure 3.68: Gnd-N/03 – Security Office (2015)  
Looking North-West (left), Looking South (right)

<sup>52</sup> The *jalis* visible on the exteriors of rooms (Gnd-N/03 & 05) are prepared in panels. Each type of panel is carved out in a different pattern and is framed in an embossed border. The borders on the panels mimic a similar configuration to the framing and mullions of the windows on the northern elevation.

<sup>53</sup> The cement mortar is visible through the *jali* from the outside.

There is flaking of paint at the lower parts of the eastern and southern walls (Figure 3.68). Paint can also be seen flaking at the mid-height of the northern wall (03-P4 – Figure 4.12).

#### **Gnd-N/04**

This space currently functions as the Chief Security Officer's Office. It previously functioned as a Cloak Room. It was built in the year 1906 and its roof was modified in 1965. The room is 3.9 m wide by 6 m deep and the soffit of the ceiling is at a height of +5.6 m, above the plinth. The room has plain cement plastered walls and are painted off-white. There is a yellow (with black trimming terrazzo) dado running around the base of the walls.

This space is entered through the door four-cross-centered arched doorway (Gnd-N/03-SW-D1) on the northern wall (Gnd-N/04-NW). The doorway is fitted with a wooden doorframe with and plywood door. The eastern wall (Gnd-N/04-EW) is chamfered at a 45° angle towards the south. The northern section (Gnd-N/04-EW/N) has traces of an arched opening in the middle that has been blocked off. The southern section (Gnd-N/04-EW/S) has four-cross-centered arched window opening that has been boarded off with plywood and painted the same as the walls. A window-type air conditioner is fitted at the bottom and an exhaust fan has been fitted towards the top of the boarding. The southern wall (Gnd-N/04-SW) is blank and has no architectural elements of import. The western wall (Gnd-N/04-WW) is also in two sections. The northern section of the wall (Gnd-N/04-WW/N) has a built in fireplace. On top of the fireplace is an arched opening affixed with terracotta *jali* (Gnd-N/04-WW-W1). The southern section of the wall (Gnd-N/04-WW/S) is set back from the northern section (towards the west) by 75.5 cm. On top of this section of wall is a flat archway supported on triple-tiered masonry brackets.

The room's roofing is supported on steel I-section beams running in an east-west direction. These beams support T-iron strips which in turn carry brick tiles. The room has a black and white checker patterned marble floor.

There is dampness in the western wall (Gnd-N/04-WW), visible from the discolored and flaking paint at the mid-height level of the wall (Figure 3.69), (04-D1/P4 –Figure 4.12).



Figure 3.69: Gnd-N/04 – Chief Security Officer's Office (2015)  
Looking South (left) Looking West (right)

## Gnd-N/05

This space currently functions as the *Office of the Assistant to the Public Relations Officer*. It was previously an intermediary space for accessing the western cloak room. It was built in the year 1983 and modified with the addition of a door (Gnd-N/05-SW-D1) in 1906. The room is 2.95 m wide by 2.95 m deep and the soffit of the ceiling is at a height of +5.79 m, above the plinth. The room has plastered walls up till a height of +2.5 m, above the plinth, above which the room has exposed brick walls, all of which have been painted off-white.

On the northern (Gnd-N/05-NW) and western (Gnd-N/05-WW) walls, are arches fitted with sandstone *jalis*. These screens have been blocked with brick curtain walls that rise to a height of +2.5 m, above the plinth. The room is entered through the four-cross-centered arched doorway (Gnd-N/01-EW-D1) on the eastern wall (Gnd-N/05-EW). The doorway is fitted with a steel grille door, glazed above mid-level. On the southern



wall (Gnd-N/05-SW) is a four-cross-centered arched door (Gnd-N/05-SW-D1). The roofing of the room is primarily supported on steel railway girders acting as beams running in the north-south direction. On top of these beams run wooden battens in an east-west direction which are topped with wooden boarding.

The room has a black and white patterned marble floor.

The room had recently been repainted, thus no traces of deterioration could be observed.



Figure 3.70: Gnd-N/05 – Office of the Assistant to the Public Relations Officer (2015)  
Looking North-West

## **Gnd-N/06**

This space currently functions as the *Public Relations Officer's Office*. It previously functioned as a Cloak Room and later the museum Cafeteria. It was built in the year 1906 and modified in the year 1965. This space has an irregular shape formed by the juxtaposition of two spaces joined together. The larger dimensions of the room are 7.25 m wide by 5.95 deep. The eastern part of the space is a mirrored version of the room (Gnd-N/04). The dimensions of which are 3.9 m wide by 5.59 m deep. The soffit of the suspended false ceiling is at a height of +5.11 m, above the plinth. The dimensions of the western part of the space are 2.72 m wide by 4.35 deep. The soffit

of the suspended false ceiling in this section is lower, at a height of +3.48 m, above the plinth. The room has plain cement plastered walls and are painted off-white.



Figure 3.71: Gnd-N/06 – Public Relations Officer's Office (2015)  
Looking South



Figure 3.72: Gnd-N/06 – Public Relations Officer's Office (2015)  
Looking North

The northern wall is in two sections. This space is entered through the door four-cross-centered arched doorway (Gnd-N/05-SW-D1) on the eastern section of the northern

wall (Gnd-N/06-NW/E). The western section of the north wall is set forward (northward) from the eastern section by 35 cm. There is a door (Gnd-N/06-NW-D2) in the middle of this section of the wall. The eastern wall (Gnd-N/06-EW) is also in two sections. The northern section of the wall (Gnd-N/06-EW/N) has an arched opening affixed with a terracotta *jali* (Gnd-N/06-EW-W1). The southern section of the wall (Gnd-N/04-WW/S) is set back from the northern section (towards the west) by 75.5 cm. On top of this section of wall is a flat archway supported on triple-tiered masonry brackets. The southern wall (Gnd-N/04-SW) is blank and has no architectural elements of import. The western wall is also divided into two sections. The northern section of the western wall (Gnd-N/06-WW/N) is at the western end of the western part of the room. This wall section has three two-cross-centered arched windows (Gnd-N/06-WW-W1 / W2 / W3). The southern section of the eastern wall (Gnd-N/06-WW/S) is chamfered at a 45° angle in the south-east north-west direction. There is a four-cross-centered arched door (Gnd-N/06-WW-D1) in the middle of this wall.

The room's roofing structure could not be observed as it was obscured by a suspended false ceiling in both parts of the room. The room has a white marble floor with a black and white patterned border.

The room had recently been repainted, thus no traces of deterioration could be observed apart from discoloration of the paint, due to dampness, in the south-west corner of the western part of the space (Figure 3.71), (05–D1 – Figure 4.12).

### **Gnd-N/07**

This space currently functions as the *Kitchenette* and services the Public Relations Officer's Office. This was part of the space that used to function as the Kitchen for the museum Cafeteria. It was built in the year 1969 and modified in the 2000's. The space is irregular with its largest dimensions being 3.56 m wide by 3.29 m deep. The soffit of the ceiling is at +1.83 m, above the plinth. The walls are covered with beige striped porcelain tiles and the ceiling is plastered and painted white.

This space is entered through the door (Gnd-N/06-EW-D1) on the western section of the northern wall (Gnd-N/07-NW) which is tilted at a 45° angle in the south-east north-west direction. The eastern (Gnd-N/07-EW) and southern (Gnd-N/08-SW) walls have

no architectural features of import. On the western wall (Gnd-N/07-WW) are two doors (Gnd-N/07-WW-D1 & D2) leading to toilet stalls.



Figure 3.73: Gnd-N/07 – Kitchenette (2015)  
Looking South (left), Looking East (right)

The roof is an RCC slab. There is a skylight above the entrance doorway fitted with a steel framed glass box. The room has a beige striped porcelain tile floor.

There is leakage at the edges of the sky light as can be seen by drip marks at the edges. The soffit of the whole ceiling has discoloration and due to dampness along with some patches of flaking paint (Figure 3.73), (06–D1 – Figure 4.12).

### **Gnd-N/08**

This space is a *Toilet Stall*. This was part of the space that used to function as the Kitchen for the museum Cafeteria. It was built in the year 1969 and modified in the 2000's. The space is 1.32 m wide by 1.63 m deep and the soffit of the ceiling is at +1.83 m, above the plinth. The walls are covered with striped beige porcelain tiles and the ceiling is plastered and painted white.

There are no architectural features of import on the northern wall (Gnd-N/08-NW). The space is entered through a plywood door (Gnd-N/07-WW-D2) fixed in a wooden

frame on the eastern wall (Gnd-N/08-EW). On the southern (Gnd-N/08-SW) and western (Gnd-N/08-WW) walls are also plain and have no architectural features of import.

The roof is an RCC slab and the room has a striped beige porcelain tile floor.

The soffit of the whole ceiling has discoloration and due to dampness along with water drip marks and some patches of flaking paint (Figure 3.74), (07-D1 – Figure 4.12).



Figure 3.74: Gnd-N/08 & Gnd-N/09 – Toilet Stalls (2015)  
Looking West

### **Gnd-N/09**

This space is a Toilet Stall. This was part of the space that used to function as the Kitchen for the museum Cafeteria. It was built in the year 1969 and modified in the 2000's. The space is 1.34 m wide by 1.41 m deep and the soffit of the ceiling is at +1.83 m, above the plinth.

The walls are covered with striped beige porcelain tiles and the ceiling is plastered and painted white. There are no architectural features of import on the northern wall (Gnd-N/09-NW). The space is entered through a plywood door (Gnd-N/07-WW-D1) fixed in a wooden frame on the eastern wall (Gnd-N/09-EW). On the southern

(Gnd-N/09-SW) and western (Gnd-N/09-WW) walls are also plain and have no architectural features of import.

The roof is an RCC slab and the room has a striped beige porcelain tile floor.

The soffit of the whole ceiling has discoloration and due to dampness along with water drip marks and some patches of flaking paint (Figure 3.74), (08-D1 – Figure 4.12).

### **Gnd-N/10**

This space is a spiral *Stairwell* (eastern) currently being used as an electrical wiring duct. It was constructed in 1893 within the north-eastern pier of the Entrance Vestibule (Gnd-N/02). The space was observed through a locked iron grille. The dimensions of the space are identical to the space (Gnd-N/11). The shaft has a diameter of 1.47 m and rises vertically through the height of the building. The spiral staircase runs clockwise with each step having a riser of 25.8 cm. The walls of the shaft are finished in exposed brick masonry with pointing in lime mortar.

This space is entered through the door (Gnd-N/01-SW-D1) on the south-eastern side of the entrance portico (Gnd-N/01). The staircase starts from the plinth and makes its first landing, exiting through the door (Fst-N/03-D1) onto the first floor Terrace (Fst-N/03). Between the ground and the first floor, there are two arched openings affixed with terracotta *jalis*. The first (Gnd-N/04-WW-W1) faces east and opens into the office (Gnd-N/04) and the second (Gnd-N/01-SW-W1) faces north and opens into Entrance Portico (Gnd-N/01).

The steps are supported on brickwork arches with a segmental profile, which are in turn supported between the 21.5 cm wide central column and the periphery wall. The steps are 6.5 cm wide towards the center of the spiral and 42.5 cm towards the periphery and are finished in exposed brickwork.

The space was in a general state of disrepair. The lime mortar pointing has partly powdered and fallen out (09-L3 – Figure 4.12).



## Gnd-N/11

This space is a spiral *Stairwell* (western) and is currently the only access to the first and second floor spaces in the northern wing. It was constructed in 1893 within the north-western pier of the Entrance Vestibule (Gnd-N/02). The shaft has a diameter of 1.47 m and rises vertically through the height of the building. The spiral staircase runs counterclockwise with each step having a riser of 25.8 cm. The walls of the shaft are finished in exposed brick masonry with pointing in lime mortar.

This space is entered through the door (Gnd-N/01-SW-D3) on the south-western side of the entrance portico (Gnd-N/01). The staircase starts from the plinth and makes its first landing, exiting through the door (Fst-N/03-D3) onto the first floor Terrace (Fst-N/03). Between the ground and the first floor, there are two arched openings affixed with terracotta *jalis*. The first (Gnd-N/06-EW-W1) faces east and opens into the office (Gnd-N/06) and the second (Gnd-N/01-SW-W2) faces north and opens into Entrance Portico (Gnd-N/01).



Figure 3.75: Gnd-N/11 – North-Western Stairwell (2016)  
Looking North, halfway to the first floor

The steps are supported on brickwork arches with a segmental profile, which are in turn supported between the 21.5 cm wide central column and the periphery wall. The

steps are 6.5 cm wide towards the center of the spiral and 42.5 cm towards the periphery and are finished in exposed brickwork.

The white paint on the walls has flaked / powdered and fallen off (Figure 3.75), (10–P4 – Figure 4.12).

### **Gnd-N/12**

This space is the *Curio Shop* (souvenirs). It was built in the year 1965. The room is 3.28 m wide by 4.42 m deep and the soffit of the ceiling is at a height of +2.14 m, above the plinth. The walls and ceiling are plastered and painted white.

This space is entered through the door (Gnd-N/12-NW-D1) on the northern wall (Gnd-N/12-NW). On the eastern wall (Gnd-N/12-EW) there are three two-cross-centered arched windows (Gnd-N/12-EW-W1 / W2 / W3). The southern (Gnd-N/12-SW) and western (Gnd-N/12-WW) wall are have no architectural elements of import.

The roof is an RCC slab and the room has grey terrazzo flooring.

There is paint flaking on the upper edges of the northern, eastern and southern walls and the connecting edges of the ceiling (11–P4 – Figure 4.12).



Figure 3.76: Gnd-N/12 – Curio Shop (2015)  
Looking up and East

### **Gnd-N/13**

This space currently functions as the Head of Security Staff's Office. This was part of the space that used to function as the Kitchen for the museum Cafeteria. It was built in the year 1969. It was first modified in the year 1958 and modified again in the 2000's. The room is 3.52 m wide by 3.44 m deep. The floor is at -29 cm, below the plinth and the soffit of the ceiling is at +1.68 m above the plinth. The walls and ceiling are plastered and painted white.

This space is entered through the door (Gnd-N/13-NW-D1) on the northern wall (Gnd-N/13-NW). The eastern (Gnd-N/15-EW), southern (Gnd-N/15-SW) and western (Gnd-N/15-WW) walls are all plain and have no architectural elements of import.

The roof is an RCC slab and the room has a plastered cement floor.

This space could not be accessed for detailed observations about its condition.

### **Gnd-N/14**

This space currently functions as the Ticketing Booth. It previously functioned as the Kitchen for the museum Cafeteria. It was built in the year 1985. The room is 2.73 m wide by 3.51 m deep. The floor is at -29 cm, below the plinth and the soffit of the ceiling is at +1.68 m, above the plinth. The walls and ceiling are plastered and painted white.

The northern wall (Gnd-N/14-NW) has as ticketing window (Gnd-N/14-NW-W1). This space is entered through the door (Gnd-N/13-WW-D1) on the eastern wall (Gnd-N/14-EW). The southern (Gnd-N/14-SW) and western (Gnd-N/14-WW) walls are both plain and have no architectural elements of import.

The roof is an RCC slab and the space has a plastered cement floor.

This space could not be accessed for detailed observations about its condition.

### **Gnd-N/15**

This space is the museum *Book Shop*, 'Kim's'. It was built in 1985. The room is 3.1 m wide by 3.71 m deep. The floor is at -29 cm, below the plinth and the soffit of the

ceiling is at +1.68 m, above the plinth. The walls and ceiling are plastered and painted white.

This space is entered through the door (Gnd-N/15-NW-D1) affixed within the glazed shop-window (Gnd-N/15-NW-W1) which covers the whole northern face of the space. The eastern (Gnd-N/15-EW), southern (Gnd-N/15-SW) and western (Gnd-N/15-WW) walls are all plain and have no architectural elements of import.

The roof is an RCC slab and the space has a plastered cement floor.

This space could not be accessed for detailed observations about its condition.

### **Gnd-N/16**

This is the entrance corridor for the *Public Toilets*. It was built in the year 1985. The room is 85 cm wide by 3.84 m deep. The floor is at –29 cm, below the plinth and the soffit of the ceiling is at +1.68 m, above the plinth. The walls and ceiling are plastered and painted white.

This space is entered through the door (Gnd-N/16-NW-D1) on the northern wall. The eastern (Gnd-N/16-EW) and southern (Gnd-N/16-SW) walls are plain and have no architectural elements of import. On the western wall (Gnd-N/16-WW) there are two doors (Gnd-N/16-D1 & D2) which lead to the toilet stalls.

The roof is an RCC slab and the space has a plastered cement floor.

This space could not be accessed for detailed observations about its condition.

### **Gnd-N/17**

This space is a public *Toilet Stall*. It was built in the year 1985. The room is 1.38 m wide by 1.73 m deep. The floor is at –29 cm, below the plinth and the soffit of the ceiling is at +1.68 m, above the plinth. The walls are clad with white ceramic tiles and the ceiling is plastered and painted white.

The northern wall (Gnd-N/17-NW-D1) is plain and has no architectural elements of import. This space is entered through the door (Gnd-N/16-WW-D2) on the eastern

wall (Gnd-N/17-EW). The southern (Gnd-N/17-SW) and western (Gnd-N/17-WW) walls are plain and also have no architectural elements of import.

The roof is an RCC slab and the space has a white ceramic tile floor.

This space could not be accessed for detailed observations about its condition.

### **Gnd-N/18**

This space is a public *Toilet Stall*. It was built in the year 1985. The room is 1.4 m wide by 1.76 m deep. The floor is at –29 cm, below the plinth and the soffit of the ceiling is at +1.68 m, above the plinth. The walls are clad with white ceramic tiles and the ceiling is plastered and painted white.



Figure 3.77: Gnd-N/18 – Public Toilets – Exterior (2016)  
Looking East

The northern wall (Gnd-N/18-NW-D1) is plain and has no architectural elements of import. This space is entered through the door (Gnd-N/16-WW-D1) on the eastern wall (Gnd-N/18-EW). The southern (Gnd-N/18-SW) and western (Gnd-N/18-WW) walls are plain and also have no architectural elements of import.

The roof is an RCC slab and the space has a white ceramic tile floor.



This space could not be accessed for detailed observations about its condition.

The spaces (Gnd-N/07 – 18) are constructed against the original exterior wall of the northern façade. The structure is ill proportioned and its roof partly rests on the historic wall. The rainwater on the roof also transmits dampness to the older wall.

### 3.3.2.2. Eastern Part –Services & the Conservation Laboratory

#### **Gnd-E/09**

This chamber holds the *Ventilation Extractor* and was previously part of the eastern Veranda. It was built in the year 1893 and it was modified in the year 1965. The room is 3.07 m wide by 1.37 m deep and the soffit of the ceiling is at a height of +4.64 m, above the plinth. The walls and the ceiling are plastered painted white.

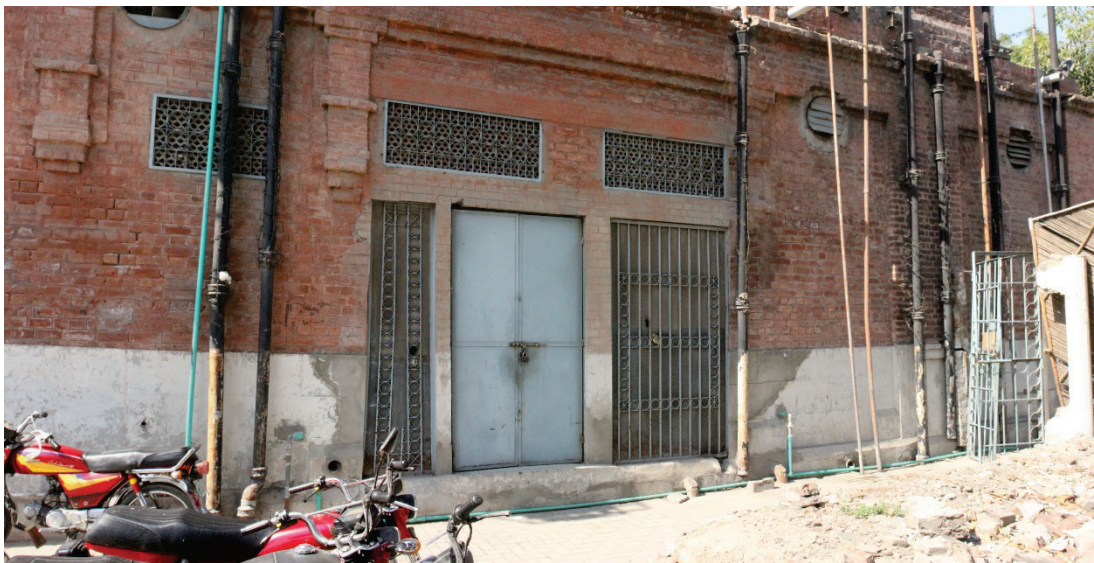


Figure 3.78: Gnd-E/09 – Ventilation Extractor – Exterior (2016)  
Looking West

There are no architectural elements of import on the northern wall (Gnd-E/09-NW). Towards the east (Gnd-E/09-EW) the chamber has an iron grille, which can be opened for servicing the extractor. There is an outer steel door that can (Gnd-E/09-EW-D1) openable from the building exterior. There are also no architectural elements of import



on the southern wall (Gnd-E/09-SW). Towards the west (Gnd-E/09-WW), there is a wooden screen that faces the space (Gnd-E/04).

The roof is an RCC slab. The room has plastered cement flooring.

This space could not be accessed for detailed observations about its condition.

### **Gnd-E/10**

This space currently functions as a *Toilet* and was previously part of the eastern Veranda. It was built in the year 1893 and it was modified in the year 1965. The room is 3.05 m wide by 2.23 m deep and the soffit of the ceiling is at a height of +4.64 m, above the plinth. The walls have a dado of white ceramic tiles above which the walls are plastered and painted off-white while the ceiling is plastered and painted white.

There are no architectural elements of import on the northern wall (Gnd-E/10-NW). This space is entered through the door on the (Gnd-E/10-EW-D1) eastern wall (Gnd-E/10-EW) from the eastern alley. There are also no architectural elements of import on the southern (Gnd-E/10-SW) as well as western (Gnd-E/10-WW) walls.



Figure 3.79: Gnd-E/10 – Toilet (2016)  
Looking West (left), Looking North and up (right)

The roof is an RCC slab that folds downward, around the middle of the room and then folds back to a horizontal at a lower height towards the western part of the room. This chamber above the western part of the room is inaccessible from any side and its purpose is unknown. The room has a white ceramic tile floor.

The paint on all the walls is flaking off (Figure 3.79). There is visible dampness on parts of the wall where the paint has completely fallen off, (21-D1/P4 – Figure 4.12).

### **Gnd-E/11**

This space currently functions as the *Rest Room for the Staff*. This was previously part of the eastern Veranda. It was built in the year 1965. The room is 3.15 m wide by 7.16 m deep and the soffit of the ceiling is at a height of +4.64 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural elements of import on the northern wall (Gnd-E/11-NW). This space is entered through the door (Gnd-E/11-EW-D1) on the eastern wall (Gnd-E/11-EW) from the eastern alley. There are also no architectural elements of import on the southern wall (Gnd-E/11-SW). On the western wall (Gnd-E/11-WW) there are two four-cross-centered blind arches.



Figure 3.80: Gnd-E/11 – Staff Rest Room – Exterior (2016)  
Looking West

The roof is an RCC slab and the room has a grey terrazzo floor.

There is flaking of paint on the lower parts of both eastern (Gnd-E/11-EW) and western (Gnd-E/11-WW) walls. There is visible dampness on parts of the wall where the paint has completely fallen off, (22–D1/P4 – Figure 4.12Figure 4.12).

### **Gnd-E/12**

This is the *Veranda / Stair Hall for the Conservation Laboratory*. It was built in the year 1978. The room is 9.2 m wide by 2.6 m deep and the soffit of the ceiling is at a height of +4.6 m, above the plinth. The walls and ceiling are plastered and painted white.

On the northern wall (Gnd-E/12-NW) are 3 four-cross-center arches. The central arch is fitted with a door (Gnd-E/12-NW-D1) and the ones to the east and west and east are fitted with windows (Gnd-E/12-NW-W1 & W2) respectively. On the eastern wall (Gnd-E/12-EW) is a door (Gnd-E/12-EW-D1). This space is entered through an iron grille door (Gnd-E/12-SW-D1) in the eastern opening on the southern wall (Gnd-E/12-SW). The iron grille in the western opening is fixed. Towards the west is a staircase leading to the first floor. The staircase is 1.22 m wide and each step has a riser of 20 cm.

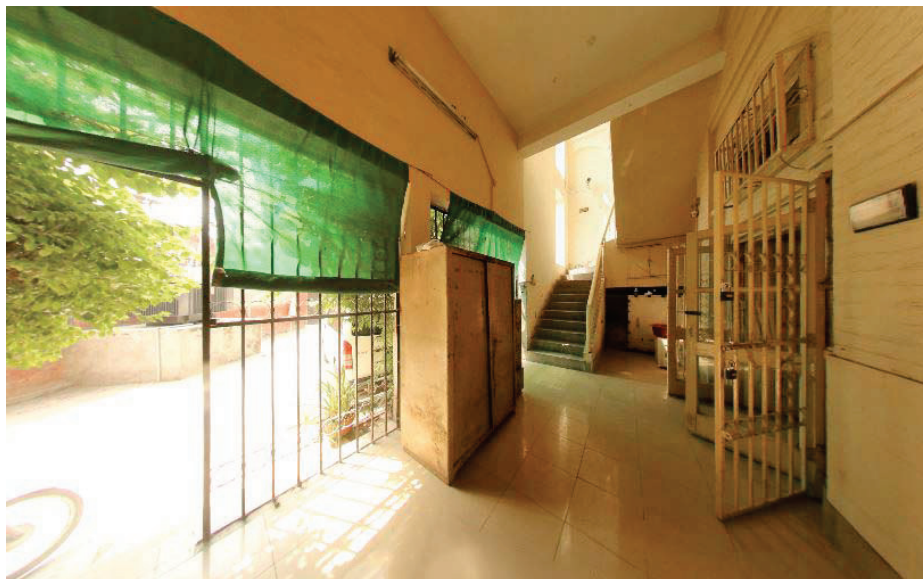


Figure 3.81: Gnd-E/12 – Veranda / Lobby for the Conservation Laboratory (2016)  
Looking West

The roof is an RCC slab from which a beam 31 cm wide drops 33 cm and runs in the north-south direction. The center of this beam is 3.8 m from the western wall (Gnd-E/12-WW). The room has a beige porcelain tile floor.

This space has no visible signs of deterioration.

### **Gnd-E/13**

This is a *Toilet*. It was built in the year 1978. The room is 3 m wide by 2.76 m deep and the soffit of the ceiling is at a height of +4.6 m, above the plinth. The walls have a high dado of white ceramic tiles, above which the walls and ceiling are plastered and painted white.

On the northern wall (Gnd-E/13-NW) there are traces of the southern end of the eastern veranda. High on the eastern wall (Gnd-E/13-EW) is an exhaust fan. On the southern wall (Gnd-E/13-SW) there is a ventilator (Gnd-E/13-SW-V1). This space is entered through the door (Gnd-E/12-EW-D1) on the western wall (Gnd-E/13-WW).

The roof is an RCC slab and the room has a white ceramic tile floor.

Swelling of plaster can be seen on all the walls above the ceramic tile dado (23-P1 – Figure 4.12).

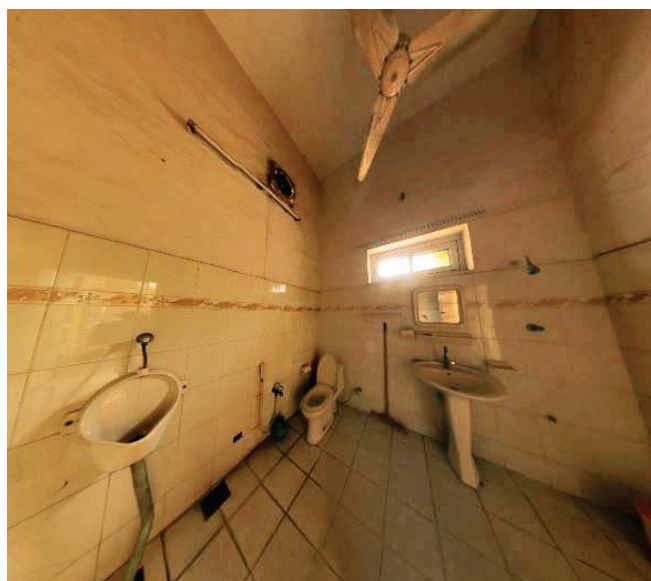


Figure 3.82: Gnd-E/13 – Toilet (2016)  
Looking South-East



## Gnd-E/14

This space currently functions as the *Chief Conservator's Office*. It was previously part of a Store / Godown.<sup>54</sup> It had been built by the year 1929 and modified in 1965. The room is 4.92 m wide by 4.18 m deep and the soffit of the ceiling is at a height of +4.6 m, above the plinth. The walls and ceiling are plastered and painted white.

On the eastern end of the northern wall (Gnd-E/14-NW) there is a door (Gnd-E/14-NW-D1). On the top and middle of the wall is a ventilator (Gnd-E/14-NW-V1). The eastern wall (Gnd-E/14-EW) has a door (Gnd-E/14-EW-D1) on its northern end. This room is entered through the door (Gnd-E/12-NW-D1) on the southern wall (Gnd-E/14-SW). There is a window (Gnd-E/14-SW-W1) to the west of the door. The western wall (Gnd-E/14-WW) has no architectural features of import.

The roof is an RCC slab supported on a steel I-section beam running in the north-south direction. The room has a beige porcelain tile floor.

There is flaking of paint on the upper part of the western (Gnd-E/14-WW) wall (24-P4 – Figure 4.12).

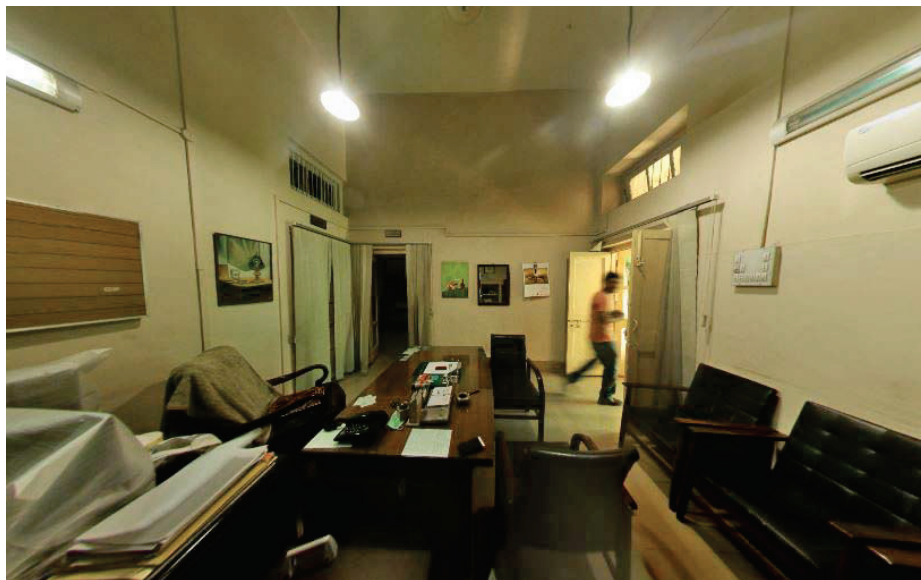


Figure 3.83: Gnd-E/14 – Chief Conservator's Office (2016)  
Looking East

<sup>54</sup> A *Godown* is a term used for a cellar or a warehouse, especially in the South-Asian or more precisely in the Indian context.

### Gnd-E/15

This space currently functions as a Storage Room for conservation materials and equipment. It was previously part of a Store / Godown. It had been built by the year 1929 and modified in 1965. The room is 4.91 m wide by 2.47 m deep and the soffit of the ceiling is at a height of +4.6 m, above the plinth. The walls and ceiling are plastered and painted white.

The northern (Gnd-E/16-NW) and eastern (Gnd-E/16-EW) walls have built-in concrete shelving on 3 levels. This space is entered through the door (Gnd-E/14-NW-D1) on the southern wall (Gnd-E/15-SW). High, in the middle of the wall is a ventilator. The western wall (Gnd-E/15-WW) also has no architectural features of import. The roof is an RCC slab supported on a steel I-section beam running in the north-south direction. The room has a grey terrazzo floor.



Figure 3.84: Gnd-E/15 – Store (2016)  
Looking East

### Gnd-E/16

This space currently functions as the *Conservation Laboratory*. It was previously part of a Store / Godown. It had been built by the year 1929 and modified in 1965. The



room is 3.37 m wide by 6.88 m deep and the soffit of the ceiling is at a height of +4.6 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.85: Gnd-E/16 – Conservation Laboratory (2017)  
Looking South



Figure 3.86: Gnd-E/16 – Conservation Laboratory (2016)  
Looking North

The northern (Gnd-E/16-NW) and eastern (Gnd-E/16-EW) walls have no architectural features of import. The southern wall (Gnd-E/16-SW) has a window (Gnd-E/16-SW-W1).

This space is entered through the door (Gnd-E/14-EW-D1) on the western wall (Gnd-E/16-WW).

The roof is an RCC slab supported on a steel I-section beam running in the north-south direction. The room has a grey terrazzo floor.

There is flaking of paint on the lower part of the eastern (Gnd-E/16-EW) and middle part of the northern (Gnd-E/16-NW) walls (Figure 3.86). There is visible dampness on parts of the wall where the paint has completely fallen off (25-D1/P4 – Figure 4.12).

### **Gnd-E/20**

This chamber holds the *Ventilation Extractor*. This chamber was constructed at a later date than (Gnd-E/19) as it clearly sits as a separate structure outside and abutting the building block, therefore it would have been built sometime after the year 1972. The chamber is 1.94 m wide by 2.45 m deep. The floor is at –13 cm, below the plinth and the soffit of the ceiling is at +2.83 m, above the plinth. The walls and the ceiling are plastered painted white.



Figure 3.87: Gnd-E/20 – Ventilation Extractor (2007)  
Looking west, from the outside (left), from the inside (right)  
Photos: Fawad Raza

There are no architectural elements of import on the northern wall (Gnd-E/20-NW). Towards the east (Gnd-E/20-EW) the chamber has iron grilles which can be opened for servicing the ventilator. There is an outer steel door that can (Gnd-E/20-EW-D1) openable from the building exterior. There are also no architectural elements of import on the southern wall (Gnd-E/20-SW). Towards the west (Gnd-E/20-WW), there is a wooden screen that faces the space (Gnd-E/19).

The roof is an RCC slab and the chamber has plastered cement flooring.

There is flaking of paint on the lower parts of the walls, all around the floor (Figure 3.87), (28–P4 – Figure 4.12).

### **Gnd-E/21**

This is a *Staircase* that leads to the only room in the basement. It was built in the year 1972. The room is 3.83 m wide by 1.36 m deep. The floor is at –15 cm, below the plinth and the soffit of the suspended false ceiling above is at +3.56 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.88: Gnd-E/21 – Basement Staircase (2016)  
Looking East

There is a blocked doorway on the eastern end of the northern wall (Gnd-E/21-NW). There are no architectural features of import on the eastern wall (Gnd-E/21-EW). This space is entered through the door (Gnd-E/21-SW-D1) on the southern wall (Gnd-E/21-SW). Towards the west, stairs descend down to the basement. Each step has a riser of 17 cm and the staircase descends a total of 3.13 m.

The roof is obscured by the suspended false ceiling but should be an RCC slab as suggested by all the adjacent roof. The steps are finished in grey terrazzo.

The space has no visible signs of deterioration.

### 3.3.2.3. Southern Section – Administrative Offices

#### **Gnd-C/03**

This space currently functions as a *Corridor* that connects the administrative areas with the Coin Room and the exhibition areas. This space was previously part of the museum Library. It was built in the year 1916 and modified in 1969. The room is 7.88 m wide by 6.63 m deep and the soffit of the ceiling is at a height of +7.57 m, above the plinth. The walls are plastered and painted white. The ceiling is painted dark brown.



Figure 3.89: Gnd-C/03 – Corridor (2016)  
Looking East (left), Looking West (right)



This space is entered through the door (Gnd-C/02-SW-D1) on the northern wall (Gnd-C/03-NW). On the eastern wall (Gnd-C/03-EW) is a door (Gnd-C/03-EW-D1). On the southern wall (Gnd-C/03-SW) is a door (Gnd-C/03-SW-D1). High up on the wall are three ventilators (Gnd-C/03-SW-V1 – V3). On the western wall (Gnd-C/03-WW) is a door (Gnd-C/03-WW-D1). There is a ventilator (Gnd-C/03-WW-V1) above this door.

The roof of the room consists of wooden battens which run in the north-south direction. These are topped with wooden boarding. The flooring of the room is divided in three strips running in an east-west direction. The middle strip is finished in white marble, while the northern and southern strips in black terrazzo.

There are drip marks flowing down from the ventilators, showing the lack of water tightness (Figure 3.89), (52–D1 – Figure 4.12).

### **Gnd-S/01**

This space currently functions as the *Coin Room*. It was built in the year 1929 and modified in 1969. The room is 7.87 m wide by 4.6 m deep. The soffit of the suspended false ceiling is at +3.65 m, above the plinth. The soffit of the actual ceiling should be at approximately +5.45 m though actual measurements can only be taken after removing the false ceiling. There is carved wooden paneling on the walls up till a height of 2 m. This is the most ornate example of carved wooden ornamentation in the museum, similar to the ceiling of the Entrance Portico (Gnd-N/01). The walls above the paneling are plastered and painted white.

This space is entered through the door (Gnd-C/03-SW-D1) on the northern wall (Gnd-S/01-NW). The western side of the wall is fitted with two safes for the keeping of the coin collection. Two more safes are built into the paneling on the eastern wall (Gnd-S/01-EW) towards the northern end. The eastern end of the wall has a built in writing desk. There are two windows (Gnd-S/01-SW-W1 & W2) on the southern wall (Gnd-S/01-SW). A writing desk, built into the wooden paneling, similar to the one on the eastern wall, jets outward towards the southern end of the western wall (Gnd-S/01-WW).

The room's roofing structure was not observed as it was obscured by a suspended false ceiling. The flooring was also not observed as it was obscured by wall to wall carpeting.

The space has no visible signs of deterioration.



Figure 3.90: Gnd-S/01 – Coin Room (2007)  
Looking East (left), Looking North-West (right)  
Photo: Fawad Raza

## Gnd-S/02

This space currently functions as *Vestibule* between the director's office, toilet and the corridor leading to the administration and exhibition areas. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The room is 3.1 m wide by 2.45 m (east) and 2.24 m (west) deep and the soffit of the ceiling is at a height of +4.7 m, above the plinth. The walls are plastered and painted white and the ceiling has been painted off-white.

The northern wall (Gnd-S/02-NW) is blank and has no architectural features of import. On the eastern wall (Gnd-S/02-EW) there is a door (Gnd-S/02-EW-D1). This door is set into a blocked off archway, traces of which are visible towards the upper parts of the wall. On the southern wall (Gnd-S/02-SW) there is a door (Gnd-S/02-SW-D1).



This space is entered through the door (Gnd-C/03-EW-D1) on the western wall (Gnd-S/02-WW).



Figure 3.91: Gnd-S/02 – Vestibule (2016)  
Looking East

The roofing of the room is supported on an I-section beam running in the east-west direction. On top of these beams run wooden battens in the north-south direction which are topped with wooden boarding. The space has an off-white porcelain tile floor.

The space has no visible signs of deterioration.

### **Gnd-S/03**

This space currently functions as a *Toilet*. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The room is 2.54 m wide by 3 m deep and the soffit of the ceiling is at a height of +4.7 m, above the plinth. The walls are clad with porcelain tiles up till a height of 2 m, and are plastered and painted white above that height. The ceiling has been painted off-white.

There are no architectural features of import on the northern (Gnd-S/03-NW) and eastern (Gnd-S/03-EW) walls. On the southern (Gnd-S/03-SW) and western (Gnd-S/03-WW) walls, traces are visible on the upper parts of the wall of blocked off

archways. There is an exhaust fan, fixed within the arch above the springer line on the southern wall (Gnd-S/03-SW). The space is entered through the door (Gnd-S/02-EW-D1) on the western wall (Gnd-S/03-WW).

The roofing of the room is supported on an I-section beam running in the east-west direction. On top of these beams run wooden battens in the north-south direction which are topped with wooden boarding. The space has a porcelain tile floor.

The space gets maintained (and repainted) on a regular basis and thus has no visible signs of deterioration.



Figure 3.92: Gnd-S/03 – Toilet for the Director's Office (2016)  
Looking South

#### **Gnd-S/04**

This space currently functions as the museum *Director's Office*. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The room is 3.2 m wide. The northern wall of the room is at a slight angle thus the eastern wall is 8 m deep and the western wall is 8.2 m deep. The soffit of the ceiling is at a height of +4.7 m, above the plinth. The walls and ceiling are plastered and painted white.

This space is connected to other administrative and exhibition areas through the door (Gnd-S/02-SW-D1) on the northern wall (Gnd-S/04-NW). On the eastern wall (Gnd-S/04-EW), there is an opening (Gnd-S/04-EW-D1) leading to a waiting area on the northern end of the wall and a window (Gnd-S/04-EW-W1) on the southern end. On the southern wall (Gnd-S/04-SW) there is a window set in the middle of a blocked archway. On the southern end of the western wall (Gnd-S/04-WW), there is a bookshelf built into the wall. The front of the bookshelf is flush with the wall surface.

The roofing of the room is supported on I-section beams running in the east-west direction. On top of these beams run wooden battens in the north-south direction which are topped with wooden boarding. The space has an off-white porcelain tile floor.

The space gets maintained (and repainted) on a regular basis and thus has no visible signs of deterioration.

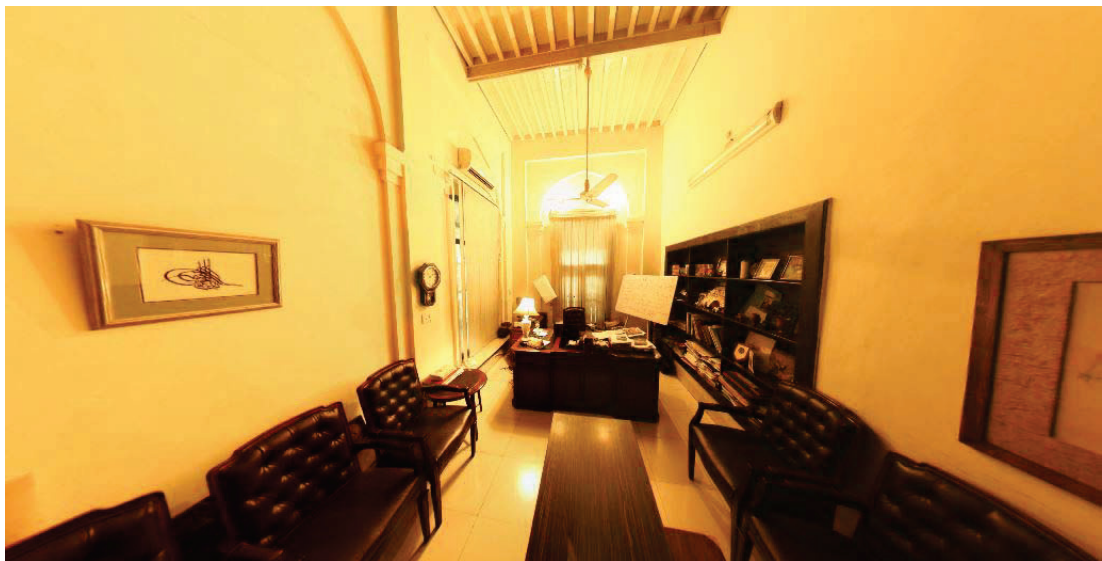


Figure 3.93: Gnd-S/04 – Director's Office (2016)  
Looking South

### **Gnd-S/05**

This space currently functions as the *Waiting Area* for the director's office. It was built in the year 1978 for providing an external (direct) entrance to, and waiting area for the guests adjacent to the director's office. The room is 2.75 m wide by 2.26 m deep and

the soffit of the ceiling is at a height of +2.86 m, above the plinth. The walls and ceiling are plastered and painted white.

On the northern wall (Gnd-S/05-NW) there are traces of a blocked off archway. On the eastern wall (Gnd-S/05-EW) there are no architectural features of import. There is an opening towards the southern wall connecting the room to the Lobby (Gnd-S/06). On the western wall (Gnd-S/05-WW) there is an opening leading to the Director's Office (Gnd-S/04).

The roof is an RCC slab and the space has an off-white porcelain tile floor.

The space gets maintained (and repainted) on a regular basis and thus has no visible signs of deterioration.



Figure 3.94: Gnd-S/05 – Waiting Area – Director's Office (2016)  
Looking North

## **Gnd-S/06**

This space currently functions as the *Lobby* for the director's office. It was built in the year 1978 for providing an external (direct) entrance to, and waiting area for the guests adjacent to the director's office. The room is 2.78 m (north) and 2.87 m (south) wide by 1.9 m deep and the soffit of the ceiling is at a height of +2.86 m, above the plinth. The walls and ceiling are plastered and painted white.

On the northern wall (Gnd-S/06-NW) is the opening leading to the waiting area (Gnd-S/05). Towards the southern end of the eastern wall (Gnd-S/06-EW) there is a window (Gnd-S/06-EW-W1). This space is entered through the door (Gnd-S/06-SW-D1) on the southern wall (Gnd-S/06-SW). On the western wall (Gnd-S/06-WW) there are no architectural features of import.

The roof is an RCC slab and the space has an off-white porcelain tile floor.

The space gets maintained (and repainted) on a regular basis and thus has no visible signs of deterioration.

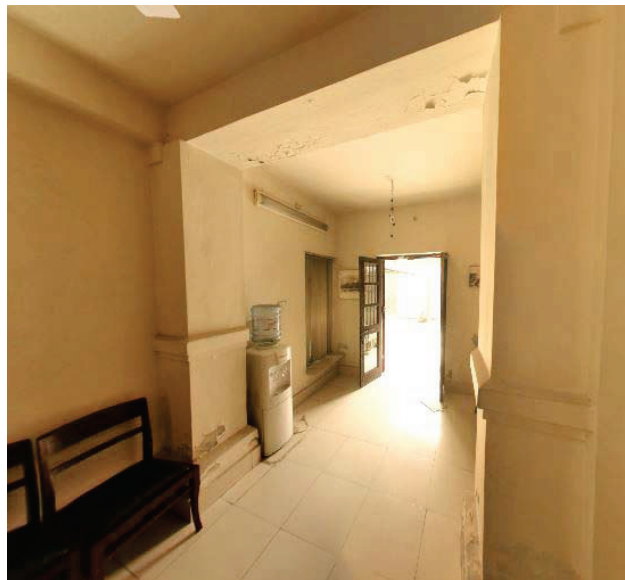


Figure 3.95: Gnd-S/06 – Lobby – Director's Office (2016)  
Looking South

### **Gnd-S/07**

This space currently functions as a *Lobby* connecting the outside and interior administration office areas. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The space is 2.95 m wide by 3 m deep and the soffit of the ceiling is at a height of +4.7 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Gnd-S/07-NW). On the eastern wall (Gnd-S/07-EW) is a door (Gnd-C/03-WW-D1) that leads towards the



Coin Room, the Director's Office and the Exhibition areas. On the southern wall (Gnd-S/07-SW) is the door (Gnd-S/07-SW-D1). This room is entered through the door (Gnd-S/07-WW-D1) on the western wall (Gnd-S/07-WW). On the western face of the gate is a lockable iron grille. This is the southern access to the exhibition areas, attaching them to the administration offices towards the south.

The roofing of the space is supported on an I-section beam running in the east-west direction. On top of these beams run wooden battens in the north-south direction which are topped with wooden boarding. The space has a grey polished plastered cement floor.

Detailed observations about its condition could not be made about this space.

### **Gnd-S/08**

This space is an *Office*. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The room is 3 m wide by 4.5 m deep and the soffit of the ceiling is at a height of +4.7 m, above the plinth. The walls and ceiling are plastered and painted white.

This space is entered through the door (Gnd-S/07-SW-D1) on the northern wall (Gnd-S/08-NW). There are no architectural features of import on the eastern (Gnd-S/08-EW) and southern (Gnd-S/08-SW) walls. On the western wall (Gnd-S/08-WW) there are two windows (Gnd-S/08-WW-W1 & W2) The roofing of the room is supported on I-section beams running in the east-west direction. On top of these beams run wooden battens in the north-south direction which are topped with wooden boarding. The space has an off-white porcelain tile floor.

This space could not be accessed for detailed observations about its condition.

### **Gnd-S/09**

This space is a *Veranda* outside the lobby area and is an intermediary space that connects the two administration office areas. It is the only part of the southern veranda that is still in its original configuration. It had been built by the year 1929 and modified in 1965. The space is 2.72 m wide by 3 m deep and the soffit of the ceiling is at a height of +4.7

m, above the plinth. The walls and ceiling are plastered and painted white while the surface of the arches are not plastered, the brickwork is also painted white.

There are no architectural features of import on the northern wall (Gnd-S/09-NW). On the eastern wall (Gnd-S/09-EW) there is a door (Gnd-S/09-EW-D1). Towards the south, there is an open archway that leads toward the alleyway towards at the southern end of the museum lot. On the western wall (Gnd-S/09-WW) there is a door (Gnd-S/07-WW-D1). On the western face of the gate is a lockable iron grille.

The roofing of the room is supported on an I-section beam running in the east-west direction. On top of these beams run wooden battens in the north-south direction which are topped with wooden boarding. The space has a grey terrazzo floor.

The space has no visible signs of deterioration.



Figure 3.96: Gnd-S/09 – Veranda (2016)  
Looking East

### **Gnd-S/10**

This space currently functions as an *Office*. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The room is 6.56 m wide by 3.04 m deep and the soffit of the ceiling is at a height of +4.7 m, above the plinth. All walls and are plastered and painted white except the western

wall (Gnd-S/10-WW) which is painted in a muted brown. The ceiling has been painted a chocolate brown.



Figure 3.97: Gnd-S/10 – Office (2016)  
Looking East



Figure 3.98: Gnd-S/10 – Office – Deterioration (2016)  
Looking East

There are no architectural features of import on the northern wall (Gnd-S/10-NW). This space is entered through the door (Gnd-S/09-EW-D1) on the eastern wall (Gnd-S/10-EW). On the eastern side of the southern wall (Gnd-S/10-SW) is the window (Gnd-S/10-SW-W1). On the western side of the wall there is an opening, connecting this space with a sub-office (Gnd-S/11). On the western wall (Gnd-S/10-WW) there is a door (Gnd-S/10-WW-D1) leading to a toilet.

The roofing of the room is supported on I-section beams running in the north-south direction. On top of these beams run wooden battens in an east-west direction which are topped with wooden boarding. The space has an off-white porcelain tile floor.

There is discoloration and flaking of the paint due to dampness on the western wall (Gnd-S/10-WW) above the door (Figure 3.98), (29-D1 – Figure 4.12).

Traces of the southern veranda can be seen in multiple places such as this continuing roofing system, between the spaces (Gnd-S/9 & 10), divided at a later time by a partition wall (Figure 3.99).



Figure 3.99: Gnd-S/09 & 10 – Veranda and Office – Ceiling (2016)  
Looking up

### **Gnd-S/11**

This space currently functions as a *Sub-Office*. It was built in the year 1978. The room is 2.23 m wide by 1.85 m deep and the soffit of the ceiling is at a height of +4.6 m, above the plinth. The walls and ceiling are plastered and painted a muted brown.

This space is connected to the space (Gnd-S/11) by means of an opening in its northern wall through which this space is also entered. On the eastern wall (Gnd-S/11-EW) there is a window/door (Gnd-S/11-EW-W1). This is an external entrance to the space, but is permanently locked. There are no architectural features of import on the southern (Gnd-S/11-SW) and western (Gnd-S/11-WW) walls.

The roof is an RCC slab and the room has an off-white porcelain tile floor.

The space has no visible signs of deterioration.

### Gnd-S/12

This space is a *Toilet*. It was built in the year 1978. The room is 2 m wide by 3.17 m deep and the soffit of the ceiling is at a height of +2.8 m, above the plinth. The walls are clad with ceramic tiles up till a height of 1.8 m. Above this height the walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Gnd-S/12-NW). This space is entered through the door (Gnd-S/10-WW-D1) on the eastern wall (Gnd-S/12-EW). Traces can be seen on this wall of a blocked off archway which is partially visible. There are no architectural features of import on the southern (Gnd-S/12-SW) and western (Gnd-S/12-WW) walls.

The roof is an RCC slab and the space has a ceramic tile floor.

There has been partial re-plastering (30-P3 – Figure 4.12) of parts of the western wall (Gnd-S/12-WW). There is also some flaking of paint on the ceiling (Figure 3.100), (31-P4 – Figure 4.12).



Figure 3.100: Gnd-S/12 – Toilet (2016)  
Looking North-West

### Gnd-S/13

This space currently functions as the *Electric Control Room*. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The



room is 2.75 m wide by 3.1 m deep and the soffit of the ceiling is at a height of +4.7 m, above the plinth. The walls and ceiling are all plastered. The walls are painted off white and the ceiling, white.

High on the northern wall (Gnd-S/13-NW), there is an opening for an exhaust fan which is being used as an electrical duct. There are no architectural features of import on the eastern wall (Gnd-S/13-EW). This space is entered through the door (Gnd-S/13-SW-D1) on the southern wall (Gnd-S/13-SW). Above the door is an exhaust fan. There are also no architectural features of import on the western wall (Gnd-S/13-WW). The roof is an RCC slab and space has a grey terrazzo floor partially covered with linoleum tiles.

There is detachment of chunks of concrete from the roof in three patches exposing the steel rebars. There is also flaking of paint on other parts of the ceiling (32-L4 – Figure 4.12).



Figure 3.101: Gnd-S/13 – Electric Control Room (2016)  
Looking North (left), Looking up (right)

## Gnd-S/14

This space currently functions as an *Office*. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The room is 5 m

wide by 3 m deep and the soffit of the ceiling is at a height of +4.7 m, above the plinth. The walls and ceiling are plastered and painted white. The beams and battens supporting the roof are painted dark brown.



Figure 3.102: Gnd-S/14 – Office (2016)  
Looking West

On the northern wall (Gnd-S/14-NW), there are traces of a blocked off window. There are no architectural features of import on the eastern wall (Gnd-S/14-EW). This space is entered through the door (Gnd-S/14-SW-D1) on the eastern side of the southern wall (Gnd-S/14-SW). On the western side of the wall, there is a window (Gnd-S/14-SW-W1). There are also no architectural features of import on the western wall (Gnd-S/14-WW).

The roofing of the room is supported on I-section beams running in the north-south direction. On top of these beams run wooden battens in an east-west direction which are topped with wooden boarding. The room has an off-white porcelain tile floor.

The space has no visible signs of deterioration.

### **Gnd-S/15**

This space currently functions as an *Office*. It was previously part of the southern veranda. It had been built by the year 1929 and modified in 1965. The room is has two

parts; the eastern and the western. The room is 6.1 m wide. The eastern part of the room is 3 m deep and the western part of the room is 2.45 m deep. The soffit of the ceiling is at a height of +4.7 m, above the plinth. The walls are plastered and painted white except the western wall, which is painted a muted brown. The ceiling is painted dark brown.



Figure 3.103: Gnd-S/15 – Office (2016)  
Looking West (left), Looking East (right)

On the eastern part of the northern wall (Gnd-S/15-NW/E), there are traces of a blocked off window and on the western part wall is a blocked off doorway. There are no architectural features of import on the eastern wall (Gnd-S/15-EW). This space is entered through the door (Gnd-S/15-SW-D1) on the southern wall (Gnd-S/15-SW) which is located on the eastern side of the wall. There is a window (Gnd-S/15-SW-W1) on the western side of the southern wall. There is a window (Gnd-S/15-WW-W1) on the western wall (Gnd-S/15-WW) which has been boarded up with plywood. The window opening is punctured into a blocked off archway.

The roofing of the room is supported an I-section beams running in the north-south direction in the eastern part and east-west in the western part of the room. The eastern end of the beam running east-west is attached to the middle of the beam running north-south. On top of the beam in the eastern part of the room, wooden battens run in an

east-west direction and on top of the beam in the western part of the room, wooden battens run in the north- south direction (resting on the northern and southern walls). On top of these, is wooden boarding. The room has an off-white porcelain tile floor.

The space has no visible signs of deterioration.

### **Gnd-S/16**

This space currently functions as the *Server Room* for the museum's internal computer network and digital storage. It was built in the year 1978. The room is 5.22 m wide by 3 m deep and the soffit of the ceiling is at a height of +3.6 m, above the plinth. The walls and ceiling are plastered and painted white.

On the northern wall (Gnd-S/16-NW) there is a two panel, wooden, swinging glazed window (Gnd-S/16-NW-W1) fitted with iron grilles on its exterior. On the eastern wall (Gnd-S/16-EW) is the door (Gnd-S/16-EW-D1) which the room is entered through. The southern (Gnd-S/16-SW) and western (Gnd-S/16-WW) walls have no architectural features.

The roof is an RCC slab from which a beam 30 cm wide drops 33 cm and runs in the north-south direction. The center of this beam is 2.35 m from the western wall (Gnd-S/16-WW). The room has an off-white porcelain tile floor.

The space has no visible signs of deterioration.



Figure 3.104: Gnd-S/16 – Server Room (2016)  
Looking West (left), Looking North-East (right)

### **Gnd-S/17**

This space functions as an *Office*. It was built in the year 1978. The room is 2 m wide by 3 m deep and the soffit of the ceiling is at a height of +3.6 m, above the plinth. The walls and ceiling are plastered and painted white.

On the southern wall (Gnd-S/17-SW) is the door (Gnd-S/17-SW-D1) which is used to enter the room. There is a ventilator above the door (Gnd-S/17-SW-V1). The ventilator has been boarded up, making the door the only source of ventilation for the room. The northern (Gnd-S/17-NW), eastern (Gnd-S/17-EW) and western (Gnd-S/17-WW) have no architectural features of import.

The roof is an RCC slab which is cement plastered and painted white. The room has an off-white porcelain tile floor.

This space could not be accessed for detailed observations about its condition.

The space has no visible signs of deterioration.

### **Gnd-S/18**

This space functions as an *Office*. It was built in the year 1978. The room is 2.95 m wide by 3 m deep and the soffit of the ceiling is at a height of +3.6 m, above the plinth. The walls and ceiling are plastered and painted white.

On the southern wall (Gnd-S/18-SW) is the door (Gnd-S/18-SW-D1) which is used to enter the room. There is a ventilator above the door (Gnd-S/18-SW-V1). The ventilator has been boarded up, making the door the only source of ventilation for the room. The northern (Gnd-S/18-NW), eastern (Gnd-S/18-EW) and western (Gnd-S/18-WW) have no architectural features of import.

The roof is an RCC slab from which a beam 30 cm wide drops 33 cm and runs in the north-south direction. The center of this beam is 2.37 m from the western wall (Gnd-S/18-WW). The room has an off-white porcelain tile floor.

The space has no visible signs of deterioration.





Figure 3.105: Gnd-S/18 – Office (2016)  
Looking East

### Gnd-S/19

This space functions as an *Office*. It was built in the year 1978. The room is 3.27 m wide by 6.3 m deep and the soffit of the ceiling is at a height of +3.6 m, above the plinth. The walls and ceiling are plastered and painted white.

There is a door on the northern wall (Gnd-S/19-NW). On the southern wall (Gnd-S/19-SW) is the door (Gnd-S/19-SW-D1) which is used to enter the room. There is a ventilator above the door (Gnd-S/19-SW-V1). The ventilator has been boarded up. There is a window on the western wall (Gnd-S/19-WW-W1). The eastern wall (Gnd-S/19-EW) has no architectural features of import.

The roof is an RCC slab from which a beam 30 cm wide drops 33 cm and runs in the north-south direction. The center of this beam is 2.87 m from the western wall (Gnd-S/19-WW). The room has an off-white porcelain tile floor.

There is detachment of a large chunks of concrete from the roof, exposing the steel rebars right above the door on the southern wall (Gnd-S/19-SW) (Figure 3.107), (33-L4 – Figure 4.12).



Figure 3.106: Gnd-S/19 – Office (2016)  
Looking up and South



Figure 3.107: Gnd-S/19 – Office – Deterioration (2016)  
Looking South

### **Gnd-S/20**

This space is a *Toilet*. It was built in the year 1978. The room is 2.4 m wide by 1.85 m deep and the soffit of the ceiling is at 3.64 m above the plinth. The walls are clad with ceramic tiles up till a height of 2 m. Above this height the walls and ceiling are plastered and painted white.

On the southern wall (Gnd-S/20-SW) is the door (Gnd-S/19-NW-D1) through which the space is entered from. On the western wall (Gnd-S/20-WW) there is a window

(Gnd-S/20-WW-W1). The northern (Gnd-S/20-NW) and eastern (Gnd-S/20-EW) walls have no architectural features of import.

The roof is an RCC slab. The room has a white ceramic tile floor.

The space has no visible signs of deterioration.

### **Gnd-W/21**

This chamber holds the *Ventilation Extractor*. It was built in the year 1893. The room could not be accessed for measurements at the time of the survey, all of the dimensions and details are approximate and inferred from the wall thicknesses etc. of adjacent rooms. The room is 3.8 m wide by 3.27 m deep. The finishes of the walls and ceiling have not been observed. The soffit of the ceiling should be at an approximate height of +4.4 m, above the plinth.

On the northern wall (Gnd-W/21-NW) there is a wooden screen for ventilation as can be seen from the other side of the wall. There are no architectural features of import on the eastern wall (Gnd-W/21-EW). This space is entered through the door (Gnd-W/21-SW-D1) on the southern wall (Gnd-W/21-SW). There is a ventilator (Gnd-W/21-SW-V1) above the door. There are also no architectural features of import on the western wall (Gnd-W/21-WW).

The roofing structure and the flooring has not been observed.

This space could not be accessed for detailed observations about its condition.

### **Gnd-W/22**

This space currently functions as a *Store*. It previously was functioned as the Southern Portico. It was built in the year 1893. The room could not be accessed for measurements at the time of the survey, some of the dimensions and details are approximate and inferred from the wall thicknesses etc. of adjacent rooms. The room is 3.21 m wide by 3.18 m deep and the soffit of the ceiling is at a height of +7.9 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern (Gnd-W/22-NW) or eastern (Gnd-W/22-EW) walls. This space is entered through the door (Gnd-W/22-SW-D1) on the southern wall (Gnd-W/22-SW). There is a ventilator (Gnd-W/22-SW-V1) above the door. There are also no architectural features of import on the western wall (Gnd-W/22-WW).

The roofing structure and the flooring has not been observed.

This space could not be accessed for detailed observations about its condition.

### **Gnd-W/23**

This space currently functions as a *Store*. It previously functioned as the Southern Porch. It was built in the year 1893. The room could not be accessed for measurements at the time of the survey, some of the dimensions and details are approximate and inferred from the wall thicknesses etc. of adjacent rooms. The room is 5.76 m wide by 3.18 m deep and the soffit of the ceiling is at a height of +7.9 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern (Gnd-W/23-NW) or eastern wall (Gnd-W/23-EW) walls. This space is entered through the door (Gnd-W/23-SW-D1) on the southern wall (Gnd-W/23-SW). There is a ventilator (Gnd-W/23-SW-V1) above the door. There are no architectural features of import on the western wall (Gnd-W/23-WW).

The roofing structure has not been observed. The room has grey terrazzo flooring.

This space could not be accessed for detailed observations about its condition.

### **Gnd-W/24**

This space currently functions as a *Store*. It was built in the year 1893. The room could not be accessed for measurements at the time of the survey, all the dimensions and details are approximate and inferred from the wall thicknesses etc. of adjacent rooms. The room is 3.71 m wide by 3.67 m deep and the soffit of the ceiling is at a height of +4.4 m, above the plinth. The finishes of the walls and ceiling have not been observed.

There are no architectural features of import on the northern (Gnd-W/24-NW) or eastern (Gnd-W/24-EW) walls. This space is entered through the door (Gnd-W/24-SW-D1) on the southern wall (Gnd-W/24-SW). There is a ventilator (Gnd-W/22-SW-V1) above the door. There are also no architectural features of import on the western wall (Gnd-W/24-WW).

The roofing structure and the flooring has not been observed.

This space could not be accessed for detailed observations about its condition.

### **Gnd-W/25**

This space currently functions as the *Store*. The space that the room is built on was previously part of the NCA's main courtyard. It was built in the year 1969. The room could not be accessed for measurements at the time of the survey, all the dimensions and details are approximate and inferred from the wall thicknesses etc. of adjacent rooms. The room is 4.46 m wide by 6.84 m deep and the soffit of the ceiling is at a height of +4.5 m, above the plinth. The finishes of the walls and ceiling have not been observed.

This space is entered through the door (Gnd-W/05-SW-D1) on the northern wall (Gnd-W/25-NW). There is a ventilator (Gnd-W/05-SW-V1) above this door affixed with a concrete *jali*. The room can also be entered from a door (Gnd-W/25-EW-D1) on the eastern wall (Gnd-W/25-EW). There is a ventilator (Gnd-W/25-EW-V1) above this door. There are no architectural features of import on the southern (Gnd-W/25-SW) or western (Gnd-W/25-WW) walls.

The roofing structure and the flooring has not been observed.

This space could not be accessed for detailed observations about its condition.

#### **3.3.2.4. Western Part – Auditorium, Library & Stores**

### **Gnd-W/09**

This space currently functions as the *Entrance Lobby to the Auditorium & Museum Library*. It was built in the year 1893 and modified by 1969. The room is 9 m wide by



3.4 m deep and the soffit of the ceiling is at a height of +4 m, above the plinth. The walls have a marble dado up till a height of 1.2 m. Above this height the walls and ceiling are plastered and painted white.

This space is entered through the middle (Gnd-W/09-NW-D2), out of the three openings (Gnd-W/09-NW-D1 / D2 / D3) on the ground floor of Block G on the north elevation. There are no architectural features of import on the eastern wall (Gnd-W/09-EW). On the southern wall (Gnd-W/09-SW) there are two windows (Gnd-W/09-SW-W1 & W2) and a door (Gnd-W/09-SW-D1) which leads to the auditorium (Gnd-W/10).

Towards the west, is the staircase that leads up to the first and second floors. The stairs are 1 m wide and steps each have an average riser of 20 cm. The staircase rises westward along the southern wall and reaches the first platform landing in the south west corner of the room at a height of +1.75 m, above the plinth. It continues rising southward along the western wall and reaches the second platform landing in the north-west corner of the room at a height of 2.74 m. The space under the staircase, between the two platforms, has been closed off with a wall for use as a store and is accessible through the door (Gnd-W/09-WW-D1).

The roof is an RCC slab and space has a white marble floor.



Figure 3.108: Gnd-W/09 – Auditorium & Library – Entrance Lobby (2017)  
Looking West



Figure 3.109: Gnd-W/09 – Auditorium & Library – Entrance Lobby (2016)  
Powdering and detachment of bricks

There is detachment (41–L2/L3 – Figure 4.12) of parts of brick units on both columns towards the north, between the openings (Gnd-W/09-NW-D1 / D2 / D3). The bricks which have partially fallen off show signs of efflorescence. The cement repointing has also detached from the brick surfaces.

### **Gnd-W/10**

This space currently functions as the museum *Auditorium*. It previously functioned as the Lecture Hall for the Technical Institute. It was built in the year 1893 and modified by 1969. The hall is 9 m wide by 18.25 m deep and the soffit of the suspended false ceiling is at +6.7 m. The soffit of the ceiling should be at approximately +7.3 m inferring from the height of adjacent ceilings. There is a mezzanine gallery for extra seating towards the north end of the hall. The clearance under the concrete beam carrying the RCC slab of the mezzanine gallery, is +3.3 m, above the plinth. There used to be an earlier gallery having a wooden structure in its place (Department of Education, 1911, p. 166).

This space is entered through the door (Gnd-W/09-SW-D1) on the northern wall (Gnd-W/10-NW) on both sides of which are windows (Gnd-W/09-SW-W1 & W2).

The eastern wall (Gnd-W/10-EW) has a 1 m high wooden paneled dado which is painted white. The wall has five pilasters, clad in wooden paneling, 45.5 cm wide and set forward from the wall by 20 cm. The pilasters are spaced out at 3.1 m from center to center. The walls between the pilasters are finished in acoustic plaster and are painted white. Towards the south is a stage rising +84 cm, above the plinth, which is accessed by means of steps at the north-eastern and north-western ends of the stage. The steps land in front of the proscenium which is set forward from the southern wall (Gnd-W/10-SW) by 3.09 m. The front of the stage is 3.89 m from the southern wall.

The western wall (Gnd-W/10-WW) has the same detailing as the eastern wall. Additionally, there are four doors on the wall (Gnd-W/10-WW-D1 / D2 / D3 / D4). While D2, D3 and D4 are in the seating area, D1 opens into a room towards the west behind the stage proscenium.

The room's roofing structure was not observed as it was obscured by a suspended false ceiling though from the exposed part of the roof inside the space (Fst-W/02), it can be seen that the roof is an RCC Slab supported on concrete beams. The room has an off-white porcelain tile floor.

The space has no visible signs of deterioration.



Figure 3.110: Gnd-W/10 – Auditorium (2016)  
Looking South

## **Gnd-W/11**

This space currently functions as the *Library / Archives / Conference Room*. It previously functioned as the *Slides / Gas Preparation Room* (for the Magic Lantern).

It was built in the year 1893. The room is 9.37 m wide by 5.55 m deep and the soffit of the ceiling is at a height of +6 m, above the plinth. The walls are clad with ceramic tiles up till a height of 1.5 m. Above this height the walls and ceiling are plastered and painted white.

On the northern wall (Gnd-W/11-NW) are three four-cross-centered arched doors (Gnd-W/11-NW-D1 / D2 / D3). These doors open into the NCA's parking lot and are thus permanently closed off by means of iron grilles on the building exterior. This space is entered through the door (Gnd-W/10-EW) on the eastern wall (Gnd-W/11-EW) which is built into the southern end of the book shelving cabinets. On the southern wall (Gnd-W/11-SW) there is a door (Gnd-W/11-SW-D1) at the western end of the room built into the book shelving cabinets. The cabinetry also has an opening on the eastern end mirroring the one on the western end, but the doorway has been blocked off. There are no architectural features of import on the western wall (Gnd-W/11-WW).



Figure 3.111: Gnd-W/11 – Library / Archives / Conference Room (2016)  
Looking East

The roof is an RCC slab supported on two concrete beams suspended from the ceiling, running in a north-south direction. They are 28 cm wide and drop 39 cm from the soffit. The center of the first beam is 2.96 m from the western (Gnd-W/11-WW) wall



and the center of the second is 2.8 m from the center of the first. The room has an off-white porcelain tile floor.

There is flaking of paint (42-P4 – Figure 4.12) at the upper parts of the southern wall (Gnd-W/11-SW) (Figure 3.111).

### **Gnd-W/12**

This space currently functions as the *Toilet* for the Library / Archives / Conference Room. It was previously part of the western veranda. It was built in the year 1893 and modified by 1969. The room could not be accessed for measurements at the time of the survey, all dimensions and details are approximate and inferred from the wall thicknesses etc. of adjacent rooms. The room is 2.95 m wide by 2.83 m deep and the soffit of the ceiling is at a height of +4.4 m. The walls are clad with blue ceramic tiles up till a height of 1.6 m. Above this height the walls and ceiling are plastered and painted white. Above this height the walls and ceiling are plastered and painted white.

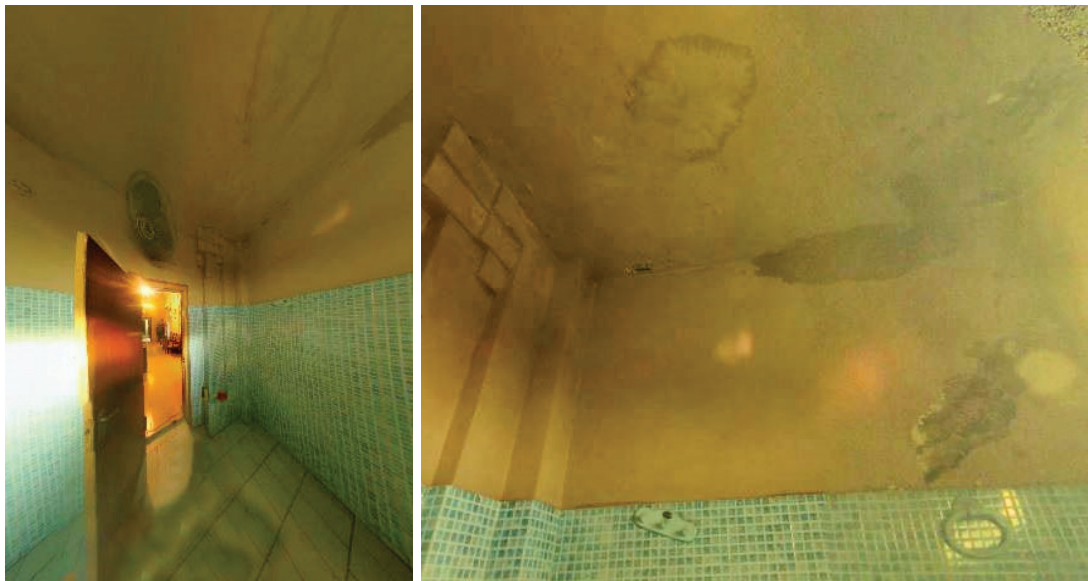


Figure 3.112: Gnd-W/11 – Library / Archives / Conference Room (2016)  
Looking North-East (left), Looking up and East (right)

This space is entered through the door (Gnd-W/11-SW-D1) on the northern wall (Gnd-W/12-NW). There are no architectural features of import on the eastern wall

(Gnd-W/12-EW). The southern wall (Gnd-W/12-SW) has an exhaust fan located high in the middle of the wall as can be observed from the other side of the wall.

The roof is an RCC slab. The room has a white ceramic tile floor.

There are drip marks and discoloration in the middle of the ceiling (43–D1 – Figure 4.12). There is also some efflorescence (42–D2/P4 – Figure 4.12) and flaking of paint on the south-east corner of the ceiling and on the eastern wall (Gnd-W/12-EW) (Figure 3.112).

### **Gnd-W/13**

This space currently functions as a *Vestibule* leading to the toilets. It was previously part of the western veranda. It was built in the year 1893 and modified by 1969. The room is 3 m wide by 2.33 m deep and the soffit of the ceiling is at a height of +4.4 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Gnd-W/13-NW). This space is entered through the door (Gnd-W/10-WW-D3) on the eastern wall (Gnd-W/13-EW). On the southern wall (Gnd-W/13-SW) there is a door (Gnd-W/13-SW-D1). On the western wall (Gnd-W/13-WW) there is a door (Gnd-W/13-WW-D1).

The roof is an RCC slab. The room has grey terrazzo flooring.

The space has no visible signs of deterioration.

### **Gnd-W/14**

This space currently functions as the *Men's Toilet*. It was previously part of the western veranda. It was built in the year 1893 and modified by 1969. The room is 2.73 m wide by 2.9 m deep and the soffit of the ceiling is at a height of +4.67 m, above the plinth. The walls are clad with ceramic tiles up till a height of 1.6 m. Above this height the walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Gnd-W/14-NW). This space is entered through the door (Gnd-W/13-WW-D1) on the eastern wall



(Gnd-W/14-EW). High on the southern wall (Gnd-W/14-SW) there is an exhaust fan retrofitted into a pre-existing window on top of a blocked archway. On the south-west corner of the room is a toilet cubicle measuring 1.41 m by 1.45 m which is accessible from a door on its northern side (Gnd-W/14-SW/W-D1).

The roof is an RCC slab. The room has white ceramic tile flooring.

Paint is flaking (45-P4 – Figure 4.12) on the upper part of the southern wall (Gnd-W/14-SW) and some parts of the ceiling (Figure 3.113).



Figure 3.113: Gnd-W/14 – Men's Toilet (2016)  
Looking West

## **Gnd-W/15**

This space currently functions as the *Outer Vestibule for the Ladies Toilet*. It was previously part of the western veranda. It was built in the year 1893 and modified by 1969. The room is 1.32 m wide by 1.21 m deep and the soffit of the ceiling is at a height of +4.6 m, above the plinth. The walls are clad with ceramic tiles up till a height of 1.5 m. Above this height the walls and ceiling are plastered and painted white.

This space is entered through the door (Gnd-W/13-SW-D1) on the northern wall (Gnd-W/13-NW). There are no architectural features of import on the eastern wall (Gnd-W/15-EW). There is a blocked off doorway on the western end of the southern

wall (Gnd-W/15-SW), from where the ceramic tile dado is also missing. On the western wall (Gnd-W/15-WW) there is a door (Gnd-W/15-WW-D1).

The roof is an RCC slab. The room has white ceramic tile floor.

The space has no visible signs of deterioration.

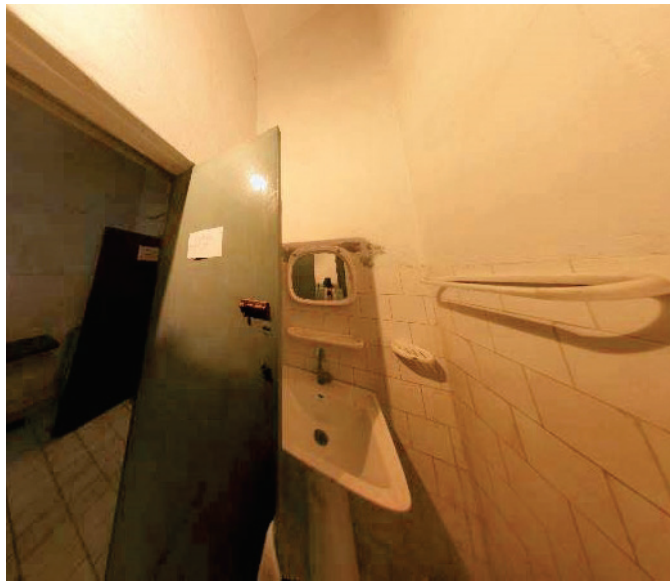


Figure 3.114: Gnd-W/15 – Ladies Toilet (Vestibule) (2017)  
Looking North

### **Gnd-W/16**

This space currently functions as a *Toilet Stall* part of the *Ladies Toilet*. It was previously part of the western veranda. It was built in the year 1893 and modified by 1969. The room is 1.43 m wide by 1.17 m deep and the soffit of the ceiling is at a height of +4.6 m, above the plinth. The walls are clad with ceramic tiles up till a height of 1.5 m. Above this height the walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Gnd-W/16-NW). This space is entered through the door (Gnd-W/17-WW-D1) on the eastern wall (Gnd-W/16-EW). There are also no architectural features of import on the southern (Gnd-W/16-SW) and western (Gnd-W/16-WW) walls.

The roof is an RCC slab with four blocked off apertures near the north wall (Gnd-W/16-NW). The room has white ceramic tile flooring.

The space has no visible signs of deterioration.



Figure 3.115: Gnd-W/16 – Ladies Toilet (2017)  
Looking South

### **Gnd-W/17**

This space currently functions as a *Store*. It was previously part of the western veranda. It was built in the year 1893 and modified by 1969. The room is 3 m wide by 3.6 m deep and the soffit of the ceiling is at a height of +4.5 m, above the plinth. The walls and ceiling are plastered and painted white.

There is a boarded up doorway on the northern wall (Gnd-W/17-NW). This space is entered through the door (Gnd-W/13-WW-D1) on the eastern wall (Gnd-W/17-EW). On eastern end of the southern wall (Gnd-W/17-SW), there is a door (Gnd-W/17-SW-D1). On the western wall (Gnd-W/17-WW) there is a door (Gnd-W/17-WW-D1).

The roof is an RCC slab. The room has an off-white porcelain tile floor.

There is flaking of paint (46-P4 – Figure 4.12) on both the western (Gnd-W/17-WW) (Figure 3.116) and eastern (Gnd-W/17-EW) walls (Figure 3.118).



Figure 3.116: Gnd-W/17 – Store (2017)  
Looking West

### Gnd-W/18

This space currently functions as a *Store*. The space that the room is built on was previously part of the NCA's main courtyard. It was built in the year 1969. The room is 5 m wide by 4.25 m deep. The floor is at  $-14.3$  cm, below the plinth and the soffit of the ceiling is at a height of  $+4.67$  m, above the plinth. The eastern (Gnd-W/18-EW) and southern (Gnd-W/18-SW) walls and the ceiling are plastered. The remaining walls are finished in exposed brickwork. The walls and ceiling are all painted white.

On the northern wall (Gnd-W/18-NW) there are two blocked off arches. These are walled up till the springer line. Above the springer line, the arches are affixed with terracotta *jalis*. An exhaust fan, each, has been inserted into these *jalis*. This space is entered through the door (Gnd-W/17-WW-D1) on the eastern wall (Gnd-W/18-EW) fitted within the northern of the two blocked off arches visible on the wall. On the southern wall (Gnd-W/18-SW) there is a door (Gnd-W/18-SW-D1). On the western wall (Gnd-W/18-WW) there are two windows (Gnd-W/18-WW-W1 & W2).

The roof is an RCC slab. The room has an off-white porcelain tile floor.

The paint on the northern (Gnd-W/18-NW) and western walls (Gnd-W/18-WW) has powdered and flaked off (Figure 3.117), (47-P4 – Figure 4.12). There is a storm

drainage downpipe at the north-western corner of the room. This pipe empties onto the floor. The water from this pipe then flows over the floor into a floor drain in the corner.



Figure 3.117: Gnd-W/18 – Store (2017)  
Looking West

### **Gnd-W/19**

This space currently functions as the *Toilet*. It was previously part of the western veranda. It was built in the year 1893 and modified by 1969. The room is 3 m wide by 1.2 m deep and the soffit of the ceiling is at a height of +4.5 m, above the plinth.

The walls are clad with ceramic tiles up till a height of 1.8 m. Above this height the walls and ceiling are plastered and painted white.

This space is entered through the door (Gnd-W/17-SW-D1) on the northern wall (Gnd-W/19-NW). There are no architectural features of import on the eastern wall (Gnd-W/17-EW). This space can also be entered through the door (Gnd-W/20-NW-D1) on the southern wall (Gnd-W/19-SW). Part of a blocked off archway is visible on the western wall (Gnd-W/19-WW). The arch above the springer line is boarded up with plywood.

The roof is an RCC slab and the room has a white ceramic tile floor.



The paint on the eastern (Gnd-W/19-EW) wall is powdering and flaking off (48-P4 – Figure 4.12). Some efflorescence is also visible at parts where the paint has completely fallen off (Figure 3.118).



Figure 3.118: Gnd-W/19 – Toilet (2017)  
Looking West (left), Looking East (right)

### **Gnd-W/20**

This space currently functions as the *Backstage Area* for the Auditorium. It was previously part of the western veranda. It was built in the year 1893 and modified by 1969. The room is 3 m wide by 3.22 m deep and the soffit of the ceiling is at a height of +4.5 m, above the plinth. The walls and ceiling are plastered and painted white.

On the northern wall (Gnd-W/20-NW) there is a door (Gnd-W/20-NW-D1). This space is entered through the door (Gnd-W/10-WW-D1) on the eastern wall (Gnd-W/20-EW). There are no architectural features of import on the southern wall (Gnd-W/20-SW). On the western wall (Gnd-W/20-WW) there is a blocked archway.

The roof is an RCC slab. The room has an off-white porcelain tile floor.

The paint on the eastern (Gnd-W/20-EW) wall is powdering and flaking off (Figure 3.119), (49-P4 – Figure 4.12).



Figure 3.119: Gnd-W/20 – Backstage Area – Auditorium (2017)  
Looking West (left), Looking East (right)

### 3.3.3. *Basement*

The only room in the basement is accessed from the building exterior, from the staircase leading down from (Gnd-E/21).

#### 3.3.3.1. Eastern Part – Security – Surveillance Room

##### **Bas-E/01**

This space currently functions as the *Video Surveillance Room*. It previously functioned as the artist Sadequain's Workshop (Dar, 2016, February 25). It was built in the year 1972. The room is 9.96 m wide by 5.68 m deep. The floor is at -3.31 m, below the plinth and the soffit of the ceiling is at -54.4 cm, above the plinth. The walls and ceiling are plastered and painted white.

The northern wall (Bas-E/01-NW) and eastern (Bas-E/01-EW) walls are blank and have no architectural elements of import. This space is entered from the staircase descending westwards along the southern wall (Bas-E/01-SW) from the space (Gnd-E/21). There are iron grilles on the northern side of the staircase which has been boarded up with plywood. There is storage space under the staircase, which has been closed off by a door. On the western end of the wall is a ventilator (Bas-E/01-SW-V1)

is attached to the ceiling, which is currently used for electrical wiring. The western wall (Bas-E/01-WW) is also blank and has no architectural elements of import.



Figure 3.120: Bas-E/01 – Video Surveillance Room (2016)  
Looking North East

The roof is an RCC slab supported on two concrete beams suspended from the ceiling, running in a north-south direction. They are 34 cm wide and drop 32 cm from the soffit. The center of the first beam is 3.35 m from the western (Bas-E/01-WW) wall and the center of the second is 3.35 m from the center of the first. The room has a grey terrazzo floor.

Chunks of concrete had detached from the north-west corner of the roof (Figure 3.120). This patch has been recently re-plastered (53–L4/P3 – Figure 4.12).

#### 3.3.4. *First Floor*

There is separate vertical circulation for reaching the spaces on the first, second and third floors in each part of the building. The first floor spaces of the Staging Areas in the northern and central parts of the museum have been constructed purely for ornamentation. These are not publically accessible and are only ever accessed by the

administration for servicing, though the staircases ascending from (Gnd-N/10 – 11) on the ground floor, and leading up to (Fst-N/1 – 2) on the first floor.

The first floor areas on the eastern part of the building, comprise of the workshops, storage areas and an office which accompanies the Conservation Workshop. These are accessed by a dedicated staircase ascending from (Gnd-E/12) on the ground floor, and leading up to (Fst-E/01) on the first floor.

There are rooms on the first floor level of the southern part of the building, for the use of the administration as offices and an official record storage room. These are accessed by an open air staircase straddled between the eastern and western parts of the southern part of the building.

On the first floor in the western part of the building is the mezzanine seating gallery and the projector room (Fst-W/02 – 03), in the auditorium. They are accessed by the staircase ascending from (Gnd-W/09) on the ground floor, leading up to (Fst-W/01) on the first floor. There is also a storage room which is accessed through the library on the second floor level (Snd-W/03 – 04).

#### 3.3.4.1. Northern & Central Parts – The Staging Area

##### **Fst-N/01**

This space is a spiral *Stairwell* (western) and is currently the only access to the first and second floor spaces in the northern wing. It was constructed in 1893 within the north-western pier of the Balcony on the first floor (Fst-N/04) above the Entrance Vestibule (Gnd-N/02). The shaft has a diameter of 1.47 m and rises vertically through the height of the building. The spiral staircase runs clockwise with each step having an average riser of 25.5 cm. The walls of the shaft are finished in exposed brick masonry with pointing in lime mortar.

This space is accessed from the staircase leading up from (Gnd-N/11). The staircase leads up to the first floor landing at the height of 5.85 m, above the plinth. The staircase exits through the door (Fst-N/03-D3) onto the first floor Terrace (Fst-N/03). Between the first and the third floor, there is one arched opening (Fst-N/11-NW-W1) affixed with a terracotta *jali*. It faces north and opens towards the first floor Terrace (Fst-N/03).



Figure 3.121: Fst-N/01 – Western Stairwell (2016)  
Looking North East – First Floor

The steps are supported on brickwork arches with a segmental profile, which in turn are supported between the 21.5 cm wide central column and the periphery wall. The steps are 6.5 cm wide towards the center of the spiral and 42.5 cm towards the periphery and are finished in exposed brickwork.

The steps and the walls of the stairwell have general wear from usage. There are no signs of any major deterioration.

### **Fst-N/02**

This space is a spiral Stairwell (eastern) and is currently in use as a vertical duct for electrical wiring. It was constructed in 1893 within the north-eastern pier of the Balcony on the first floor (Fst-N/04) above the Entrance Vestibule (Gnd-N/02). The shaft has a diameter of 1.47 m and rises vertically through the height of the building. The spiral staircase runs counterclockwise with each step having an average riser of 25.5 cm. The walls of the shaft are finished in exposed brick masonry with pointing in lime mortar.

This space is accessed from the staircase leading up from (Gnd-N/10). The staircase leads up to the first floor landing at the height of 5.85 m, above the plinth. The staircase exits through the door (Fst-N/03-D1) onto the first floor Terrace (Fst-N/03).



Between the first and the third floor, there is one arched opening (Fst-N/10-NW-W1) affixed with a terracotta *jali*. It faces north and opens towards the first floor Terrace (Fst-N/03).

The steps are supported on brickwork arches with a segmental profile, which in turn are supported between the 21.5 cm wide central column and the periphery wall. The steps are 6.5 cm wide towards the center of the spiral and 42.5 cm towards the periphery and are finished in exposed brickwork.

The steps and the walls of the stairwell have general wear from usage. There are no signs of any major deterioration.

### **Fst-N/03**

This is the *Terrace* above the Entrance Portico. This is the open-air space (technically part of the roofs) that is labeled / numbered and included in the list of spaces, as it is integral to the vertical circulation of the Northern Section of the building. This spaces (Fst-N/04), (Fst-N/05), (Fst-N/06) can only be accessed through this space. It was built in the year 1893. It measures 9 m wide by 4.72 m deep. The floor is +5.7 m, above the plinth.



Figure 3.122: Fst-N/03 – Terrace (2016)  
Looking South-East



Figure 3.123: Fst-N/03 – Terrace (2016)  
Looking East



Figure 3.124: Fst-N/03 – Terrace – Floor (2016)  
Looking down

There is no northern bounding surface except the 36.5 cm high solid marble parapet with 80 cm high cresting in the middle. This is the marble veneer on the northern face of the Entrance Portico extending upwards. Towards the east (Fst-N/03-EW) there are three corbelled-brick openings (Fst-N/03-EW-D1 / D2 / D3) leading into the space under the double dome of the eastern turret (Fst-N/05) on the first floor level of the Frontispiece. This space is accessed through the doors (Fst-N/03-SW-D1 & D3)

on the southern wall (Fst-N/03-SW). Towards the west (Fst-N/03-WW) there are three corbelled-brick openings (Fst-N/03-WW-D1 / D2 / D3) leading into the space under the double dome of the western turret (Fst-N/04) on the first floor level of the Frontispiece.

The terrace has a brick tile floor set in cement grouting.

There is microbiological growth on the floor of the terrace (Figure 3.124) (54–M1 – Figure 4.13Figure 4.13).

#### **Fst-N/04**

This is the *Western Turret* on the first floor level of the Frontispiece. It was built in the year 1893. The space is 3.16 m wide by 3.16 m deep. The center of the intrados of the segmental single-centered profile of the flat dome, is at a height of +9.43 m, above the plinth. The turrets stand on four corner columns interspersed with two central columns on each side, thus forming three openings on all four sides. These openings are treated differently depending on its orientation. The columns and walls are finished in exposed red brick masonry. The dome is finished in exposed red brick masonry on the exterior and finished in lime plaster on its interior.



Figure 3.125: Fst-N/04 – Western Turret (2016)  
Looking North



Towards the north (Fst-N/04-NW) there are three corbelled-brick openings (Fst-N/04-NW-W1 / W2 / W3). These are fitted with a sandstone balustrade, the space under which is infilled with terracotta *jalīs*. This space is entered through the open corbelled-brick openings (Fst-N/03-WW-D1 / D2 / D3) on the eastern wall (Fst-N/04-EW). On the southern wall (Fst-N/04-SW) are recessed impressions of corbelled-brick openings similar to the ones on the north, south and western sides. These are blind and infilled with brick masonry. Towards the west (Fst-N/04-WW) there are three corbelled-brick openings (Fst-N/04-WW-W1 / W2 / W3). These are fitted with a sandstone balustrade, the space under which is infilled with terracotta *jalīs*.



Figure 3.126: Fst-N/04 – Western Turret – Condition (2016)  
Looking up and South East (left), Looking down (right)

The roof is a double-dome constructed in brick masonry with the cavity in between being inaccessible. The lower, flat-dome, visible from inside the chamber has a single-centered segmental-profile with its center 7.21 m above the plinth. The upper dome is only visible from the exterior and has a four-cross-centered profile. The first center is at +9.6 m, above the plinth and at a distance of 28.5 cm from the south wall (Fst-N/04-SW). The second center is +10.83 m, above the plinth and at a distance of 1.92 m from the south wall (Fst-N/04-SW). From the exterior, the chamber visually forms a square podium, with its top at +9.54 m, above the plinth.

Upon this podium stands the dome raised on a 1.31 m high drum. The chamber has a hexagonal brick tile floor.

Electrical conduits have been installed in the walls by carving grooves in the brickwork and grouting with cement mortar (55–P3 – Figure 4.13). Some brick tiles on the floor have started powdering and disintegrating (Figure 3.126) (56–L2 – Figure 4.13).

#### **Fst-N/05**

This is the *Eastern Turret* on the first floor level of the Frontispiece. It was built in the year 1893. The space is 3.16 m wide by 3.16 m deep. The center of the intrados of the four-near-centered interior, flat dome, is at a height of +9.43 m, above the plinth. The turrets stand on four corner columns interspersed with two central columns on each side, thus forming three openings on all four sides. These openings are treated differently depending on its orientation. The columns and walls are finished in exposed red brick masonry. The dome is finished in exposed red brick masonry on the exterior and finished in lime plaster on its interior.



Figure 3.127: Fst-N/05 – Eastern Turret (2016)  
Looking South



Towards the north (Fst-N/05-NW) there are three corbelled-brick openings (Fst-N/05-NW-W1 / W2 / W3). These are fitted with a sandstone balustrade, the space under which is infilled with terracotta *jalīs*. Towards the east (Fst-N/05-EW) there are three corbelled-brick openings (Fst-N/05-EW-W1 / W2 / W3). These are fitted with a sandstone balustrade, the space under which is infilled with terracotta *jalīs*. On the southern wall (Fst-N/05-SW) are recessed impressions of corbelled-brick openings similar to the ones on the north, south and western sides. These are blind and infilled with brick masonry. This space is entered through the open corbelled-brick openings (Fst-N/03-EW-D1 / D2 / D3) on the western wall (Fst-N/05-EW).

The roof is a double-dome constructed in brick masonry with the cavity in between being inaccessible. The lower, flat-dome, visible from inside the chamber has a single-centered segmental-profile with its center 7.21 m above the plinth. The upper dome is only visible from the exterior and has a four-cross-centered profile. The first center is at +9.6 m, above the plinth and at a distance of 28.5 cm from the south wall (Fst-N/05-SW). The second center is +10.83 m, above the plinth and at a distance of 1.92 m from the south wall (Fst-N/05-SW). From the exterior, the chamber visually forms a square podium, with its top at +9.54 m, above the plinth. Upon this podium stands the dome raised on a 1.31 m high drum. The chamber has a hexagonal brick tile floor.



Figure 3.128: Fst-N/05 – Eastern Turret – Deterioration (2016)  
Looking up and South

The bricks around the edges of the inner dome have started powdering and disintegrating (57–L2 – Figure 4.13) leaving the cement pointing suspended in front. Some brick tiles on the floor have also started powdering and disintegrating (Figure 3.128), (58–L2 – Figure 4.13).

#### **Fst-N/06**

This is a Balcony on the first floor, above the *Entrance Vestibule* (Gnd-N/02). It was built in the year 1893. The space is 7 m wide by 7 m deep. The floor is +5.8 m, above the plinth. The top of the room is marked by an ornamental molding that runs around the room at height of +11.24 m, above the plinth. Above this is a corbelled projection with a roughly concave quarter circular profile projecting 1.02 m from the wall surface. There is a truncated square opening in the middle of the floor, forming a balcony 1.25 m wide, looking below through the center of the floor. There is a wooden balustrade affixed with *pinjra-work* panels, three on each side and one at a diagonal at each truncated corner. The space has a symmetrical arrangement on all four walls. In the middle, there are three two-cross-centered arches. These are framed by a larger four-cross-center arch divided into a grid of nine, with a recessed panel above each arch. This arrangement is framed by a shouldered-flat-arch. The walls and soffit are painted yellow with the ornamentation highlighted in white.

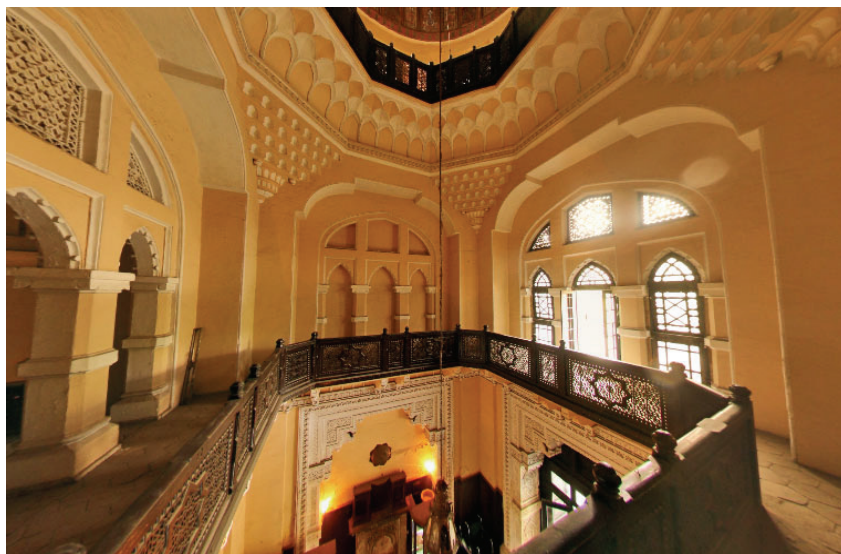


Figure 3.129: Fst-N/06 – Entrance Vestibule – First Floor Balcony (2016)  
Looking East

The space is entered through the central arch (Fst-N/03-SW-D2) on the northern wall (Fst-N/06-NW). This is flanked on both sides by windows (Fst-N/03-SW-W1 & W2) fixed within the arches. The three openings above the door and windows are fitted with terracotta *jalis*. On the eastern wall (Fst-N/06-EW), the arrangement of arches is blinded by blocking off the openings with a masonry wall. On the southern wall (Fst-N/06-SW), the three archways (Fst-N/06-SW-D1 / D2 / D3) are open with the three openings above the archways fitted with terracotta *jalis*. These archways lead to the Balcony (Fst-C/01) on the northern wall of the Miniature Gallery (Gnd-C/01). On the western wall (Fst-N/06-WW), the arrangement of arches is also blinded by blocking off the openings with a masonry wall.

On top of the shoulders in each corner is a corbeled pendentive finished in plasterwork *muqarnas* (squinches). The square walls transition into an octagon by means of these pendentives.

The ceiling above is cantilevered from all sides forming an octagonal opening in the middle of the roof. The soffit under the cantilever has quarter-round profile and is finished in *qalibkari*. The balconies has a hexagonal brick tile floor.

The space has no visible signs of deterioration.

### **Fst-C/01**

This is the *Balcony* facing south and looking below to the Miniature Gallery (Gnd-C/01). The balcony is part of the ornamentation of the northern wall (Gnd-C/01-NW) of the Miniature Gallery. It was built in the year 1893. The space is 3.65 m wide by 1.4 m deep. The floor is at +5.8 m, above the plinth and the soffit of the ceiling (Gnd-C/01) +12.43 m, above the plinth.

This space is entered through the three archways (Fst-N/06-SW-D1 / D2 / D3) on the northern wall (Fst-C/01-NW). The space is bounded by *pinjra-work* balustrades on the eastern (Fst-C/01-EW), southern (Fst-C/01-SW) and western (Fst-C/01-WW) sides. The balconies has a hexagonal brick tile floor.

The *pinjra-work* (woodwork) panels are covered in multiple layers of paint which has obscured the fine detailing. One of the supporting brackets' hanging bulbs is broken detached (79-L4 – Figure 4.13).



Figure 3.130: Fst-C/01 – Balcony – Miniature Gallery (2016)  
Looking North

#### 3.3.4.2. Eastern Part – Galleries & the Conservation Laboratory

##### **The Conservation Workshop**

##### **Fst-E/01**

This space is the *Veranda / Stair Hall for the Conservation Laboratory*. It was built in the year 1978. The room is 9.3 m wide by 2.7 m deep. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered. The walls are painted off-white and ceiling white.

On the western side of the northern wall (Fst-E/01-NW) there are two windows (Fst-E/01-SW-W1 & W2). On the eastern side of the wall is a door (Fst-E/01-NW-D1). On the eastern wall (Fst-E/01-EW) there is a door (Fst-E/01-EW-D1). On the southern wall (Fst-E/01-SW) there is a window (Fst-E/01-SW-W1) at the western end of the wall. Towards the eastern end of the wall, there are two openings fitted with iron grilles. This space is entered by climbing up the staircase that rises up from the space



(Gnd-E/12) on the ground floor. The staircase rises eastward along the northern wall (Fst-E/01-NW) and reaches the first floor in the north-west corner of the space.



Figure 3.131: Fst-E/01 – Veranda / Stair Hall for the Conservation Laboratory (2016)  
Looking East

The roof is an RCC slab and the room has grey terrazzo flooring.

There are drip marks and discoloration around every electrical point on the ceiling, suggesting that the electrical conduits are not watertight (59-D1 – Figure 4.13). Paint is also flaking on southern wall (Gnd-E/01-SW) (Figure 3.131), (60-P4 – Figure 4.13).

### **Fst-E/02**

This space currently functions as an *Office*. It was built in the year 1978. The room is 2.73 m wide by 2.7 m. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Fst-E/02-NW). There is a window (Fst-E/02-EW-W1) on the eastern wall (Fst-E/02-EW). There is a window (Fst-E/02-SW-W1) on the southern wall (Fst-E/02-SW). This space is entered through the door (Fst-E/01-EW-D1) on the western wall (Fst-E/02-WW).



The roof is an RCC slab and the room has grey terrazzo flooring.

This space could not be accessed for detailed observations about its condition.

### **Fst-E/03**

This space currently functions as main *Conservation Workshop*. It was built in the year 1978. The room is 8.66 m wide by 6.9 m deep. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered. The walls are painted off-white and ceiling white.



Figure 3.132: Fst-E/03 – Conservation Workshop (2016)  
Looking West

There are no architectural features of import on the northern wall (Fst-E/03-NW). On the southern side of the eastern wall (Fst-E/03-EW) there is a door (Fst-E/03-EW-D1). On the northern side, the wall opens up to the space (Fst-E/05). On the western side of the southern wall (Fst-E/03-SW) are two windows (Fst-E/01-SW-W1 & W2). This space is entered through the door (Fst-E/01-NW-D1) on the eastern side of the southern wall. There are no architectural features of import on the western wall (Fst-E/03-WW).

The roof is an RCC slab and the room has grey terrazzo flooring.

There are drip marks and discoloration around every electrical point on the ceiling, suggesting that the electrical conduits are not watertight. This discoloration continues down the surfaces of the northern (Gnd-E/03-NW) and southern (Gnd-E/03-SW) walls (Figure 3.132) (61–D1 – Figure 4.13).

#### **Fst-E/04**

This room currently functions as a *Photography Section* of the Conservation Workshop. It was built in the year 1978. The room is 3.3 m wide by 3.4 m deep. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered. The walls are painted off-white and ceiling white.



Figure 3.133: Fst-E/04 – Photography Section – Conservation Workshop (2016)  
Looking East

There are no architectural features of import on the northern wall (Fst-E/04-NW). On the eastern wall (Fst-E/04-EW) there is a window (Fst-E/04-EW-W1). There are no architectural features of import on the southern wall (Fst-E/04-SW). This space is entered through the door (Fst-E/03-D1) on the western wall (Fst-E/04-WW).

The roof is an RCC slab and the room has grey terrazzo flooring.

There are drip marks and discoloration around every electrical point on the ceiling, suggesting that the electrical conduits are not watertight (62–D1 – Figure 4.13). There is flaking of paint on the eastern wall (Gnd-E/04-EW) (Figure 3.133), (63–P4 – Figure 4.13).

#### **Fst-E/05**

This is a *Transitional Space* between the workshop areas. It was built in the year 1978. The room is 3.56 m wide by 3.23 m deep. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered. The walls are painted off-white and ceiling white.



Figure 3.134: Fst-E/05 – Transitional Space – Conservation Workshop (2016)  
Looking North

On the northern wall (Fst-E/05-NW) there is a door (Fst-E/05-NW-D1). On the eastern wall (Fst-E/05-EW) there is a window (Fst-E/05-EW-W1). There are no architectural features of import on the southern wall (Fst-E/05-SW). This space has no western wall. The space entered through this side from the space (Fst-E/03).

The roof is an RCC slab and the room has grey terrazzo flooring.

There are drip marks and discoloration around every electrical point on the ceiling, suggesting that the electrical conduits are not watertight. This discoloration continues down the surfaces of the northern (Gnd-E/05-NW) and eastern (Gnd-E/05-EW) walls (Figure 3.134), (64–D1 – Figure 4.13).

### **Fst-E/06**

This space is a *Conservation Workshop*. It was built in the year 1978. The room is 3 m wide by 3 m deep. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.135: Fst-E/06 – Conservation Workshop (2016)  
Looking North

The northern wall (Fst-E/06-NW) is a lightweight partition wall constructed of plywood panels on a wooden frame. On the western side of the wall is a door (Fst-E/06-NW-D1). On the eastern wall (Fst-E/06-EW) there is a window (Fst-E/06-EW-W1). This space is entered through the door (Fst-E/05-NW-D1) on the southern wall (Fst-E/06-SW). There are no architectural features of import on the western wall (Fst-E/06-WW).

The roof is an RCC slab and the room has grey terrazzo flooring.

There are drip marks and discoloration around every electrical point on the ceiling, suggesting that the electrical conduits are not watertight (65–D2 – Figure 4.13). There is flaking of paint on the eastern wall (Gnd-E/06-EW) (Figure 3.135), (66–P4 – Figure 4.13).

#### **Fst-E/07**

This space is a *Conservation Workshop*. It was built in the year 1978. The room is 3.8 m wide by 3 m deep. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.136: Fst-E/07– Conservation Workshop (2016)  
Looking North

On the northern wall (Fst-E/07-NW) there is a door (Fst-E/07-NW-D1). On the eastern wall (Fst-E/07-EW) there is a window (Fst-E/07-EW-W1). This space is entered through the door (Fst-E/06-NW-D1) on the southern wall (Fst-E/07-SW). There are no architectural features of import on the western wall (Fst-E/07-WW).

The roof is an RCC slab and the room has grey terrazzo flooring.

There are drip marks and discoloration around every electrical point on the ceiling, suggesting that the electrical conduits are not watertight. This discoloration



continues down the surfaces of the northern (Gnd-E/07-NW) and eastern (Gnd-E/07-EW) walls (67-D1 – Figure 4.13). There is also some flaking of paint on the western wall (Gnd-E/07-WW) (Figure 3.136), (68-P4 – Figure 4.13).

### **Fst-E/08**

This space is a *Conservation Workshop*. It was built in the year 1978. The room is 2.77 m wide by 3 m deep. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.137: Fst-E/08 – Conservation Workshop (2016)  
Looking North

On the northern wall (Fst-E/08-NW) there is a door (Fst-E/08-NW-D1). On the eastern wall (Fst-E/08-EW) there is a window (Fst-E/08-EW-W1). This space is entered through the door (Fst-E/07-NW-D1) on the southern wall (Fst-E/08-SW). There are no architectural features of import on the western wall (Fst-E/08-WW).

The roof is an RCC slab and the room has grey terrazzo flooring.

There are drip marks and discoloration around every electrical point on the ceiling, suggesting that the electrical conduits are not watertight. This discoloration continues

down the surfaces of the northern (Gnd-E/08-NW) wall. There is also some flaking of paint on the eastern wall (Gnd-E/08-EW), (69-P4 – Figure 4.13). The western wall (Gnd-E/08-WW) has recently been re-plastered (Figure 3.137), (70-P3 – Figure 4.13).

### **Fst-E/09**

This space is a *Storage* room for conservation materials. It was built in the year 1978. The room is 2.75 m wide by 3 m deep. The floor is at +4.93 m, above the plinth and the soffit of the ceiling is at +8 m, above the plinth. There is a 1.2 m high green ceramic tile dado on the walls, above which the walls and ceiling are plastered and painted white.

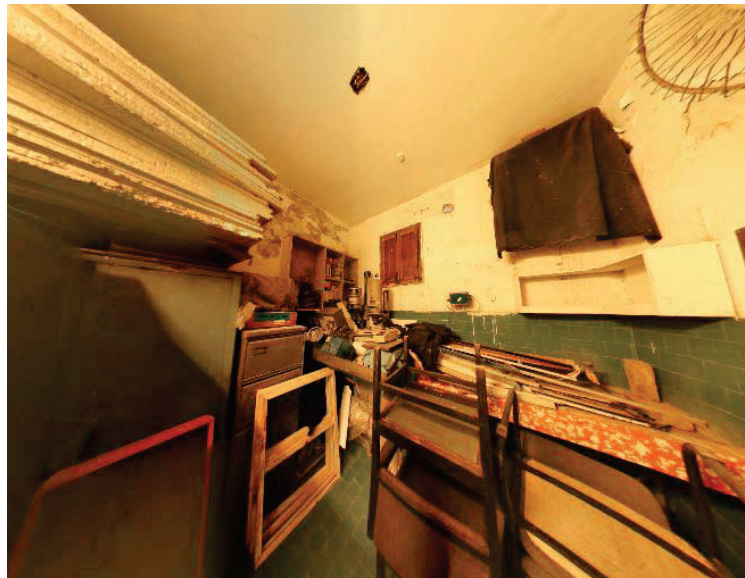


Figure 3.138: Fst-E/09 – Conservation Workshop – Storage (2016)  
Looking North

There is an exhaust fan on the northern wall. There are no architectural features of import on the eastern wall (Fst-E/09-EW). This space is entered through the door (Fst-E/08-NW-D1) on the southern wall (Fst-E/09-SW). There are also no architectural features of import on the western wall (Fst-E/09-WW).

The roof is an RCC slab and the room has a green ceramic tile floor.

There is some flaking of paint on the northern (Gnd-E/09-NW), eastern (Gnd-E/09-EW) and western (Gnd-E/09-WW) walls. (Figure 3.138) (71–P4 – Figure 4.13).

### **The Freedom Movement Gallery**

The spaces (Fst-E/10 – 14) are essentially a single rectangular space forming the Pakistan *Freedom Movement Gallery*. This space is divided into three narrow alleys by two walls running in an east-west direction. There are no walls at eastern and western ends of (Fst-E/10 / 12 / 13). The space (Fst-E/13) which is surrounded by all the other spaces, has a higher ceiling, at the sides of which are ventilators. Pakistan *Freedom Movement Gallery* extends into the adjacent room (Fst-E/15).

#### **Fst-E/10**

This space is part of the Pakistan *Freedom Movement Gallery*. It was built in the year 1974. The room is 12.7 m wide by 2.8 m (east) and 2.5 m (west) deep. The floor is at +4.36 m above plinth and the soffit of the ceiling is at +7.45 m, above the plinth. The walls and ceiling are plastered. The walls are painted off-white and ceiling white.



Figure 3.139: Fst-E/10 – Freedom Movement Gallery (2017)  
Looking East

There are no architectural features of import on the northern wall (Fst-E/10-NW). This space has no eastern wall. The opening on the eastern end connects the space to (Fst-E/14). On the southern wall (Fst-E/10-SW) there is an iron grille door (Fst-E/10-SW-D1) leading to the Auxiliary Block. The space is entered from a staircase towards the western side of the space. There is a window (Fst-E/10-WW-W1) above the staircase.

The roof is an RCC slab and the room has grey terrazzo flooring, separated by glass strips into a rectangular grid.

The space has no visible signs of deterioration.

### **Fst-E/11**

This space is the Pakistan *Freedom Movement Gallery*. It was built in the year 1974. The room is 3.45 m wide by 8.2 m deep. The floor is at +4.36 m above plinth and the soffit of the ceiling is at +7.45 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.140: Fst-E/11 – Freedom Movement Gallery (2017)  
Looking North

There are no architectural features of import on the northern wall (Fst-E/11-NW). There are three openings towards the east, leading to the spaces (Fst-E/10 / 12 / 13).



Towards the south, the space is separated by the descending staircase with a floor to ceiling iron grille. The western wall (Fst-E/11-WW) is completely obscured with deep display cases.

The roof is an RCC slab and the room has grey terrazzo flooring, separated by glass strips into a rectangular grid.

The space has no visible signs of deterioration.

### **Fst-E/12**

This space is part of the Pakistan *Freedom Movement Gallery*. It was built in the year 1974. The room is 12.7 m wide by 2.75 m (east) and 2.65 m (west) deep. The floor is at +4.36 m above plinth and the soffit of the ceiling is at +7.45 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.141: Fst-E/12 – Freedom Movement Gallery (2017)  
Looking East

There are no architectural features of import on the northern wall (Fst-E/12-NW). This space has no eastern wall. The space entered through this side from the space (Fst-E/11). There are no architectural features of import on the southern wall (Fst-E/12-SW). This space also has no western wall. The space can also be entered through this side from the space (Fst-E/14).



The roof is an RCC slab and the room has grey terrazzo flooring, separated by glass strips into a rectangular grid.

The space has no visible signs of deterioration.

### **Fst-E/13**

This space is part of the Pakistan *Freedom Movement Gallery*. It was built in the year 1974. The room is 12.7 m wide by 3.23 m (east) and 3.53 m (west) deep. The floor is at +4.36 m above plinth and the soffit of the ceiling is at +9.39 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.142: Fst-E/13 – Freedom Movement Gallery (2017)  
Looking East

At the top of the northern wall (Fst-E/13-NW) there are four ventilators (Fst-E/13-NW-V1 – V4), all of which have been boarded up with plywood and painted white to match the walls. This space has no eastern wall. The space entered through this side from the space (Fst-E/11). Above this opening is a ventilator (Fst-E/13-EW-V1). At the top of the southern wall (Fst-E/13-SW) there are four ventilators (Fst-E/13-SW-V1 – V4), all of which have been boarded up with plywood and painted white to match the walls. This space also has no western wall. The space can also be entered through this side from the space (Fst-E/14). Above this opening is a ventilator (Fst-E/13-EW-V1).

The roof is an RCC slab and the room has an off-white porcelain tile floor.

There are drip marks flowing from under the ventilators (Fst-E/13-NW-V1 – V4) on the northern wall and (Fst-E/13-SW-V1 – V4) on the southern wall. Neither the ventilators themselves nor the boarding used to block them are watertight. There is also some flaking of paint on the ceiling (Figure 3.143) (72–D1/P4 – Figure 4.13).



Figure 3.143: Fst-E/13 – Freedom Movement Gallery – Leakage (2016)  
Looking up and North

#### **Fst-E/14**

This space is part of the Pakistan *Freedom Movement Gallery*. It was built in the year 1974 and modified in 1978. It was built in the year 1974 and modified in 1978. The room is 3.5 m wide by 9.7 m deep. The floor is at +4.36 m above plinth and the soffit of the ceiling is at +7.45 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Fst-E/14-NW). On the eastern wall (Fst-E/14-EW) there are two doorways (Fst-E/14-EW-D1 & D2). There are no architectural features of import on the southern wall (Fst-E/14-SW). There are three openings towards the west, leading to the spaces (Fst-E/10 / 12 / 13).

The roof is an RCC slab and the room has grey terrazzo flooring, separated by glass strips into a rectangular grid.

The space has no visible signs of deterioration.



Figure 3.144: Fst-E/14 – Freedom Movement Gallery (2017)  
Looking North

### **Fst-E/15**

This space is part of the Pakistan *Freedom Movement Gallery*. It was built in the year 1978. The room is 9.8 m wide by 10 m deep. The floor is at +4.36 m above plinth and the soffit of the ceiling is at +8 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Fst-E/15-NW). High on the eastern wall (Fst-E/15-EW) there are two ventilators (Fst-E/15-EW-V1 & V2) on the southern wall (Fst-E/15-SW) there is a window (Fst-E/15-SW-W1) in the middle of the wall flanked by two circular openings (Fst-E/15-SW-V1 & V2) with a diameter of 50 cm each, high on the wall. This space is entered through the two doorways (Fst-E/14-EW-D1 & D2) on the western wall (Fst-E/15-WW).

The roof is an RCC slab and the room has grey terrazzo flooring, separated by glass strips into a square grid.





Figure 3.145: Fst-E/15 – Freedom Movement Gallery (2017)  
Looking West



Figure 3.146: Fst-E/15 – Freedom Movement Gallery – Deterioration (2016)  
Looking up and East

There are drip marks and discoloration around every electrical point on the ceiling, suggesting that the electrical conduits are not watertight (72-D1 – Figure 4.13). There are drip marks under the ventilators (Fst-E/15-EW-V1 & V2) on the eastern wall. There is also some flaking of paint on the eastern wall (Gnd-E/08-EW). (Figure 3.146) (73-D1/P4 – Figure 4.13).

#### 3.3.4.3. Southern Part – Administrative Offices

##### **Fst-S/01**

This space currently functions as an *Office* for the clerical staff. It was built in the year 1978. The room is 8.68 m wide by 6.3 m deep. The floor is at +3.83 m above plinth and the soffit of the ceiling is at +7.53 m, above the plinth. The walls and ceiling are plastered. The walls are painted off-white and ceiling white.

On the northern wall (Fst-S/01-NW) there are two doors (Fst-S/01-NW-D1 & D2). This space is entered through the door (Fst-S/01-EW-D1) on the eastern wall (Fst-S/01-EW).

On the southern wall (Fst-S/01-SW) there are three windows (Fst-S/01-SW-D1 – D3). There are no architectural features of import on the western wall (Fst-S/01-WW).



Figure 3.147: Fst-S/01 – Office – Clerical Staff (2016)  
Looking North

The roof is an RCC slab supported on two concrete beams suspended from the ceiling, running in the north-south direction. They are 30 cm wide and drop 33 cm from the soffit. The center of the first beam is 2.79 m from the western wall (Fst-S/01-WW) and the center of the second is 3 m from the center of the first. The room has a grey terrazzo floor.



There is discoloration of paint due to dampness at the top of the walls on the north-east corner of the room. There is also some flaking of paint on the northern wall (Gnd-S/01-SW) (Figure 3.147), (74-D1/P4 – Figure 4.13).

### **Fst-S/02**

This room is a *Store*. It was built in the year 1978. The room could not be accessed for measurements at the time of the survey, all dimensions and details are approximate and inferred from the wall thicknesses etc. of adjacent rooms. The room is approximately 3.5 m wide by approximately 1.86 m deep. The floor is at +3.83 m above plinth and the soffit of the ceiling is at +7.53 m, above the plinth. The finishes of the walls and ceiling have not been observed.

On the northern wall (Fst-S/02-NW) there is a window (Fst-S/02-NW-W1). There are no architectural features of import on the eastern wall (Fst-S/02-EW). This room is entered through the door (Fst-S/01-NW-D2) on the southern wall (Fst-S/02-SW). There are no architectural features of import on the western wall (Fst-S/02-WW).

The roof is an RCC slab. The flooring of the room has not been observed.

This space could not be accessed for detailed observations about its condition.

### **Fst-S/03**

This room is a *Toilet*. It was built in the year 1978. The room could not be accessed for measurements at the time of the survey, all dimensions and details are approximate and inferred from the wall thicknesses etc. of adjacent rooms. The room is approximately 2.58 m wide by approximately 1.83 m deep. The floor is at +3.83 m above plinth and the soffit of the ceiling is at +7.53 m, above the plinth. The finishes of the walls and ceiling have not been observed.

On the northern wall (Fst-S/3-NW) there is a window (Fst-S/3-NW-W1). There are no architectural features of import on the eastern wall (Fst-S/3-EW). This room is entered through the door (Fst-S/01-NW-D1) on the southern wall (Fst-S/03-SW). There are no architectural features of import on the western wall (Fst-S/3-WW).

The roof is an RCC slab. The flooring of the room has not been observed.

This space could not be accessed for detailed observations about its condition.

#### **Fst-S/04**

This space is the museum's official *Record Room*. It was built in the year 1985. The room is 6.2 m wide by 3 m deep. The floor is at +5.22 m above plinth and the soffit of the ceiling is at +8.2 m, above the plinth. The walls and ceiling are plastered. The walls are painted off-white and ceiling white.

There are no architectural features of import on the northern wall (Fst-S/4-NW). On the eastern wall (Fst-S/4-EW) there are two windows (Fst-S/4-EW-W1 & W2). This space is entered through a door (Fst-S/4-SW-D1) on the southern wall (Fst-S/4-SW) towards the west of the door is a window (Fst-S/4-SW-W1). There is a bookshelf built into the western wall (Fst-S/4-WW).



Figure 3.148: Fst-S/04 – Record Room (2016)  
Looking east (left), Looking West (right)

The roof is an RCC slab. The flooring of the room could not be observed as the room had wall to wall carpeting.

There is powdering and flaking of paint all around the top of the walls on the eastern (Gnd-S/04-EW), southern (Gnd-S/04-SW) and western (Gnd-S/04-WW) walls. (Figure 3.148), (75–P4 – Figure 4.13).

#### 3.3.4.4. Western Part – Reserves, Stores, the Auditorium & Library

##### **Fst-W/01**

This space is the *Stair Hall* leading up to the Auditorium Gallery and the Museum Library. It was built in the year 1893 and modified between 1947 and 1968. The space is 9.1 m wide by 3.77 m deep. The floor is at +4.38 m, above the plinth and the soffit of the ceiling is at a height of +7.41 m, above the plinth. The walls have a marble skirting up till a height of 50 cm. Above this height the walls and ceiling are plastered and painted white.

On the northern wall (Fst-W/01-NW) are three four-cross-centered arched openings (Fst-W/01-NW-W1 / W2 / W3) fitted with a cast-iron balustrade at a height of +5.66 m, above the plinth. Above the balustrade, the openings are fitted with iron grilles. There are no architectural features of import on the eastern wall (Fst-W/01-EW). On the southern wall (Fst-W/01-SW), there are two doors (Fst-W/01-SW-D1 & D2).

Staircases climbing up and down from this space are situated at the western end (Fst-W/01-WW) of the room. This space is entered by climbing up the staircase that rises up from the space (Gnd-W/09) on the ground floor. The staircase rises eastward along the northern wall (Fst-W/01) and reaches the first floor in the north-west corner of the room. Towards the south-west is the staircase that leads up to the second floor. The stairs are 1.1 m wide and steps each have an average riser of 20 cm. The staircase rises westward along the southern wall and reaches the first platform landing in the south west corner of the room at a height of +5.93 m, above the plinth. It continues rising northward along the western wall and reaches the second platform landing in the north-west corner of the room at a height of +6.82 m, above the plinth. Access to both these staircases are lockable using the doors (Fst-W-01-WW-D1 & D2) built into an iron grille fixed at the edge of the first steps of both staircases.

The roof is an RCC slab and the room has grey terrazzo flooring.

The space has no visible signs of deterioration.



Figure 3.149: Fst-W/01 – Stair Hall – Auditorium / Library – First Floor (2016)  
Looking West

## Fst-W/02

This is the *Projector Room* for the auditorium currently being used to store the museum library's newspaper collection. It was built between 1947 and 1969 and replaced the space occupied by the earlier wooden gallery (built in 1893) that used to exist in its place (Department of Education, 1911, p. 166). The room is 2.7 m wide by 1.96 m deep. The floor is at +4.38 m, above the plinth and the soffit of the ceiling is at +7.41 m, above the plinth. The walls and ceiling are plastered and painted white.

This space is entered through the door (Fst-W/01-SW-D1) on the northern wall (Fst-W/02-NW). There are no architectural features of import on the eastern wall (Fst-W/02-EW). There is a small window opening (Fst-W/02-SW-W1) for the projector on the southern wall (Fst-W/02-SW). There are no architectural features of import on the western wall (Fst-W/02-WW).

The roof is an RCC slab and the room has grey terrazzo flooring.

The space has no visible signs of deterioration.



Figure 3.150: Fst-W/02 – Projector Room (2016)  
Looking South

### **Fst-W/03**

This is the *Auditorium Gallery* on the mezzanine above ground floor seating in the Auditorium. It was built between 1947 and 1969 and replaced the earlier wooden gallery (built in 1893) that used to exist in its place (Department of Education, 1911, p. 166).<sup>55</sup> The space is 9 m wide by 2.71 m deep. The floor descends in three steps. The step at the top is +4.38 m, the middle step is at +4.14 m and the bottom at +3.91 m, above the plinth. There is a false ceiling suspended at +6.73 m. The soffit of the ceiling should be at approximately +7.41 m, above the plinth according to the adjacent spaces. The walls have been finished in acoustic plaster and are painted white.

This space is entered through the door (Fst-W/01-SW-D1) on the northern wall (Fst-W/03-NW). There are no architectural features of import on the eastern wall (Fst-W/03-EW). There is a 68 cm high parapet towards the south. There are no architectural features of import on the western wall (Fst-W/03-WW).

The room's roofing structure was not observed as it was obscured by a suspended false ceiling though from the exposed part of the roof inside the space (Fst-W/02), it is can

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<sup>55</sup> Unfortunately, we do not know the shape size and design of the wooden gallery as no photographic or graphical documentation was found.



be seen that the roof is an RCC slab supported on concrete beams running in the east-west direction. The space has an off-white porcelain tile floor.

The space has no visible signs of deterioration.



Figure 3.151: Fst-W/03 – Auditorium Gallery (2016)  
Looking East

#### **Fst-W/04**

This space functions as the *Library Store*. It was built in the year 1985. This is an L shaped space which can be divided into the eastern and western parts. The eastern part is a rectangle room 4.74 m wide by 7.53 m deep, stretched out in the north-south direction. The western part is a squarish enclave at the south-west corner of the space measuring 3.75 m wide by 3.89 m deep. The largest dimensions of the space being 8.52 m wide by 7.53 m deep. The floor is at +4.77 m, above the plinth and the soffit of the ceiling is at +8.19 m, above the plinth. The walls and ceiling are plastered and painted white.

On the eastern section of the northern wall (Fst-W/04-NW/E) there are two windows (Fst-W/04-NW/E-V1 & V2). There are no architectural features of import on the western section of the northern wall (Fst-W/04-NW/W). This space is entered through a staircase descending from the space (Snd-W/04) on the floor above. The staircase

descends southward along the eastern wall (Fst-W/04-EW). On the southern wall (Fst-W/04-SW) there is a door (Fst-W/04-SW-D1). On the southern section of the western wall (Fst-W/04-WW/S) there is a window (Fst-W/04-WW/S –W1). There is a door (Fst-W/04-WW/N-D1) western section of the northern wall (Fst-W/04-WW/N).



Figure 3.152: Fst-W/04 – Library Store (2016)  
Looking South

The roof is an RCC slab and the room has grey terrazzo flooring.

There are drip marks and discoloration around the electrical points on the ceiling, suggesting that the electrical conduits are not watertight. There is also some flaking of paint (Figure 3.152) (76–D1 – Figure 4.13).

### **Fst-W/05**

This space currently functions as the *Vestibule* between the Library Store, the Reserves' Stairwell and the museum Reserves' Storage. It was built in the year 1985. The room is 3.15 m wide by 3.95 m. The floor is at +4.9 m, above the plinth and the soffit of the ceiling is at +8.24 m, above the plinth. The walls and ceiling are plastered and painted white.

This space is entered through the door (Fst-W/04-SW-D1) on the northern wall (Fst-W/05-NW). There are no architectural features of import on the eastern wall (Fst-W/05-EW). On the southern wall (Fst-W/05-SW) there is a door (Fst-W/05-SW-D1) leading the Reserves. On the western wall (Fst-W/05-WW) there is a door (Fst-W/05-WW-D1) coming from the *Stairwell*.

The roof is an RCC slab and the room has grey terrazzo flooring.

The space has no visible signs of deterioration.



Figure 3.153: Fst-W/05 – Vestibule – Library Store / Reserves' Stairwell (2016)  
Looking North

### **Fst-W/06**

See: Gnd-W/06

### **Fst-W/07**

This space currently functions as the museum's *Reserves' Storage*. It was built in the year 1985. This is an irregularly shaped space which can be divided into the northern and southern parts. The northern part is a long rectangle room 8.41 m wide by 16.18 m deep, stretched out in the north-south direction. The southern part is a squarish enclave at the south-west corner of the space measuring 4.47 m wide by 3.53 m deep. The

largest dimensions of the space being 8.41 m wide by 19.71 m deep. The floor is at +4.9 m, above the plinth and the soffit of the ceiling is at +9.52 m, above the plinth. The walls and ceiling are plastered and painted white.



Figure 3.154: Fst-W/07 – Reserves' Storage (2016)  
Looking South

This space is entered through the door (Fst-W/05-SW-D1) on the northern wall (Fst-W/07-NW). The eastern wall (Fst-W/07-EW) has four pilasters, 50 cm wide and set forward from the wall by 7 cm. The southern wall of the eastern part (Fst-W/07-SW/E) has a ventilator (Fst-W/07-SW/E-V1). There are no architectural features of import on the southern wall of the western part (Fst-W/07-SW/W). Towards the southwest corner of the northern part of the space, there is a raised platform 4.17 m by 3.47 m in size and raised up to the level of +6 m, above the plinth. On the western wall (Fst-W/07-WW) there are four ventilators (Fst-W/07-WW-V1 – V4)

The roof is an RCC slab supported on four concrete beams suspended from the ceiling, running in the east-west direction. They are 50 cm wide and drop 61 cm from the soffit. The center of the first beam is 3.1 m from the northern wall (Fst-W/07-NW). The center of the second is 3.1 m from the center of the first, the center of the third is 2.6 m from the center of the second and the center of the fourth is 3.4 m from the center of the third beam. The room has a grey terrazzo floor.





Figure 3.155: Fst-W/07 – Reserves' Storage (2016)  
Looking North

There are drip marks flowing from under the ventilators (Fst-W/07-WW-V1 – V4) on the western wall. The ventilators are not watertight (77-D1 – Figure 4.13). There is also swelling of plaster on the eastern wall (Fst-W/07-EW) (Figure 3.155) on the surface of which there is also powdering and flaking of paint (Figure 3.154), (77-P1 – Figure 4.13).

### **Fst-W/08**

This space is a *Toilet*. It was built in the year 1985. The room is 1.24 m wide by 3 m deep. The floor is at +4.77 m, above the plinth and the soffit of the ceiling is at +8.19 m, above the plinth. The finishes of the walls and ceiling have not been observed.

There are no architectural features of import on the northern wall (Fst-W/08-NW). This space is entered through the door (Fst-W/04-WW/N-D1) on the eastern wall (Fst-W/08-EW). There are no architectural features of import on the southern wall (Fst-W/08-SW). There are no architectural features of import on the western wall (Fst-W/08-WW).

The roof is an RCC slab. The flooring of the room has not been observed.

This space could not be accessed for detailed observations about its condition.



### 3.3.5. *Second Floor*

The only spaces that exist on the second floor level are the Library and its adjacent spaces (Snd-W/02–05). They are accessed through the stair halls (Gnd-W/09) on the ground and (Fst-W/01) on the first floors, reaching up to (Snd-W/01) on the third floor.

#### 3.3.5.1. Western Part – Reserves & Library

##### **Snd-W/01**

This space is the *Stair Hall* leading up from the space (Fst-W/01). It was built in the year 1893 and modified between 1947 and 1969. The room is 5.25 m wide by 3.6 m deep. The floor is at +7.64 m, above the plinth and the soffit of the ceiling is at +12.35 m, above the plinth. The walls and ceiling are plastered and painted white. At the top of the walls runs a cornice ornamented with *Qalibkari* broken by the wooden partition towards the east. The cornice has a quarter-round profile and thus forms a cantilever. There is a recessed cavity above the cornice and runs around the north, south and west of the room.

On the northern wall (Snd-W/01-NW) are two triangular arched windows (Snd-W/01-NW-W1 & W2). The eastern wall (Snd-W/01-EW) is a lightweight partition wall constructed of plywood panels on a wooden frame. There is a door (Snd-W-01-EW-D1) on the southern end of this wall. On the southern wall (Snd-W/01-SW), there is a doors (Snd-W/01-SW-D1). There are two two-cross-centered arched windows (Snd-W/01-WW-W1 & W2) on the western wall (Snd-W/01-WW) set within recessed rectangular frames. This space is entered by climbing up the staircase that rises up from the space (Fst-W/01) on the first floor. The staircase rises eastward along the northern wall (Snd-W/01) and reaches the third floor on the north-west corner of the room. The void in the center of the staircase is affixed with a horizontal iron grille.

The roof is an RCC slab and the room has grey terrazzo flooring.

There is flaking of paint on the northern wall (Snd-W/01-NW) (Figure 3.156) (80–P4 – Figure 4.13).



Figure 3.156: Snd-W/01 – Stair Hall – Auditorium / Library – Second Floor (2016)  
Looking West

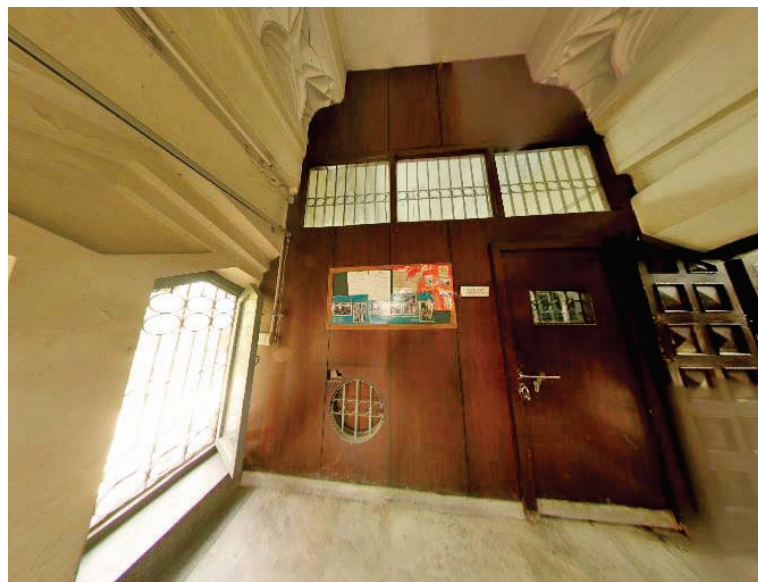


Figure 3.157: Snd-W/01 – Stair Hall – Auditorium / Library – Second Floor (2016)  
Looking East

## Snd-W/02

This space currently functions as the *Chief Librarian's Office*. It was previously part of the Stair Hall (Snd-W/01). It was built in the year 1893 and modified between 1947 and 1969. The room is 3.77 m wide by 3.6 m deep. The floor is at +7.64 m, above the plinth and the soffit of the ceiling is at +12.35 m, above the plinth. The walls and ceiling are plastered and painted white. At the top of the walls runs a cornice

ornamented with *Qalibkari*, broken by the wooden partition towards the west. The cornice has a quarter-round profile and thus forms a cantilever. There is a recessed cavity above the cornice and runs around the north, east and south of the room.



Figure 3.158: Snd-W/02 – Chief Librarian's Office (2016)  
Looking South

There are no architectural features of import on the northern wall (Snd-W/02-NW). There are two two-cross-centered arched windows (Snd-W/02-EW-W1 & W2) on the eastern wall (Snd-W/02-EW) set within recessed rectangular frames. On the southern wall (Snd-W/02-SW) there is a door (Snd-W/02-SW-D1). The western wall (Snd-W/01-WW) is a lightweight partition wall constructed of plywood panels on a wooden frame. This space is entered through the door (Snd-W/01-EW-D1) on the southern end of this wall.

The roof is an RCC slab and the room has grey terrazzo flooring.

The space has no visible signs of deterioration.

### **Snd-W/03**

This space currently functions as the *Museum Library*. It was previously part of the Lecture Hall before the interfloor slab was interjected into the earlier space. It was

built in the year 1893 and modified between 1947 and 1969. The space is 9 m wide by 18.4 m deep. The floor is at +7.62 m, above the plinth and the soffit of the ceiling is at +12.35 m, above the plinth. The walls and the ceiling are plastered painted white. At the top of the walls runs a cornice ornamented with *Qalibkari*. The cornice has a quarter-round profile and thus forms a cantilever. There is a recessed cavity above the cornice into which the I-section beams recess and rest.

This space is entered through the door (Snd-W/01-SW-D1) in the middle of northern wall (Snd-W/03-NW). There is another door (Snd-W/02-SW-D1) towards the east of the D1. There are no architectural features of import on the eastern wall (Snd-W/03-EW). On the southern wall (Snd-W/03-SW) there are five windows (Snd-W/03-SW-W1 – W5). On the western wall (Snd-W/03-WW) ten four-cross-centered arched openings framed in recessed rectangles. The first of these has been punched out and enlarged into a rectangular opening and fitted with a door (Snd-W/03-WW-D1). Arch number two through six are windows (Snd-W/03-WW-W1 – W5) out of which W1 and W5 have been boarded up with plywood. Arch number seven has also been punched out and enlarged into a rectangular opening and fitted with a door (Snd-W/03-WW-D2). Arches eight through ten are windows (Snd-W/03-WW-W6 – W8).



Figure 3.159: Snd-W/03 – Museum Library (2016)  
Looking South

The roof is an RCC slab supported on steel I-section beams running in an east-west direction. The space has an off-white porcelain tile floor.

Two of the arched window openings on the western wall (Snd-W/03-WW) have been expanded into rectangular openings destroying the original brickwork detailing and fitted with doors (Snd-W/03-WW-D1 & D2) (Figure 3.159).

#### **Snd-W/04**

This space is a small chamber through which a *Staircase* descends to the Library Store (Fst-W/04). It was built in the year 1985. The chamber is 88 cm wide by 2.73 m deep and the soffit of the ceiling is at +10.4 m, above the plinth. The walls and ceiling are plastered and painted white.

There are no architectural features of import on the northern wall (Snd-W/04-NW). This space is entered through the door (Snd-W/03-WW-D2) on the eastern wall (Snd-W/04-EW). There are no architectural features of import on the southern wall (Snd-W/04-SW). On the western wall (Snd-W/04-WW) there are two windows (Snd-W/04-WW-W1 & W2).

The roof is an RCC slab and the descending steps have 18 cm high grey terrazzo treads.

The space has no visible signs of deterioration.

#### **Snd-W/05**

This space is the library *Digitizing Room*. It was built in the year 1985. The room is 3.1 m wide by 4.13 m deep. The floor is at +8.59 m, above the plinth and the soffit of the ceiling is at +11.8 m, above the plinth. The walls and ceiling are plastered and painted white.

On the northern wall (Snd-W/05-NW) there is a window (Snd-W/05-NW-W1). This space is entered through the door (Snd-W/03-WW-D1) fitted into one of the arched window openings on the eastern wall (Snd-W/05-EW). There are no architectural features of import on the southern (Snd-W/05-SW) and western (Snd-W/05-WW) walls.



The roof is an RCC slab and the room has grey terrazzo flooring.

There is flaking of paint on the northern wall (Snd-W/05-NW) (Figure 3.160), (81-P4 – Figure 4.13).



Figure 3.160: Snd-W/05 – Digitizing Room (2016)  
Looking North

### 3.3.6. *Third Floor*

The third floor of the Staging Area, in the northern part of the building, has also been constructed purely for ornamentation, like the floors below it. The only spaces that exist on the third floor level are four canopies (Thd-N/01 – 04) and the main dome (Thd-N/05). These are accessed through staircases that ascend from (Gnd-N-10 & 11) on the ground floor and rise through (Fst-N/01 & 02) on the first floor level before emerging through the floors of the spaces (Snd-N/01 & 02) on the third floor.

These spaces are not publically accessible and are only ever accessed by the administration for servicing or security / surveillance purposes.

All four canopies are slender square towers. These transition into octagons by means of quarter-round cutouts at the corners. The octagons transition into semicircular domes by means of a groove running around the base of the domes. These domes are

crowned with finials. The canopies open out into balconies towards the north, east and west.

The main dome is raised on a drum and punctured with eight four-cross-centered arched openings at equal intervals. A door fitted within the northern arch, entered from the roof / terrace, is the only access to the interior of the dome.

#### 3.3.6.1. Northern Part – The Staging Area

##### **Thd-N/01**

This is the north-western Canopy on the third level of the Frontispiece. The stairwell rising through the turret exits onto the roof through this small covered space. It was built in the year 1893 and repaired in 1993. The space is 1.28 m wide by 1.28 m deep. The floor is at +12.65 m, above the plinth and the soffit of the center of the inner double-domed canopy is at a height of +16.4 m, above the plinth. The whole composition is finished in exposed brickwork with the soffit of the inner walls and dome being the only surface rendered in lime plaster.

The northern and western arches extend out on to small balconies supported on brackets with terracotta jali balustrades. On the northern wall (Thd-N/01-NW) there is a four-cross-centered arched opening (Thd-N/01-NW-D1) that leads onto a small balcony. On the eastern wall (Thd-N/01-EW) there is a four-cross-centered arched opening (Thd-N/01-EW-D1) leading onto the front of the roof and providing access to the inside of the main dome (Thd-N/05). On the southern wall (Thd-N/01-SW) there is a four-cross-centered arched opening leading towards the roof of the Miniature Gallery (Gnd-C/01) towards the south. On the western wall (Thd-N/01-WW) there is a four-cross-centered arched opening (Thd-N/01-WW-D1) that leads onto a small balcony.

The roof is most probably a double-dome, constructed in brick masonry with the cavity in between being inaccessible.<sup>56</sup> The lower dome, visible from inside the canopy has a semicircular profile with its center at +15.78 m, above the plinth. The upper dome is

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<sup>56</sup> It is improbable that the upper dome is solid like the smaller domical, as that would place a lot of unnecessary load on the thin supporting walls and arches.

only visible from the exterior and also has a semicircular profile with its center at +17.14 m, above the plinth. This space is entered through the staircase rising vertically through the floor from (Fst-N/01) of the turret with its last step at floor level. The staircase has a diameter of 1.47 m and has a brick floor.



Figure 3.161: Thd-N/01 – North-Western Canopy (2016)  
Looking North-East (left), Looking up (right)



Figure 3.162: Thd-N/01 – North-Western Canopy (2016)  
Looking down

This canopy was repaired and partly reconstructed in the year 1993 after it was damaged in an earthquake. It was re-plastered after the original lime plaster was removed and electrical points / conduits were installed (Executive Engineer, 1980, p. 2). The undersides of the last few steps have lost their pointing (Figure 3.161), (82-L3 – Figure 4.13).

### **Thd-N/02**

This is the north-eastern Canopy on the third level of the Frontispiece. The stairwell rising through the turret exits onto the roof through this small covered space. It was built in the year 1893 and repaired in 1993. The space is 1.28 m wide by 1.28 m deep. The floor is at +12.65 m, above the plinth and the soffit of the center of the inner double-domed canopy is at a height of +16.4 m, above the plinth. The whole composition is finished in exposed brickwork with the soffit of the inner walls and dome being the only surface rendered in lime plaster.



Figure 3.163: Thd-N/02 – North-Eastern Canopy (2016)  
Looking South-West (left), Looking up (right)

The northern and eastern arches extend out on to small balconies supported on brackets with terracotta jali balustrades. On the northern wall (Thd-N/02-NW) there is a four-cross-centered arched opening (Thd-N/02-NW-D1) that leads onto a small

balcony. On the eastern wall (Thd-N/02-EW) there is a four-cross-centered arched opening (Thd-N/02-EW-D1) that leads onto a small balcony. On the southern wall (Thd-N/02-SW) there is a four-cross-centered arched opening leading towards the roof of the Miniature Gallery (Gnd-C/01) towards the south. On the western wall (Thd-N/02-WW) there is a four-cross-centered arched opening (Thd-N/02-WW-D1) leading onto the front of the roof and providing access to the inside of the main dome (Thd-N/05).

The roof is most probably a double-dome, constructed in brick masonry with the cavity in between being inaccessible. The lower dome, visible from inside the canopy has a semicircular profile with its center at +15.78 m, above the plinth. The upper dome is only visible from the exterior and also has a semicircular profile with its center at +17.14 m, above the plinth. This space is entered through the staircase rising vertically through the floor from (Fst-N/01) of the turret with its last step at floor level. The staircase has a diameter of 1.47 m and has a brick floor.

This canopy was repaired and partly reconstructed in the year 1993 after it was damaged in an earthquake. It was re-plastered after the original lime plaster was removed and electrical points / conduits were installed (Executive Engineer, 1980, p. 2). The space has no visible signs of deterioration.

### **Thd-N/03**

This is the south-eastern Canopy on the third level of the Frontispiece. It was built in the year 1893. The space is 1.28 m wide by 1.28 m deep. The floor is at +12.65 m, above the plinth and the soffit of the center of the inner double-domed canopy is at a height of +16.4 m, above the plinth. The whole composition is finished in exposed brickwork with the soffit of the inner dome being the only surface rendered in lime plaster.

This space can be entered through the four-cross-centered arched opening (Thd-N/03-NW-D1) on the northern wall (Thd-N/03-NW). On the eastern wall (Thd-N/03-EW) there is a four-cross-centered arched opening (Thd-N/03-EW-D1) that leads onto a small balcony with a terracotta jali balustrade supported on brackets. On the southern wall (Thd-N/03-SW) traces can be seen of the four-cross-centered



arched opening that has been blocked off by a masonry wall. This wall is embedded with an electric box. This space can also be entered through the four-cross-centered arched opening (Thd-N/03-WW-D1) on the western wall (Thd-N/03-WW) leading towards the roof of the Miniature Gallery (Gnd-C/01) towards the south.



Figure 3.164: Thd-N/03 – South-Eastern Canopy (2016)  
Looking up and West (left), Looking South (right)

The roof is most probably a double-dome, constructed in brick masonry with the cavity in between being inaccessible. The lower dome, visible from inside the canopy has a semicircular profile with its center at +15.78 m, above the plinth. The upper dome is only visible from the exterior and also has a semicircular profile with its center at +17.14 m, above the plinth. The chamber has a brick floor.

The south wall (Thd-N/03-SW) has been blocked with cement masonry above which the keystone of the original arch has been punctured to create a passage for electric cables (Figure 3.164), (82–L2 – Figure 4.13). The inner dome has lost all of its lime plaster save a few detached pieces around its springer course. The lower parts of the interior have been repointed using cement mortar (84–P3 – Figure 4.13).

#### Thd-N/04

This is the south-western Canopy on the third level of the Frontispiece. It was built in the year 1893. The space is 1.28 m wide by 1.28 m deep. The floor is at +12.65 m, above the plinth and the soffit of the center of the inner double-domed canopy is at a height of +16.4 m, above the plinth. The whole composition is finished in exposed brickwork with the soffit of the inner dome being the only surface rendered in lime plaster.

This space can be entered through the four-cross-centered arched opening (Thd-N/04-NW-D1) on the northern wall (Thd-N/04-NW). This space can also be entered through the four-cross-centered arched opening (Thd-N/04-EW-D1) on the eastern wall (Thd-N/04-EW). On the southern wall (Thd-N/04-SW) there is a four-cross-centered arched opening (Thd-N/03-WW-D1) leading towards the roof of the Miniature Gallery (Gnd-C/01) towards the south. On the western wall (Thd-N/04-WW) there is a four-cross-centered arched opening (Thd-N/04-WW-D1) that leads onto a small balcony with a terracotta jali balustrade supported on brackets.



Figure 3.165: Thd-N/04 – South-Western Canopy (2016)  
Looking up and East (left), Looking up (right)

The roof is most probably a double-dome, constructed in brick masonry with the cavity in between being inaccessible. The lower dome, visible from inside the canopy has a

semicircular profile with its center at +15.78 m, above the plinth. The upper dome is only visible from the exterior and also has a semicircular profile with its center at +17.14 m, above the plinth. The chamber has a brick floor.

The inner dome has partially lost its lime plaster. The lower parts of the interior have been repointed using cement mortar (Figure 3.165) (85–L3/P3 – Figure 4.13).

### **Thd-N/05**

This space is inside the main *Dome*. It was built in the year 1893. The space is circular and has a diameter of 5.82 m. The floor is at +12.73 m, above the plinth and the highest point at the center of the dome is at a height of +20.28 m, above the plinth.

There is an octagonal opening in the middle of the space, forming a balcony 1 m wide, looking below through the center of the floor. There is a wooden balustrade affixed with *pinjra-work* panels, three on each of the eight sides.

The circular wall of the drum rise up vertically for 4.13 m. The drum is visually separated from the curvature of the dome by a 30 cm high band molding running around the top of the drum. Above the molding, the drum transitions into the dome, curving towards the oculus (56.9 cm in diameter) in the center of the dome. The oculus is roofed with a small lantern with openings all around. The interior surface of the dome is finished in ornamental raised lime plaster. The whole surface is finished in floral frescoes.

There are eight two-cross-centered arched openings inset into recessed rectangular frames at equal intervals in the drum. Seven of these are windows while one of them extends down to the floor and is a door. These openings face north, north-east, east, south-east, south, south-west, west and north-west.

Though the drum has a single circular wall, to keep the coding of the windows / doors consistent, the directions of the openings will be assigning the north and south openings, N and S directional codes while giving the three openings towards the east, E codes and the three towards the west, W codes.

Therefore, this space is entered through the door towards the north (Thd-N/05-NW-D1). There are three windows towards the east (Thd-N/05-EW-W1 / W2 / W3), one

window towards the south (Thd-N/05-SW-W1) and three windows towards the west (Thd-N/05-WW-W1 / W2 / W3).

The dome is constructed in brick masonry visible from the exterior. The drum transitions into a two-cross-centered profile with its first center 16.89 m above the plinth at the center of the dome. The second center is +13.9 m, above the plinth and flush with the inner surface of the drum wall. The balcony has a hexagonal brick tile floor.

The space has no visible signs of deterioration.



Figure 3.166: Thd-N/05 – Dome (2016)  
Looking South

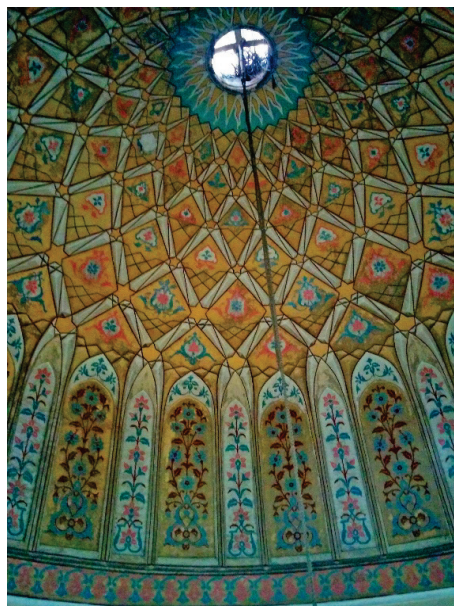


Figure 3.167: Thd-N/05 – Dome (2016)  
Looking up

### 3.4. Structure & Material Characteristics

The **Structural System** is the only thing regarding the construction of the museum building that has remained constant since its inception. All parts of the museum, regardless of the period of construction have loadbearing brick walls. Brick masonry curtain walls (non-load-bearing) have also been used for the partitioning of spaces (Figure 3.169, Figure 3.170, Figure 3.171 & Figure 3.172). Kipling wrote that he was more than impressed with the quality of brickwork available in Lahore (Kipling, 1875, p. 162), and thus its use was made to the fullest extent.

The shape and size of brick along with the masonry bond has remained constant from the start though the production techniques, firing temperatures, and the sourcing of clay would have changed over the last century. This particular brick, is produced locally and is still used commonly in Pakistan till date, is called English brick, the dimensions for which are; 9 inches (22.86 cm) × 4.5 inches (11.43 cm) × 3 inches (7.62 cm). In the construction for the museum, these bricks have been laid in the English Bond. The bricks were laid with 5/16 inches (8 mm) thick cement mortar between each course and 1/4 inches (6 mm) thick vertical joints. Every four courses of brickwork (including mortar) were not to be greater than 12 inches (304 mm) (MacFarlane, 1936, p. 53).

Construction of the Lahore Museum building has never ceased since its initial construction in 1893. Spaces have unceasingly been added to the building and / or altered, right into the last decade. Since every single construction job has been carried out by the PWD and then later by the C&W, the standards have mirrored the official government schedule of details. In the building's early years, the *PWD Specifications: Buildings and Roads* (MacFarlane, 1936) were used, and naturally, the construction details mandated by the PWD and C&W have changed and been replaced with the *Building Code of Pakistan (BCP)*.

These changes have introduced multiple material profiles and structural elements to the museum building. During the course of the building's life, most of the wall plaster on the building's interior, and all of the pointing on the exposed brick exterior, has been replaced with Portland cement plaster and pointing. Official documents also reveal, that



some external walls were built with half-baked bricks. These were also repaired and pointed with cement mortar (Revenue and Agricultural Department, 1898).

There are only three spaces in the museum building, where a different loadbearing system has been used. The first, are the two central northern galleries (Gnd-E/01) and (Gnd-W/01), that incorporate a grid of cast-iron columns in addition to the loadbearing brick walls. There are eight freestanding columns in the middle of each space, while the rest are half embedded in the brick masonry. The second, is in the Armory Gallery (Gnd-E/18), where the roof is supported on ten pairs of freestanding RCC columns.

As far as **Construction Materials** are concerned, lime based mortar and plaster was used in the earlier constructions. As the 20<sup>th</sup> century progressed and the availability of Portland cement became commonplace, it replaced lime as the preferred binding agent. The first mention of “Portland cement” with regards to the museum occurs in the Annual Report of the Central Museum for the year 1918-(1919, p. 5), in relation to re-plastering the Painting Gallery (Gnd-W/02). Thus, the mixing of mortar types had already started by the year 1918, as we know, that at least one of the walls of the Painting Gallery was constructed (in 1893) with lime mortar (Figure 3.173, Figure 3.174 & Figure 3.175).

Five different kinds of **Roofing Systems** have been used in the building. The use of these distinct roof types, in the case of the Lahore Museum, is almost always indicative of the time period they were built in.

*Brick Masonry Domes* are used exclusively in the northern part of the building. *Style* was an overarching concern for the designers of the museum building, as elaborated earlier in Chapter 2. The central (main) dome on the Frontispiece (in the northern part), has been used as an element to provide monumentality, as have been the other domed structures. None of these spaces have any practical usage apart from providing dramatic effect. Additionally, due to the massiveness of the domes themselves, and

their labor intensive construction, this roof type has not been not used anywhere else in any of the operational areas of the museum.

There are two *Brick Masonry Stairwells* encased within the northern piers of northern part of the museum. Their structure is composed entirely of loadbearing brick. The steps themselves are wedge shaped segmental arches in brick, supported between a round brick column (core) in the middle, and the periphery walls. A system section has been prepared to illustrate this (Figure 3.177).

*Saw-tooth Trusses* are used, as mentioned before, in only two spaces, (Gnd-E/01) and (Gnd-W/01). The primary objective of this industrial roof type, was to maximize natural light intake from the north. As Lahore is an extremely hot city with harsh sunlight, the emphasis on indirect or diffused lighting was paramount. This roof type has had its share of problems, from inherent design flaws in its storm drainage.<sup>57</sup> These drainage problems were repaired, by hit and trial, over the period of a few years. The northern skylights have been closed using corrugated metal sheets, for a multitude of reasons, including leakages, security concerns as well as the introduction of electric lighting. With all their shortcomings, these spaces have retained their original design, which is largely attributable to their unique, industrial roofing system.

*Steel, I-section beams supporting wooden flat roofs* are the third type of roofing from the initial period of construction. The wooden flat roof, which would normally be confined by the size of the available wood, has been used to cover spaces of all sizes, due to the increased spanning capability provided by the steel members.

The majority of spaces built before 1929 have wooden flat roofs. These roofs are primarily built with wooden battens covered with wooden planks. These are supported on the periphery walls of the rooms and steel I-section girders, which break the span. The internal details of these roofs could not be observed, though informed assumptions

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<sup>57</sup> Two of the three gutters through which the rainwater is drained, run in an east-west direction in the valleys of the saw-tooth truss. These gutters are carried over the I-section beams running inside the gallery. The storm drains flush into drainage channels, concealed by ornamental cornices, inside the gallery spaces, before being piped out of the northern wall of the gallery spaces and flushed by means of water spouts.

can be made based on the roofing details of the Central Police Office.<sup>58</sup> The construction details of the Central Police Office's roof were observed, when it was opened for replacement of damaged wooden planks. These planks were covered with a layer of lime concrete. Compacted earth was layered on top of this, which was covered on top with brick tiles. By the time this observation was made, the brick tile covering of the roof had been grouted with cement mortar. The original grouting would have been in lime.



Figure 3.168: Central Police Office (2009)

The roofing system was exposed when repairs were carried out for the replacement of roofing boards.

It is plausible that this is roughly the same detailing used in the museum's flat wooden roofs, as the recent repairs of the saw-tooth truss roof of the Islamic Gallery (Gnd-E/01) also revealed a layer of lime concrete, laid over wooden planks and battens, using brick tiles to level the cavities between the battens.

*Concrete slabs*, roof spaces, which were either constructed after Pakistan's independence in 1947, or replaced the earlier wooden roofs of various spaces

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<sup>58</sup> Previously known as the Bank of India building, it is located one block south of the museum lot. This is a neo-classical structure with flat wooden roofs and was built in the same time period as the museum.

constructed earlier. Most of these slabs have dropped beams, while three of these roofs have inverted beams.

*Brick Tile – Flat roof.* There is only one roof of this type in the museum, covering the space (Gnd-N/04). This is a low cost roofing system that involves laying of brick tiles between steel T-iron strips. The internal details of this roof are also not known, but it has been covered with brick tiles grouted with cement concrete. The roof of this room would have previously had a wooden roof which has been replaced. The primary drawback of this type of roof type is that its soffit is an eyesore.

*Steel, I-section beams supporting concrete slabs* are hybrid roofing systems that were created when either a wooden flat roof or a jack-arched roof was replaced. The engineers designing the replacement roofs, decided to use the pre-existing I-section beams to break the spans of the new concrete slabs. Close inspection of the laser scans show deflections towards the center of the beams, in each one of these roofs. These deflections show that the beams were not intended to bear these increased loads.

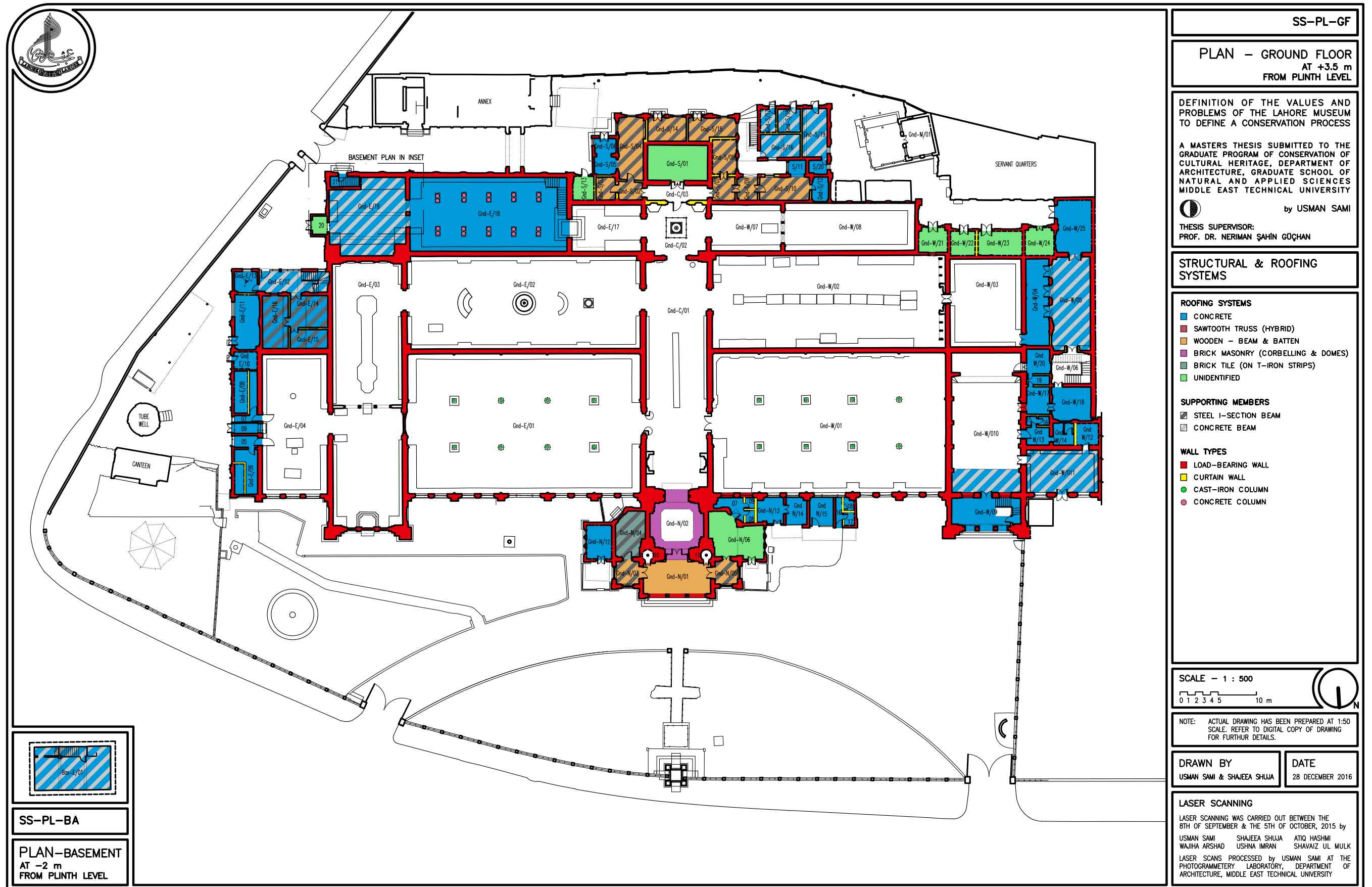


Figure 3.169: SS-PL-GF / BA – Structural & Roofing Systems – Plan – Ground Floor (2016)





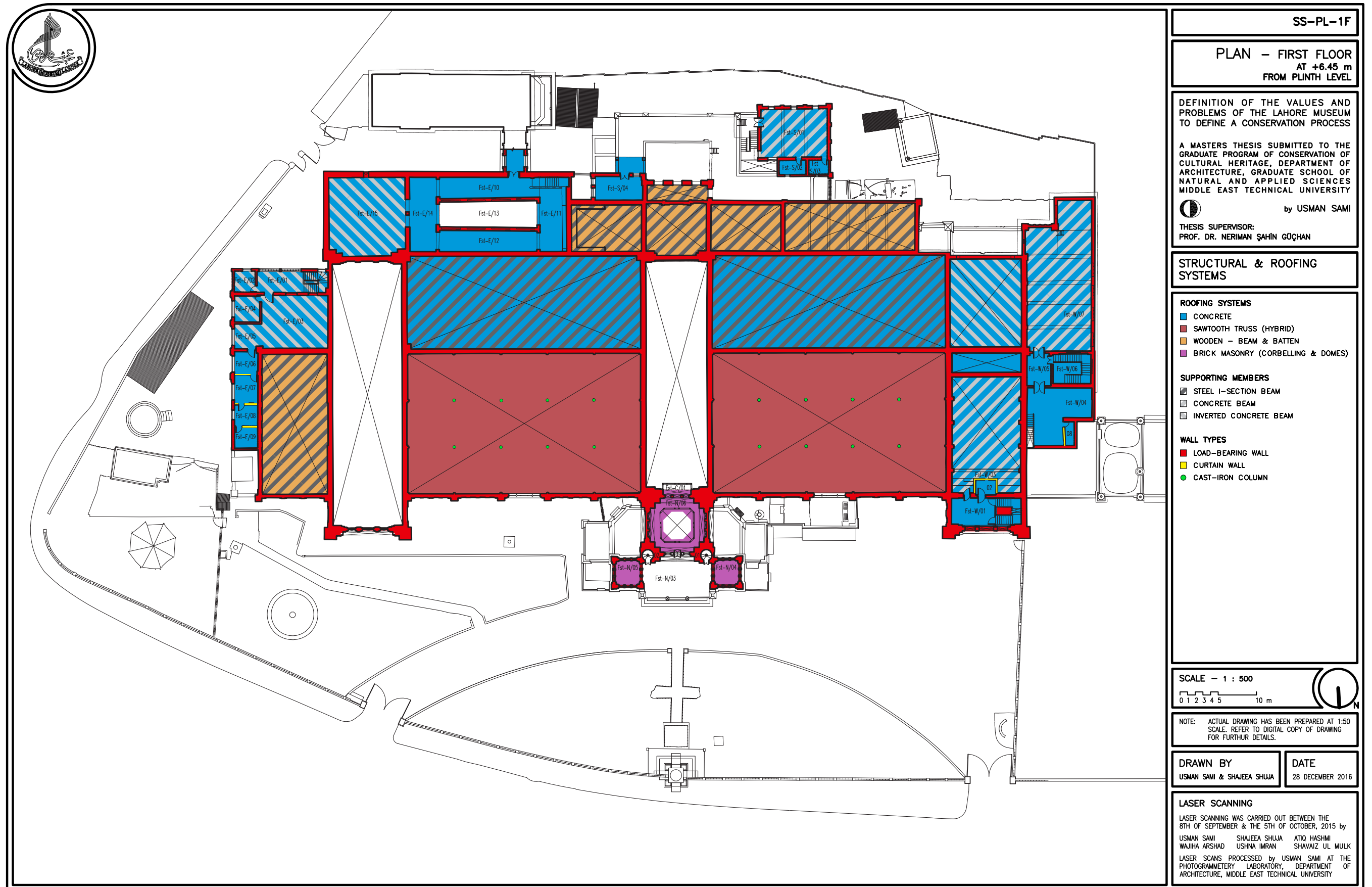


Figure 3.170: SS-PL-1F – Structural & Roofing Systems – Plan – First Floor (2016)



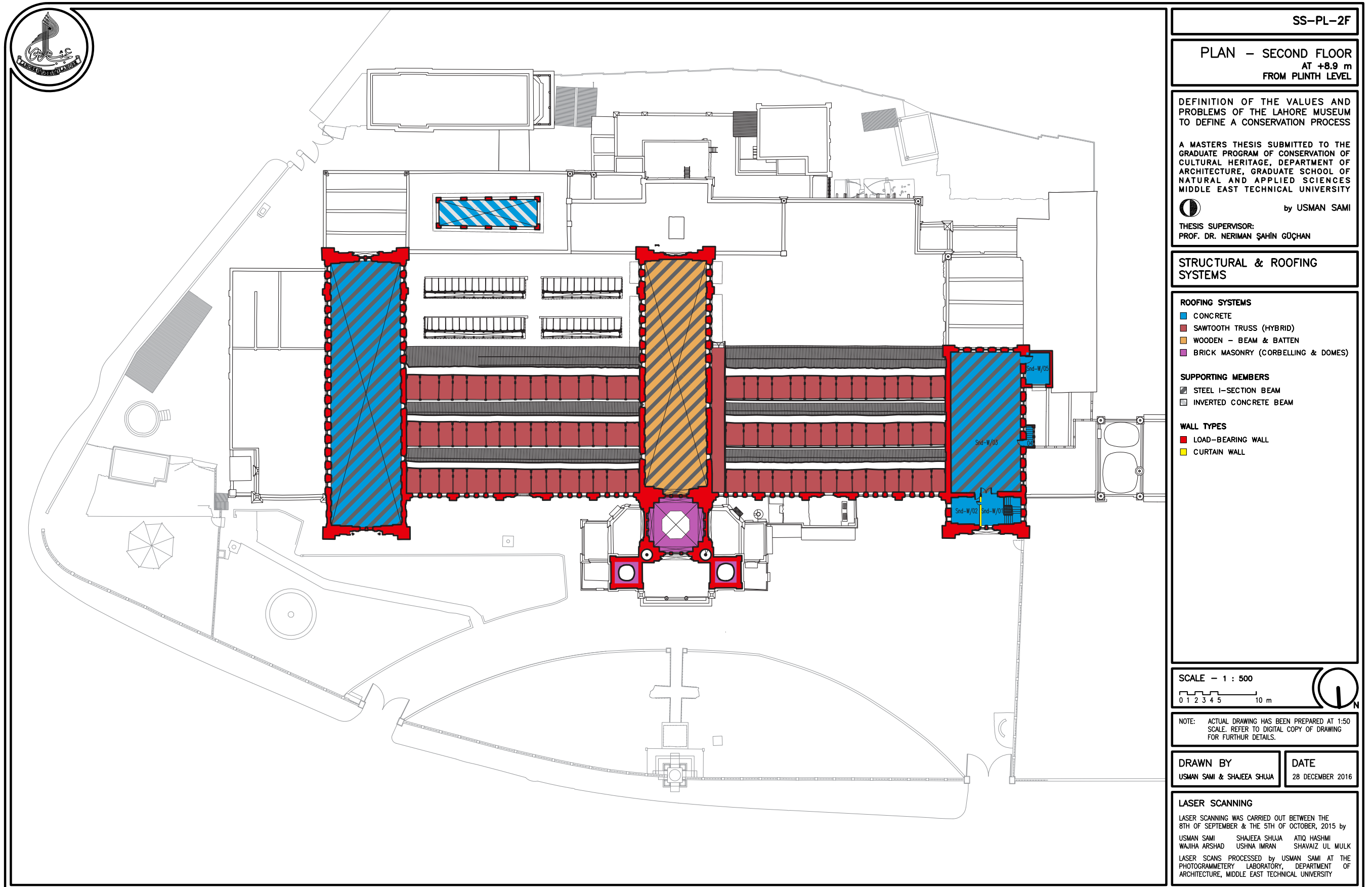


Figure 3.171: SS-PL-2F – Structural & Roofing Systems – Plan – Second Floor (2016)





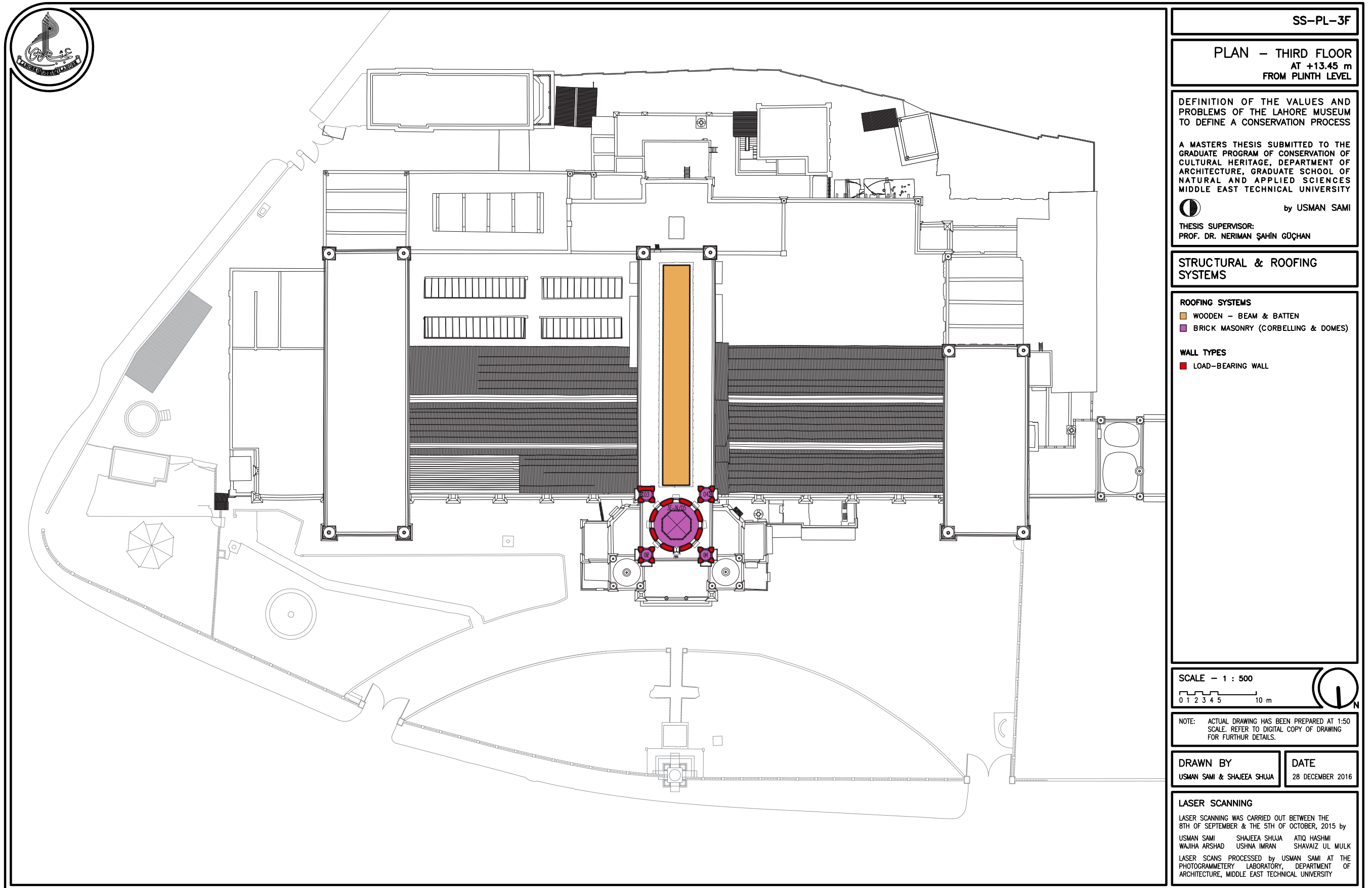
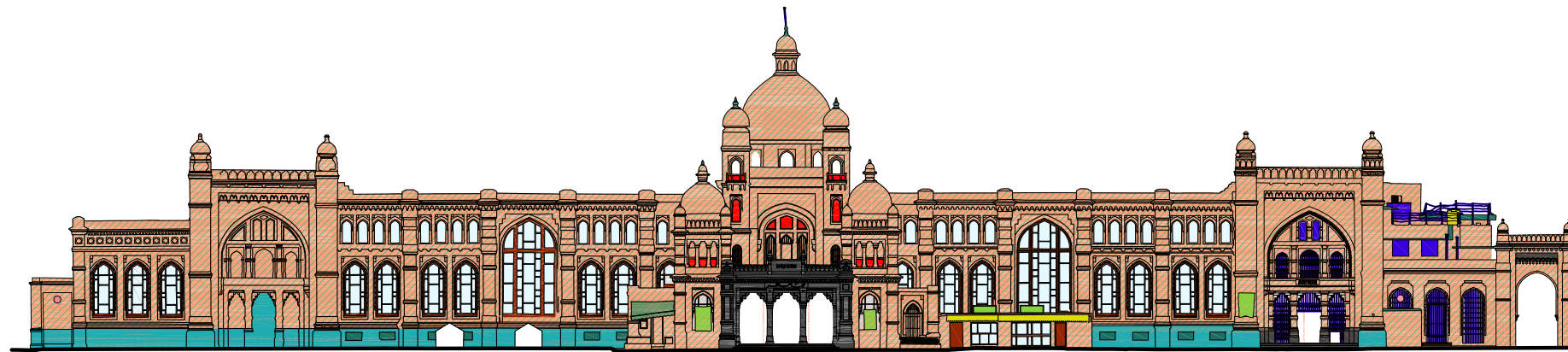
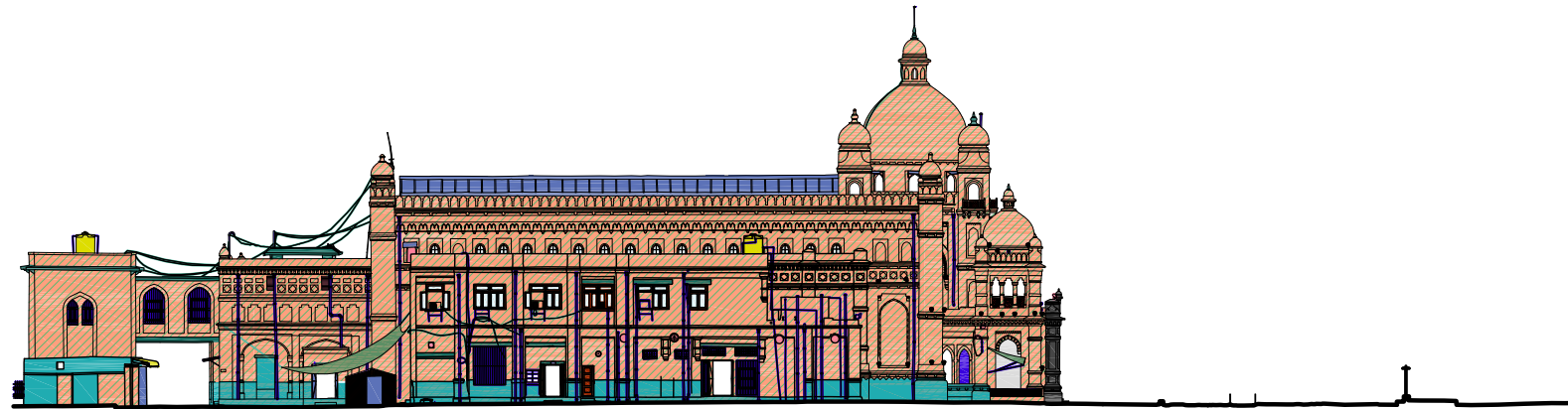


Figure 3.172: SS-PL-3F – Structural & Roofing Systems – Plan – Third Floor (2016)





NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION

MT-EL-N/E/S

## ELEVATIONS

NORTH / EAST / SOUTH

DEFINITION OF THE VALUES AND PROBLEMS OF THE LAHORE MUSEUM TO DEFINE A CONSERVATION PROCESS

A MASTERS THESIS SUBMITTED TO THE GRADUATE PROGRAM OF CONSERVATION OF CULTURAL HERITAGE, DEPARTMENT OF ARCHITECTURE, GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES MIDDLE EAST TECHNICAL UNIVERSITY

by USMAN SAMI

THESIS SUPERVISOR:  
PROF. DR. NERIMAN SAHIN GÜÇHAN

## BUILDING MATERIALS

- TERRACOTTA**
- ENGLISH BRICK
  - BRICK TILE
  - TERRACOTTA SCREEN (JALI)
  - CERAMIC TILE
- POINTING**
- CEMENT POINTING
- STONE**
- MARBLE
  - SANDSTONE
- PLASTER**
- LIME PLASTER (ORNAMENTAL)
  - CEMENT PLASTER WITH PAINT
  - FRESH CEMENT PLASTER (UNPAINTED)
- PAINT**
- ORNAMENTAL PAINTWORK / FRESCO
- GYPSON**
- PLASTER OF PARIS
- GLASS**
- GLASS
- TIMBER**
- TIMBER
  - TIMBER INTERLACING (PINJRA WORK)
  - BAMBOO
- METAL**
- IRON / METAL ELEMENT
  - FLAT GALVANIZED METAL / TIN SHEET
  - CORRUGATED GALVANIZED METAL SHEET
  - UNIDENTIFIED METAL
- CONCRETE**
- REINFORCED CEMENT CONCRETE
  - SCREED
- COMPOSITES**
- ELECTRIC CABLE
  - CARDBOARD / CHIPBOARD
  - FIBERGLASS
  - TARPAULIN
- PLASTIC**
- POLYTHENE
- NOT OBSERVED

SCALE - 1 : 500

0 1 2 3 4 5 10 m

NOTE: ACTUAL DRAWING HAS BEEN PREPARED AT 1:50 SCALE. REFER TO DIGITAL COPY OF DRAWING FOR FURTHER DETAILS.

DRAWN BY

USMAN SAMI & SHAJEEA SHUJA

DATE

28 DECEMBER 2016

## LASER SCANNING

LASER SCANNING WAS CARRIED OUT BETWEEN THE 8TH OF SEPTEMBER & THE 5TH OF OCTOBER, 2015 by  
USMAN SAMI SHAJEEA SHUJA ATIQ HASHMI  
WAJHA ARSHAD USHNA IMRAN SHAHAIZ UL MULK  
LASER SCANS PROCESSED by USMAN SAMI AT THE  
PHOTOGRAMMETRY LABORATORY, DEPARTMENT OF  
ARCHITECTURE, MIDDLE EAST TECHNICAL UNIVERSITY

Figure 3.173: MT-EL-N/E/S – Building Materials – Elevations – North / East / South (2016)



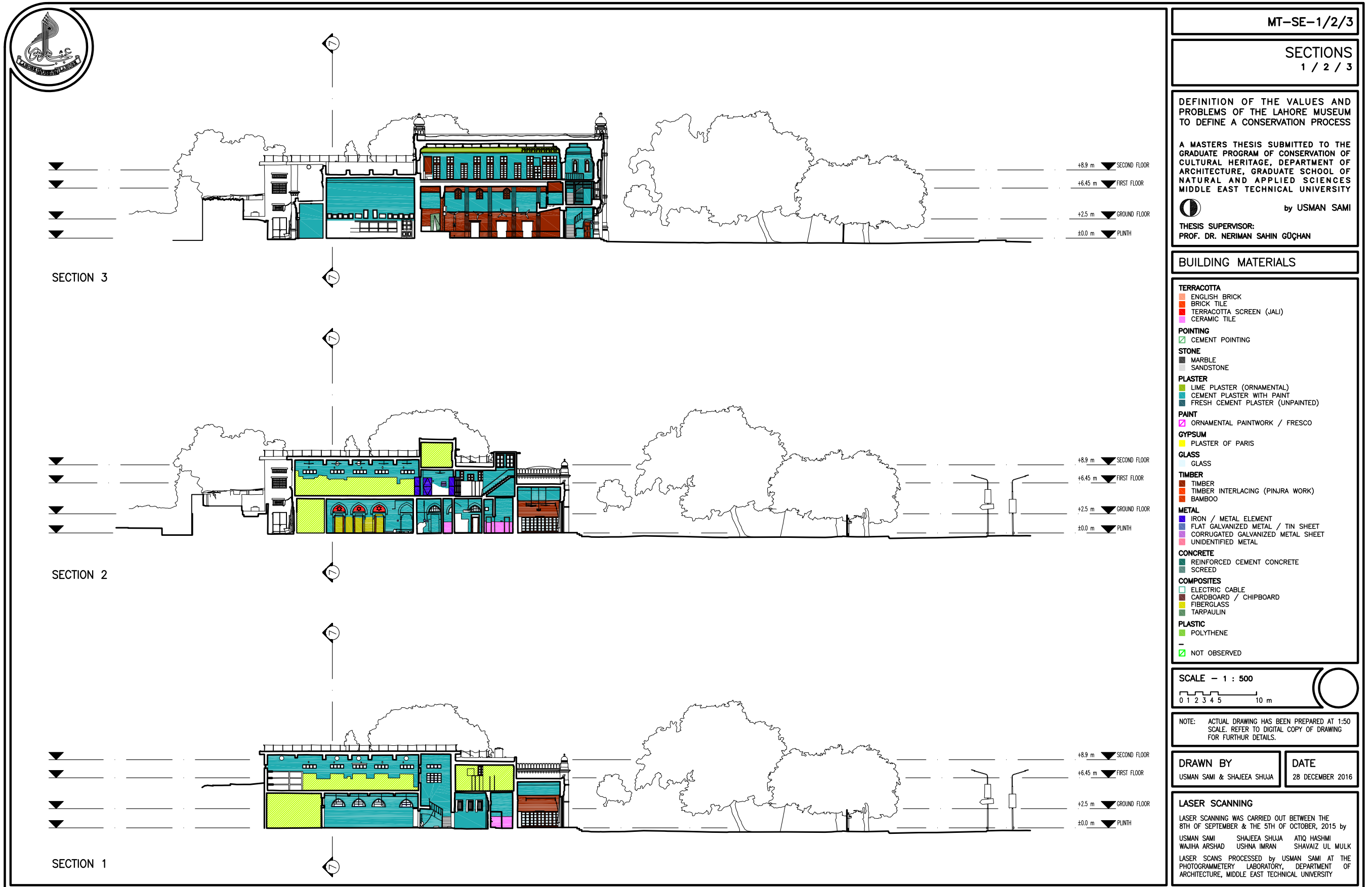


Figure 3.174: MT-SE-1/2/3 – Building Materials – Sections – 1 / 2 / 3 (2016)





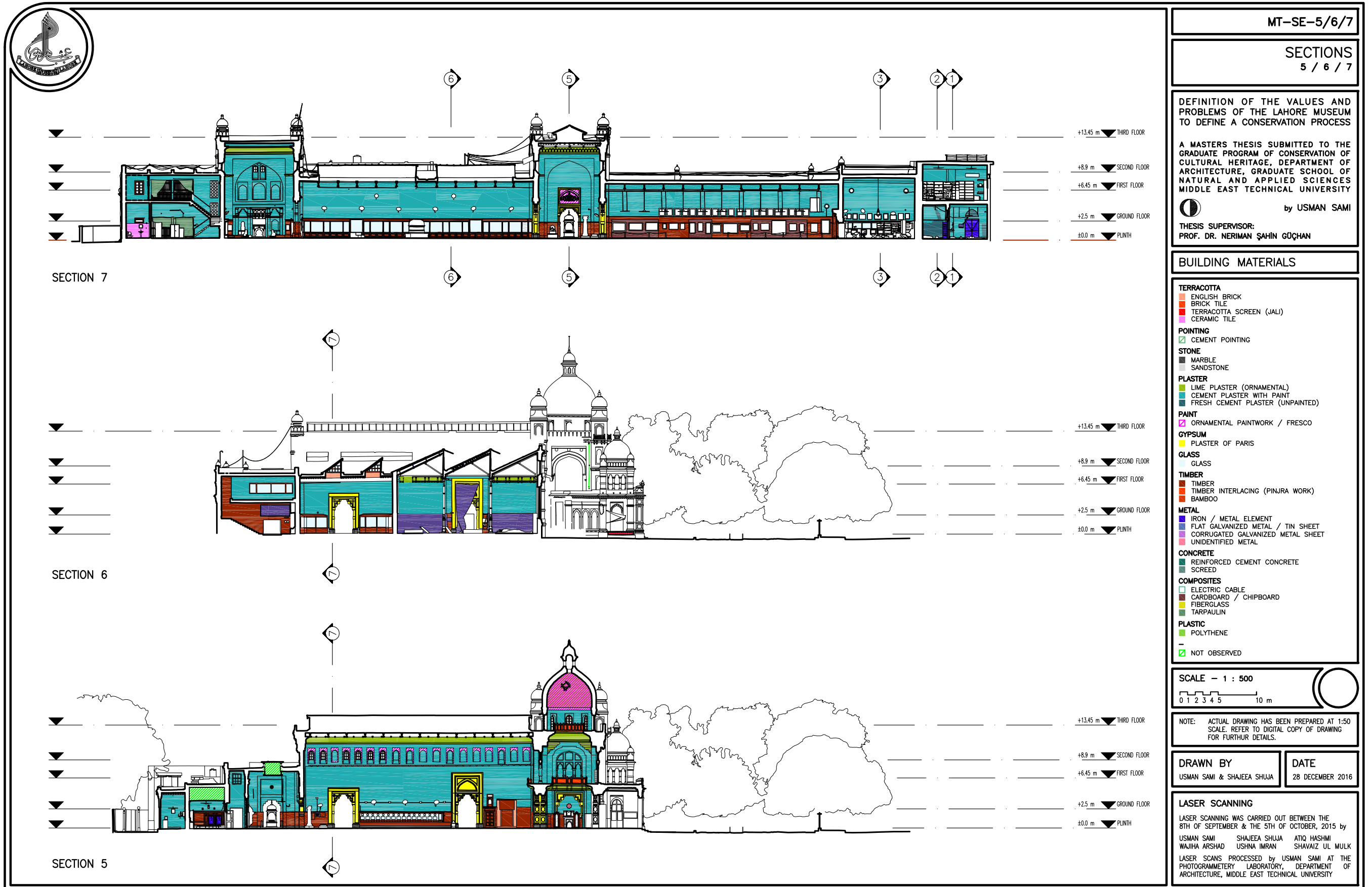


Figure 3.175: MT-SE-1/2/3 – Building Materials – Sections – 5 / 6 / 7 (2016)



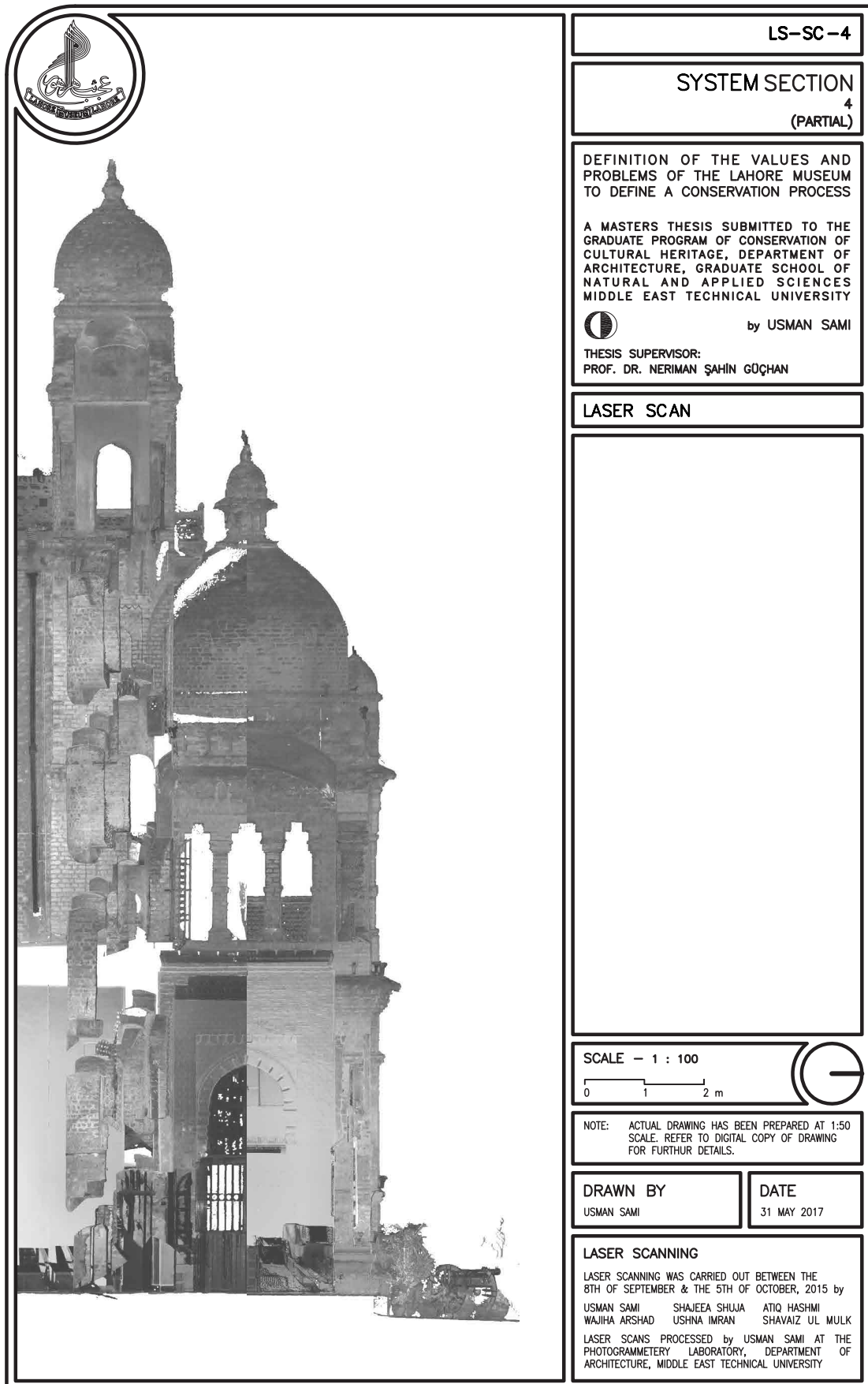


Figure 3.176: LS-SE-4 – Laser Scan – Section – 4 (2016)





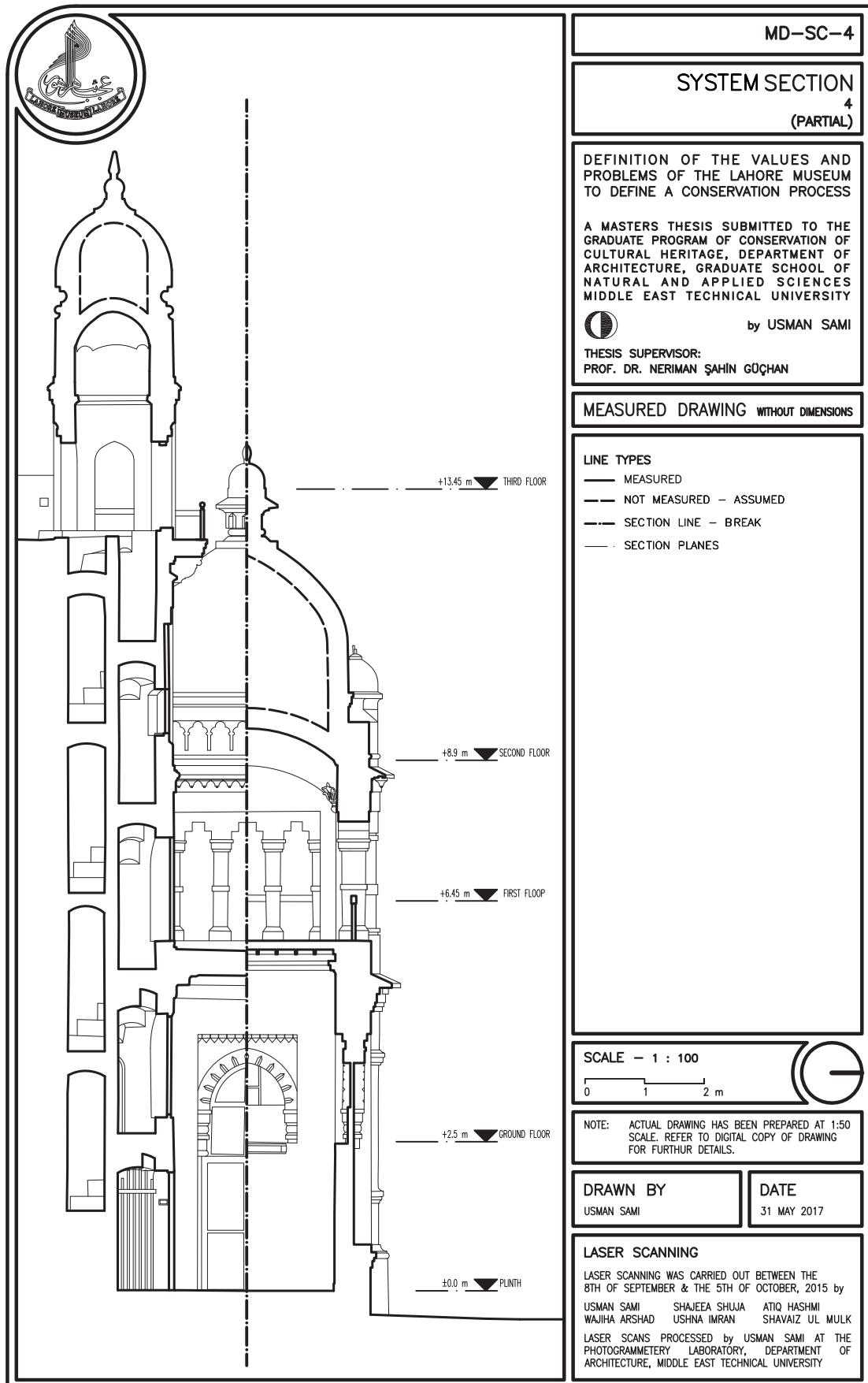


Figure 3.177: MD-SE-4 – Measured Drawing – Section – 4 (2016)



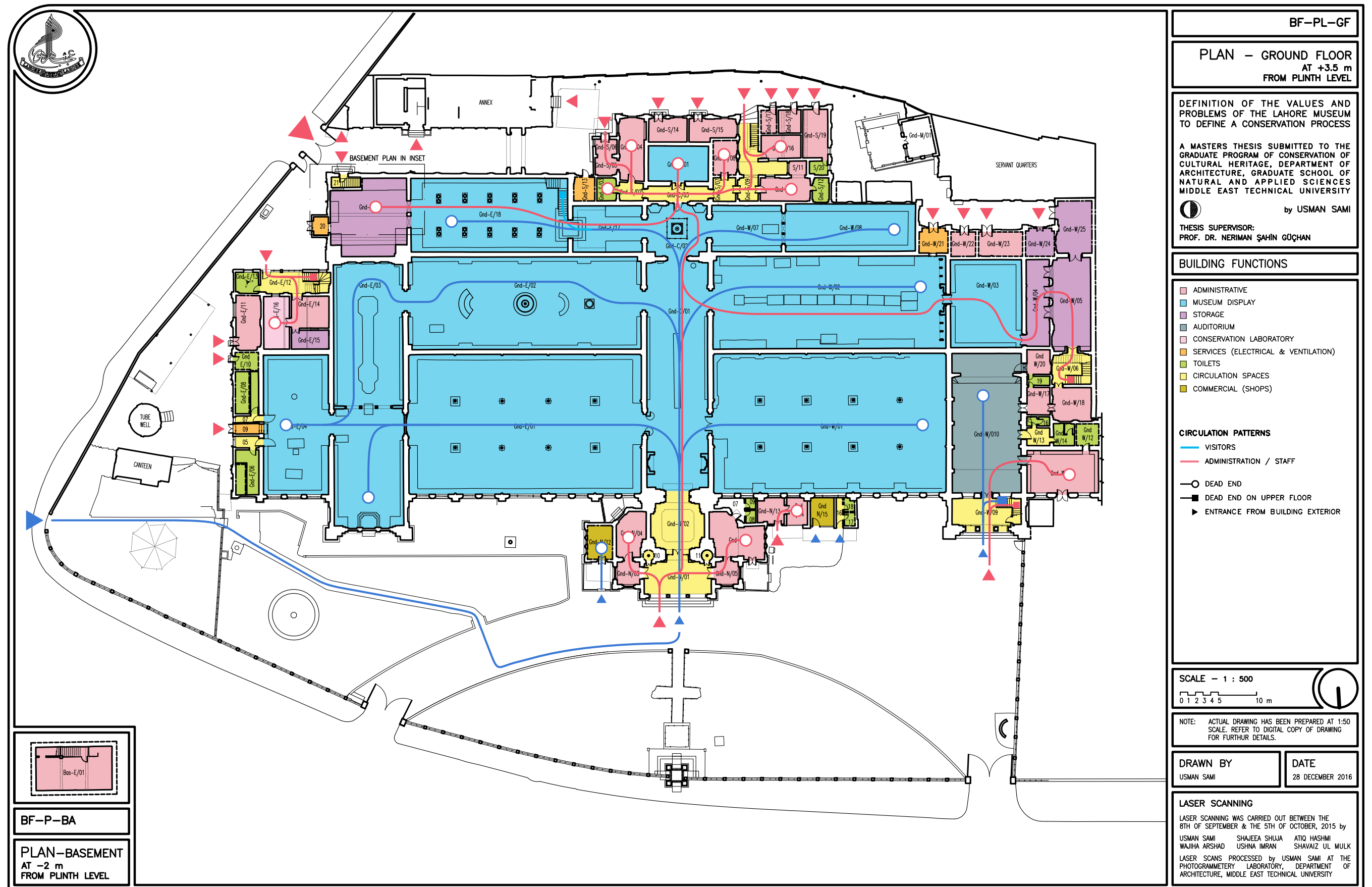


Figure 3.178: BF-PL-GF / BA – Building Functions & Circulation Patterns (2016)



### **3.5. Use of the Building**

In general, the museum building houses three main functions. Firstly, there are the visitors, whose circulation is linked only to the exhibition display areas at the core of the building. Secondly, there is the administration, whose offices are scattered around the periphery of the display areas, and thirdly, there is the isolated function of the Library and Auditorium. These areas are used only for special events and do not mix with the museum's primary circulation.

The successive additions to the building have made many spaces accessible only from the building exterior. Generally, visitors enter from the northern end of the building and the staff from the south. The visitors' circulation has always been tightly controlled within the galleries, though the circulation for the administration, crisscrosses all over. The administration and staff have no choice but to use the visitor areas as passageways to take the shortest possible, and in some cases the only, route. This situation has created conflicting and crossing circulation patterns (Figure 3.178). Even though the offices are equipped with all manner of electronic equipment that makes communication easier, the physical distance between the offices, creates inefficiencies.

The services, such as toilets, electric control and surveillance rooms are also distributed all over the building. This causes redundancy in electrical wiring as well as the storage of water and plumbing. There are currently five separate water tanks on different parts of the building, and the areas surrounding each of them show dampness problems.

As the administration offices are located mostly in the southern part, they are also accessed directly from the southern alleyway. There is a corridor (Gnd-C/03), running in the east-west direction, which connects most of these offices with each other. It also provides them with a connection to the southern alleyway as well as the visitor areas. This corridor, providing a passage into the visitor areas, also acts as a conduit between the administration offices in the southern part, and the ones in the northern and western parts.

The Museum Reserve Stores are located at two of the dead ends, (Gnd-E/18) and (Gnd-W/03), in the visitor areas. The items to be stored, have to be transported to the



administrative offices through the galleries, or in the case of the conservation laboratories and workshops, they have to be taken outside the building, from the southern alleyway, risking exposure of delicate materials to the elements.

Due to successive additions and alterations, the current plan of the museum is a makeshift solution to the organizational requirements of the institution. Compromises have had to be made on the clear demarcation of areas due to the limitations presented by the current state of the building.

The galleries were designed with high ceilings to induce stack-effect. These passive cooling and ventilation measures in the building's original design are now defunct. There is also lack of natural light and ventilation in the museum. Only three of the galleries (Gnd-E/01 & 04) and (Gnd-W/01) towards the north have windows for natural light, and (Gnd-E/04) is the only one of whose windows have not been boarded up. The remaining galleries used to be lit mostly by skylights. These were successively closed off as well, mostly due to security concerns. Currently, only the Gandhara Gallery (Gnd-E-02) is lit though skylights. All the other galleries are now lit by artificial light with some having small ventilators. A single gallery (Fst-E/15) has a fixed, narrow vertical slit-window for natural light.

Most of the ventilators that do exist, are kept closed, thus mechanized ventilation extractors are used, and have been installed at three of the dead ends. These extractors draw stale air out of the galleries, which is replaced by air flowing in, primarily from the building entrance.

## **CHAPTER 4**

### **ASSESSMENT AND INTERPRETATION OF THE LAHORE MUSEUM AS A HERITAGE PLACE**

This chapter will juxtapose the information from the historical research and the on-site surveys, in order to understand the cultural values of the place and the problems being faced by it.

The chapter will start by carrying out a comparative study of the Indo-Saracenic buildings in Lahore that were designed and built in the same timeframe as the Lahore Museum. The reasons for carrying out this process are twofold. Firstly, to understand the design paradigm prevalent at the time period of the museum's construction, and secondly, assistance in the understanding of the different phases of the building over time. This process also provides a larger picture of the prevalent architectural paradigm, on which to frame the assessment of values and significance, embodied by the Lahore Museum. The value assessment has been carried out using the Burra Charter (1999) as guidelines.

Followed this, the architectural, usage and structural and material problems being faced by the museum building, are assessed.

The chapter culminates in providing an overall assessment and recommendation of actions to be disallowed as they would diminish the cultural significance of the cultural property.

#### **4.1. Comparative Study**

A comparative study was carried out to identify similar architecture from the same time period from when the Lahore Museum was designed. Like the Lahore

Museum, almost none of the original drawings for the other buildings from this time period are presently available. These documents, if available, are yet to be rescued from the unkempt archives of the Lahore Municipality, the C&W department and the archives of the Museum itself (the most likely places for them to be found in). The comparative study that follows, can thus, only be made on a qualitative basis.

This study compares buildings of a similar scale and program, designed and built by the British Indian Government in the Indo-Saracenic style. When the museum was built, this style was still in its developmental stage, thus buildings were also being built in the neo-classical style. These have been discounted from this study as they offer no stylistic comparison. The study aims to find out if other Indo- Saracenic buildings in Lahore shared the same traits as the museum building in terms of ornament, craft and design elements.

**Table 7: Comparative Study Chart**

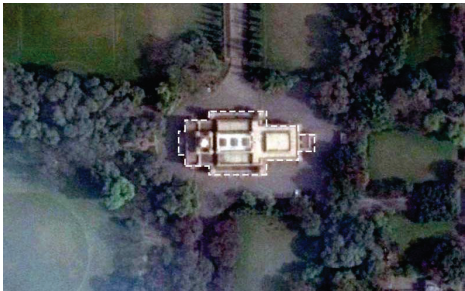
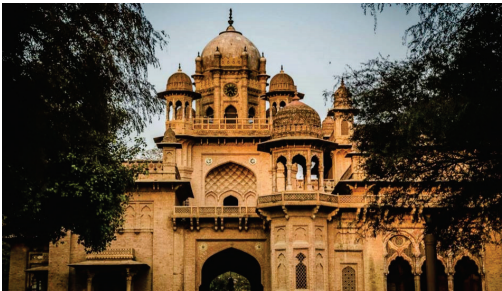









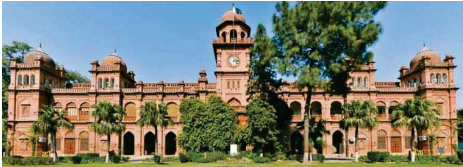
Building	Images for Comparison	
Aitcheson College (1886)		
	<p>Satellite Image</p>  <p>South Elevation</p>	<p>Photograph</p> <p>The building was designed by Samuel Swinton Jacob, chief architect of the Jaipur state, and its elevation and detailing was carried out by Bhai Rama Singh.</p>

Table 7: Continued

Lahore High Court (1889)	 Satellite Image	 Photograph
	 North Elevation	The Punjab Chief Court was designed by J.W. Brassington, was a consulting architect to the colonial government.
Lahore Museum (1893)	 Satellite Image	 Photograph
	 North Elevation	The Lahore Museum was designed by John Lockwood Kipling and Bhai Ram Singh.
Punjab University (1905)	 Satellite Image	 Photograph
	 South Elevation	The Punjab University Senate Hall was designed by Bhai Ram Singh.

Note: All the satellite images are printed on the same scale to illustrate the difference in size between the buildings.

There are no other buildings in the city that are directly comparable to the museum in terms of its spatial and volumetric distribution. The Lahore High Court building is the only other building, in real terms, of roughly the same scale as the museum, but like all other comparable examples, its massing and spatial distribution differs greatly due to programmatic concerns. The other buildings that are somewhat comparable are the museum are the Aitcheson College and Punjab University Senate Hall buildings. Both of these were also designed by Bhai Ram Singh (Table 7).

Early design attempts at Indo-Saracenic architecture resulted in varying results. J.W. Brassington's design of the Punjab Chief Court (now known as the Lahore High Court) uses "hybrid forms ... [and a] stylistic program that drew northern Indian design motifs and British principles of planning" (Glover, 2008, p. 76). This building is only comparable in size, as the design language of the building is composed mostly of gothic elements. The Indian ornaments do not blend well with the overall design and stand out as separate elements.

The Punjab University Senate Hall was a commission undertaken by Ram Singh in the later years of his career. This building shows a much more articulated design scheme as opposed to the Lahore Museum and the MSA before it, though not as much as Aitcheson College, the commission for which had royal patronage and probably a larger budget.

In the early years of its adoption as the official style of architecture, Indo-Saracenic did not have a single definition or even a set of design rules. There was free mixing of design elements, *European* and '*Muslim*' (whether they had their roots in India or not). This fact is made evident, when looking at following examples.

The design of the Museum, by no means work of a single designer, does possess the distinctive imprint of Ram Singh's use of geometry, ornaments and proportioning. These traits are not found in High Court building, though they can be seen in all other examples that follow.

It is also due to the positioning of Ram Singh at the MSA and the early patronage of J. L. Kipling, that he was commissioned to carry these works. Unfortunately, not many examples imposing edifices can be found in the city, which have been designed by architects other than those from the school. Within a few years of its establishment,



the MSA had become the principal institution, consulted by the government for tasks of this nature.

What has also become evident through this study, is that the distinctive Lahori Indo- Saracenic style pioneered at the MSA by Kipling and his students, had an immense impact on the architecture in the city. The same stylistic schemes can be seen to have been copied, and in later years, become the standard, for anything from small governmental buildings to residential architecture.

In conclusion, none of the examples provide any comparison for the same kind of ambitious scale of the spaces housed within or the whole building itself. The only comparison to be found is in the ornamentation details used in the museum. In some cases, other works by Ram Singh, as in the case of Aitcheson College, provide much more elaborate versions of the same details used in the museum.

#### **4.2. Phases & Interventions to the Building**

Since its construction in 1893, the museum has seen constant additions and alterations. It is useful for the sake of historical analysis that schemes of earlier phases of the museum building be prepared. The historical research conducted for the preparation of these schemes has been carried out using primary sources, primarily the museum's Annual Reports along with archival documents from the museum's official record, which include details and cost estimates prepared by the PWD for construction / addition / alteration works carried out on the building. Additionally, archival documents from the NCA Archives were also used. During the course of this thesis, a large cache of period photographs of the museum were also collected, which provides visual references to the written accounts of almost all of the alterations made to the museum over time. Some of the secondary sources describing the building in its early years, such as the accounts of the building in Syad Muhammad Latif's book on *Lahore: Its History, Architectural Remains and Antiquities (1892)* and Government of India – Department of Education's report (No. 6) on *Educational Buildings in India (1911)*, were used to fill information gaps.

These schemes of the various phases of the building, will illustrate the three main stages in the museum's development. The first scheme will show the initial state of the building as it had been completed in the year 1893. As detailed in Section 2.4 of this thesis, the additions, repairs and alterations started taking place on an annual basis from the very start. The state of the museum in the year 1929 was selected as the most appropriate period for the second phase of the building. The building had reached the most logical conclusion, at this stage, of a completed design scheme, which incorporated building expansions without compromising the overall integrity of the design. The plan was in keeping with the symmetrical design logic of the time. A new veranda was added towards the south of the building, encasing the administrative spaces, indicating at least for that time, that no further expansions were planned. The next major additions and alterations to the building were made in 1967. Minor changes have been made from time to time, up to the 2000's, bringing the building to its current state.

Even though none of the original drawings were to be found, in the museum's administrative records, nor in any of the archives accessed,<sup>59</sup> there is almost no conjecture in the formulation of these schemes, due to the visual and graphical evidence provided by the period photographs and sketch plans (Figure 2.17 & Figure 2.23). These photographs were collected from multiple sources and were mostly undated when found. Fortunately enough, the yearly notes on additions and alterations found in the annual reports (tabulated in APPENDIX A), were instrumental in assigning dates to the photographs. Dates for the photographs were narrowed down to time intervals of a few years, by the comparison of certain building elements appearing in their original forms in the photographs, versus their modified states in others. These photographs were then used to chart out the existence of other building elements at different time periods.

The two sketch plans have been most useful in tracing changes that had occurred between 1908 and 1929. There were virtually no planimetric changes between 1893 and 1908 as the plan from the latter date conforms to the accounts from earlier dates.

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<sup>59</sup> This includes, the Lahore Museum, NCA, C&W and Punjab Government Archives.

#### 4.2.1. Phase 1 – 1893

The sketch plan from 1908, the earliest available plan, was drawn for the guidance of visitors and was included in the two descriptive guides to the museum written by Percy Brown. Therefore, the plan did not show any of the spaces that were inaccessible to the general visitor (Figure 2.17). The plan for Phase 1 (1893) (Figure 4.4) has been reconstructed in totality, as early written sources, referenced previously in Chapter 2, explain the spatial organization of the museum in detail. Primary data obtained from the laser scanning shows traces of earlier building elements embedded within later modifications. At the time of the museum's inauguration, the building consisted of 19 spaces on the ground floor. These have been listed in Table 8, along with their functions in 1893.

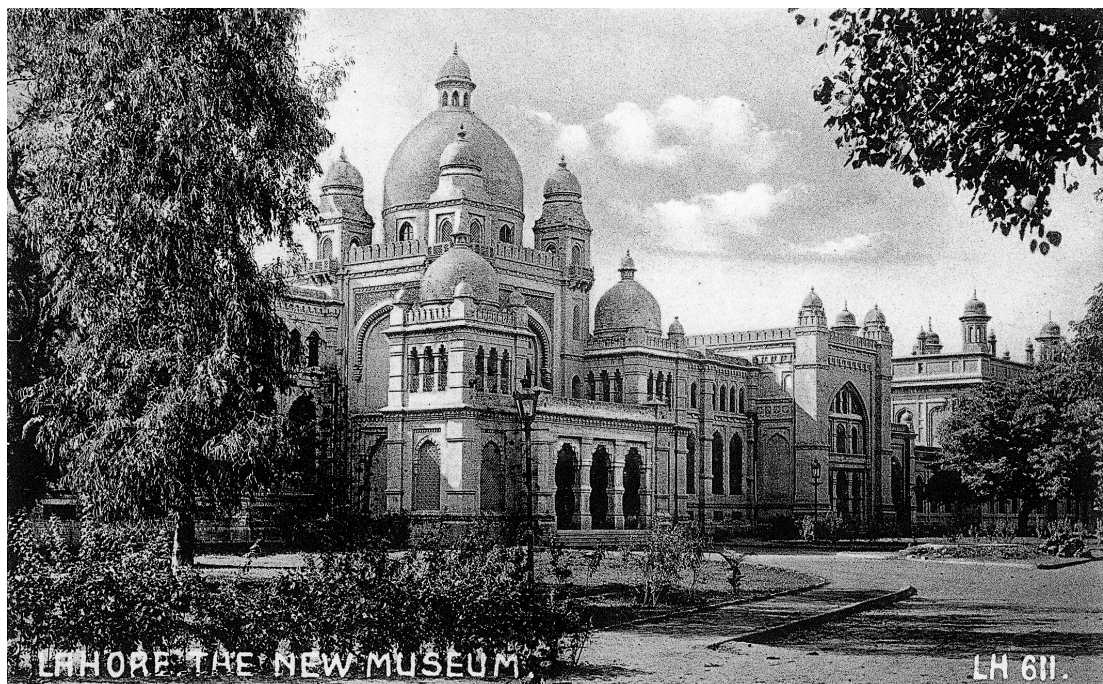


Figure 4.1: Lahore. The New Museum (1893)

The Entrance Portico can be seen in its original design in brick masonry.

Source: Aijazuddin, F. S. (2003). Lahore Recollected: An Album. Lahore: Sang-e-Meel. p.109.

The building was entered from the north, through the Entrance Portico. There was a separate entrance for the Lecture Hall (Gnd-W/09). The Western Veranda (Gnd-W/26) and Southern Portico (Gnd-W/29) provided a direct link to the MSA, to which the

rooms (Gnd-W/27 & 28) had been given. The Eastern Veranda (Gnd-E/22) provided direct access to the Office / Sale Room (Gnd-E/04). The main circulation in the exhibition spaces ran in a straight line, in the east-west direction.

There were courtyards encapsulated in the space between the galleries (Gnd-C/01), (Gnd-E/01) and (Gnd-E/03), and between (Gnd-C/01), (Gnd-W/01) and (Gnd-W/21 / 27 / 28 / 29).

**Table 8: Room Functions – 1893**

Space Name	Space previously part of...	Function in 1893	Space is now part of...
Gnd-N/01	Gnd-E/05 / 06 / 07 / 08 / 09 / 10	Entrance Portico	
Gnd-N/02			
Gnd-N/03			
Gnd-N/05		Entrance Vestibule	
Gnd-C/01		Industrial Arts Gallery	
Gnd-E/01		Industrial Arts Gallery	
Gnd-E/03		Archaeology & Antiques	
Gnd-E/04		Office & Sale Room	
Gnd-E/22		Eastern Veranda	
Gnd-W/01		Economic Products & Natural History Gallery	
Gnd-W/09		Auditorium Entrance Portico	
Gnd-W/10			
Gnd-W/11		Room for storing slides and preparation of gas for the magic lantern.	
Gnd-W/21			
Gnd-W/24			
Gnd-W/26	Gnd-W/04 / 12 / 13 / 14 / 15 / 16 / 17 / 19 / 20	Western Veranda	
Gnd-W/27		MSA Repoussé Room	Gnd-W/03
Gnd-W/28		MSA Repoussé Room	Gnd-W/03
Gnd-W/29	Gnd-W/22 & 23	Southern Portico	

The central Industrial Art Gallery (Gnd-C/01) originally had a mosaic floor (Revenue and Agricultural Department, 1900). This floor deteriorated very quickly and was replaced by the geometric patterned marble floor that we see today (Revenue and Agricultural Department, 1905). There are no written descriptions or images of what the original floor looked like and thus all traces of this have been lost.

The Lecture Hall (Gnd-W/10) used to have a “wooden gallery, entrance to which [was] by a winding staircase in the entrance hall” (Department of Education, 1911, p. 166). This means that the present-day concrete staircase leading up to the mezzanine gallery and the concrete slab interfloor is most probably in the same configuration as its wooden predecessor. There are no written descriptions or images of what the wooden structure looked like, though there are wooden staircases and raised platforms that still exist from the same time period, such as the raised platform (Figure 4.2) accessed by two staircases, at the Montgomery Hall (built in 1866).



Figure 4.2: Montgomery Hall, Lahore – Raised Platform (2007)



The three galleries that run north-south were said to have an “arched” roof (Central Museum, 1921). These roofs were, actually jack-arch vaulted roofs, as evidenced by the faint details visible in a period photograph (Figure 4.3) from the year 1938. The roof was formed by a series of parallel (shallow) brick vaults, supported on steel I-section beams, running in the east-west direction. The first of these to be replaced was the Miniature Paining Gallery’s (Gnd-C/01) roof. This was replaced with a flat wooden roof with a long narrow skylight running down the middle of the roof in the north-south direction.

The other two roofs of this kind were replaced with RCC slabs. In all three roofs, the distribution and placement of the vaults can still be traced by the steel I-section beams that have been retained in their original positions till date.

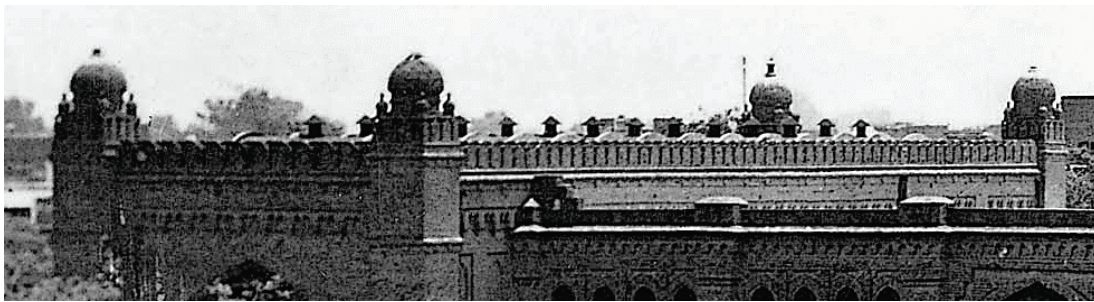


Figure 4.3: Gnd-E/03 – Jack-arched roof – Hindu and Buddhist Gallery (1938)  
In 1965 this roof was modified by replacing the jack-arch vaults with an RCC slab.  
Source: NCA Archives

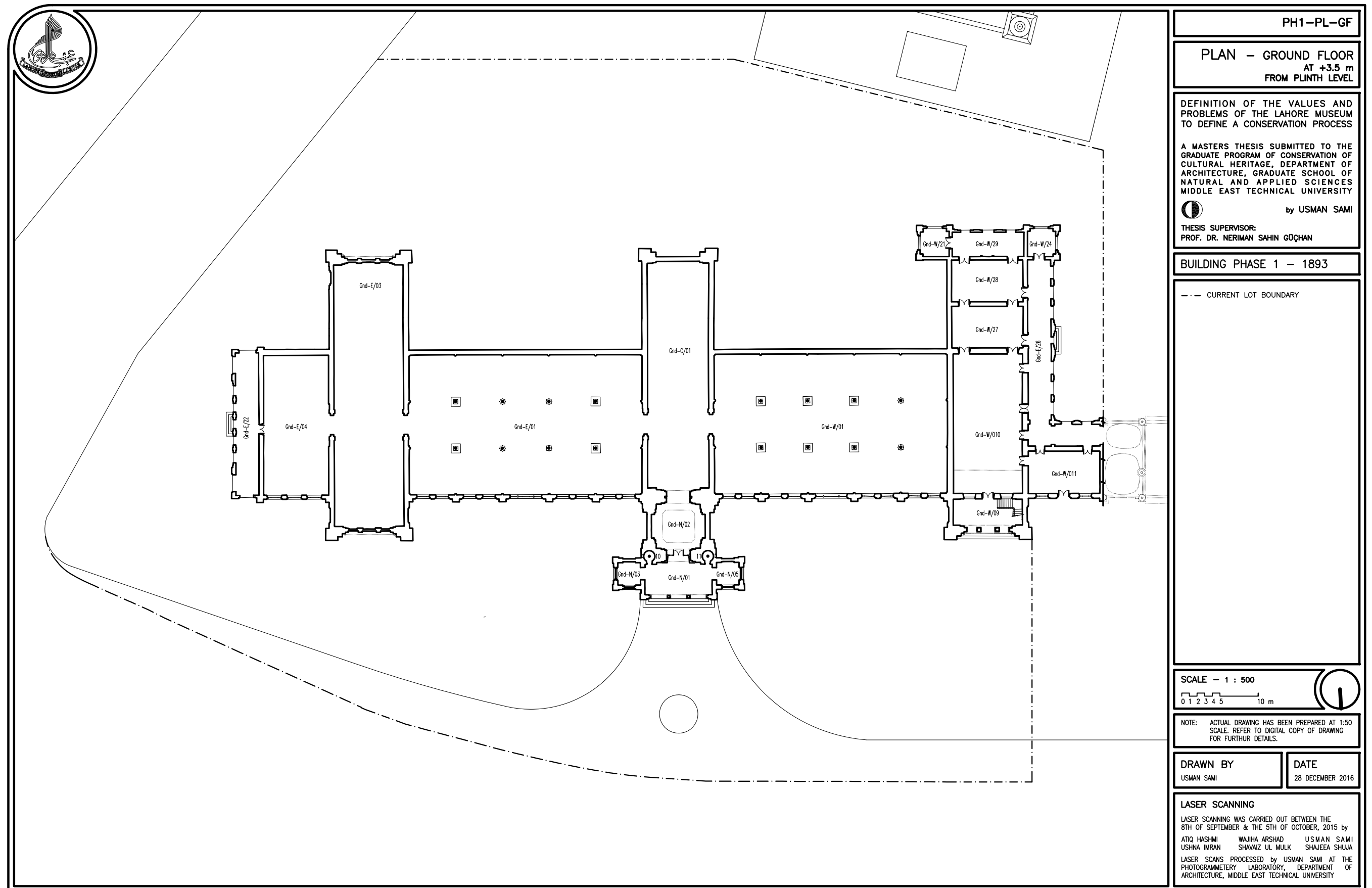


Figure #4.4: Building Phase 1 – Plan – Ground Floor (1893)



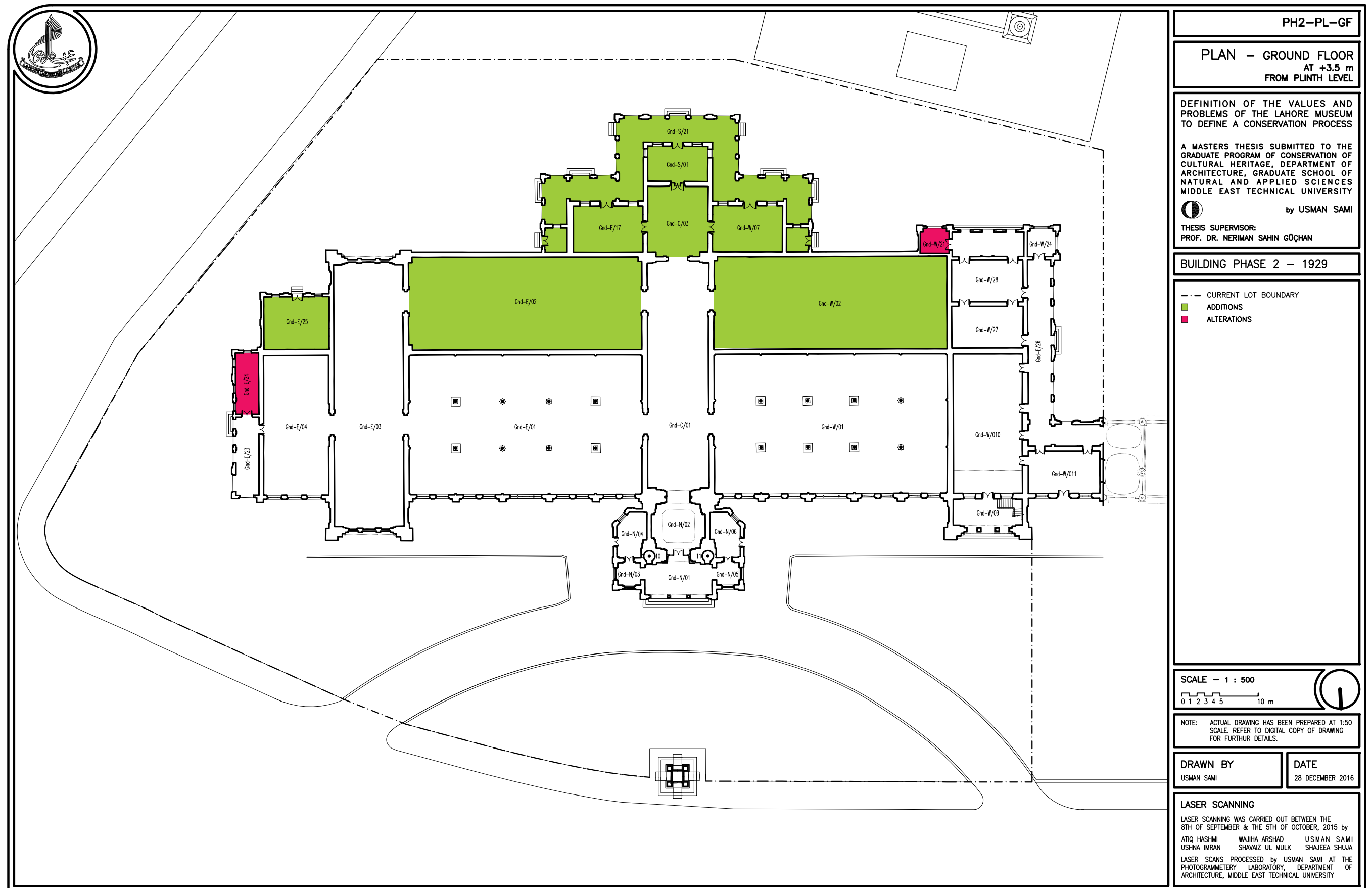


Figure #4.5: Building Phase 2 – Plan – Ground Floor (1929)





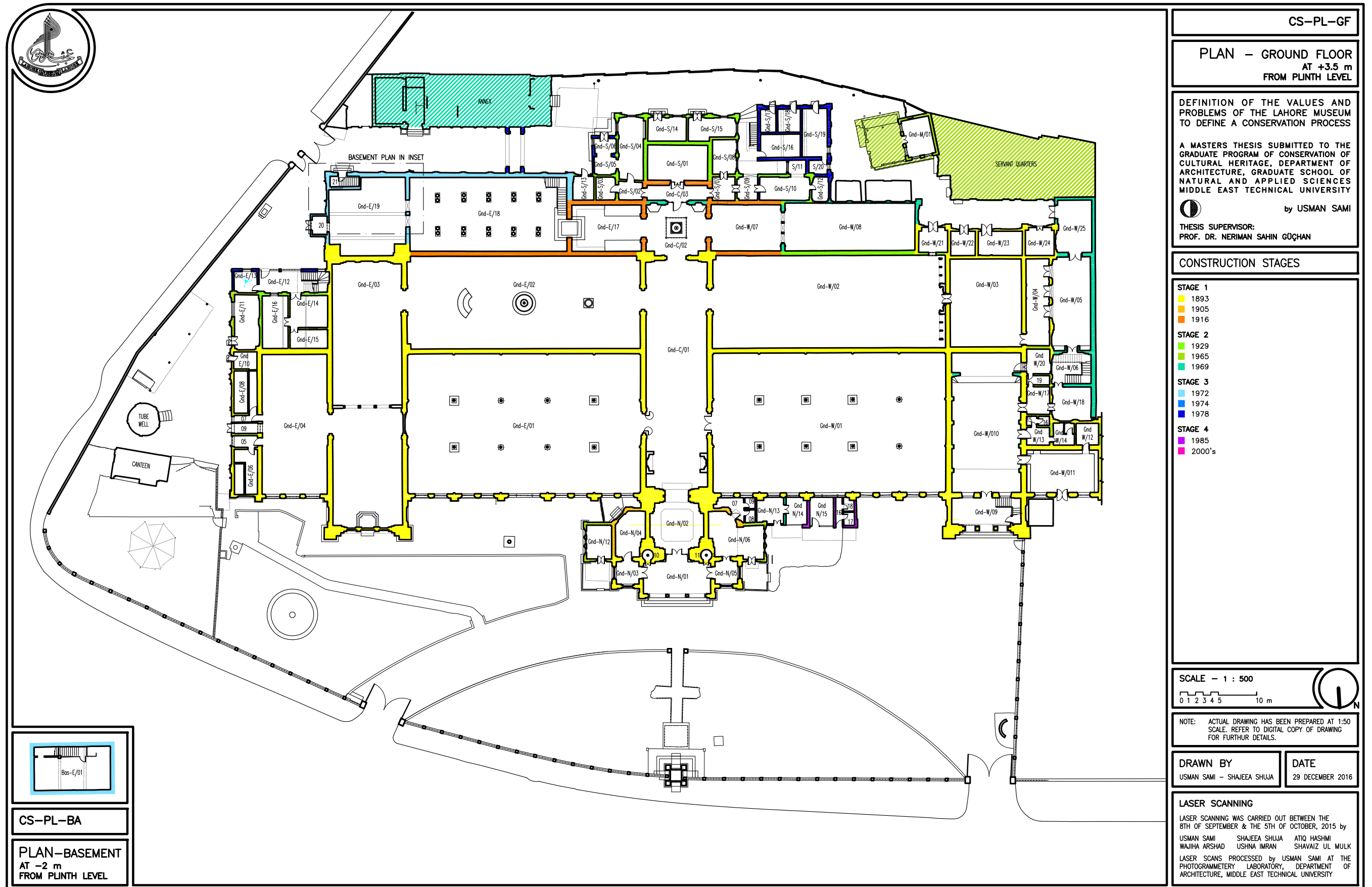


Figure 4.6: CS-PL-GF / BA – Construction Stages – Plan – Ground Floor / Basement (2017)



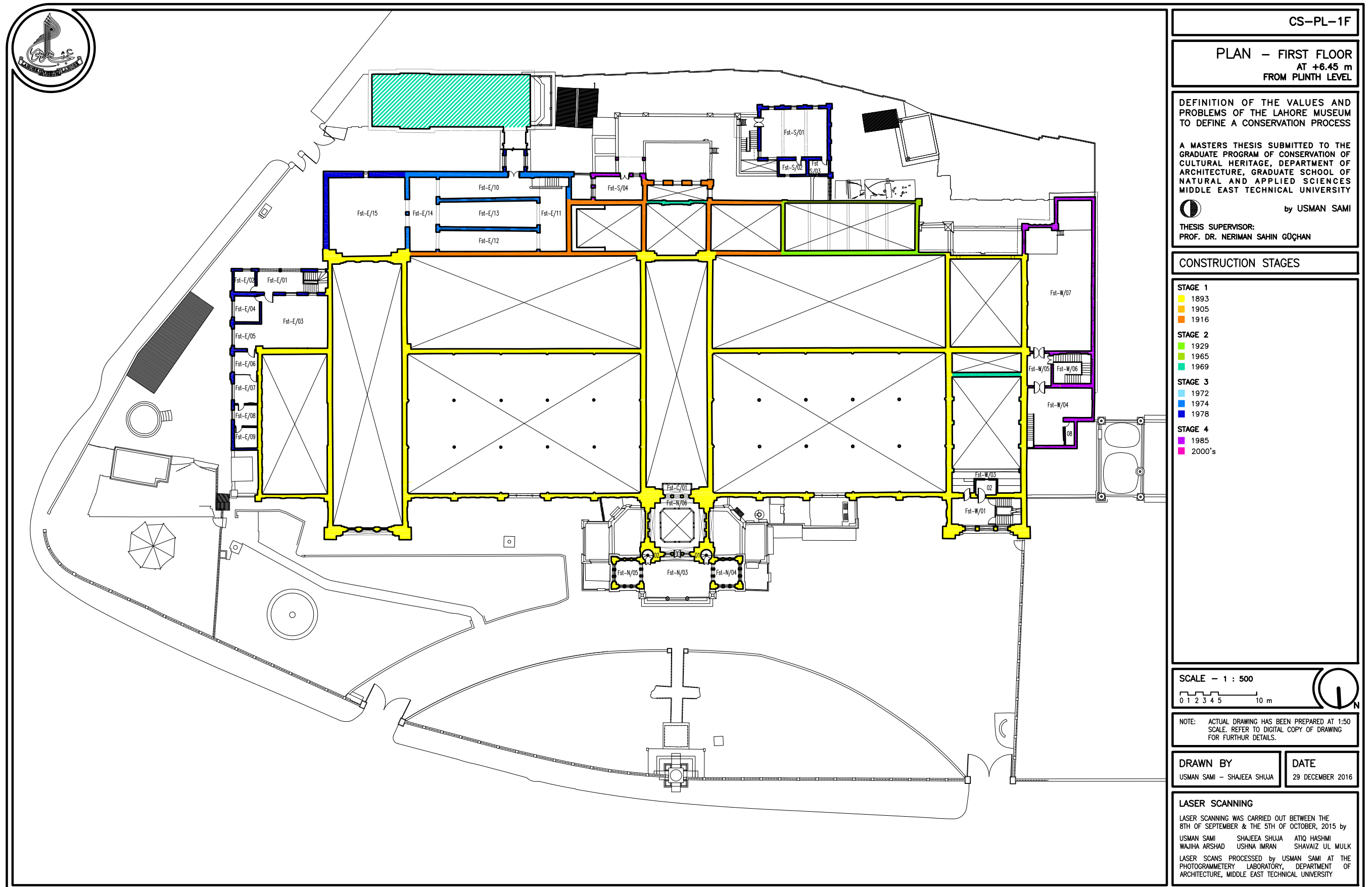


Figure 4.7: CS-PL-1F – Construction Stages – Plan – First Floor (2017)



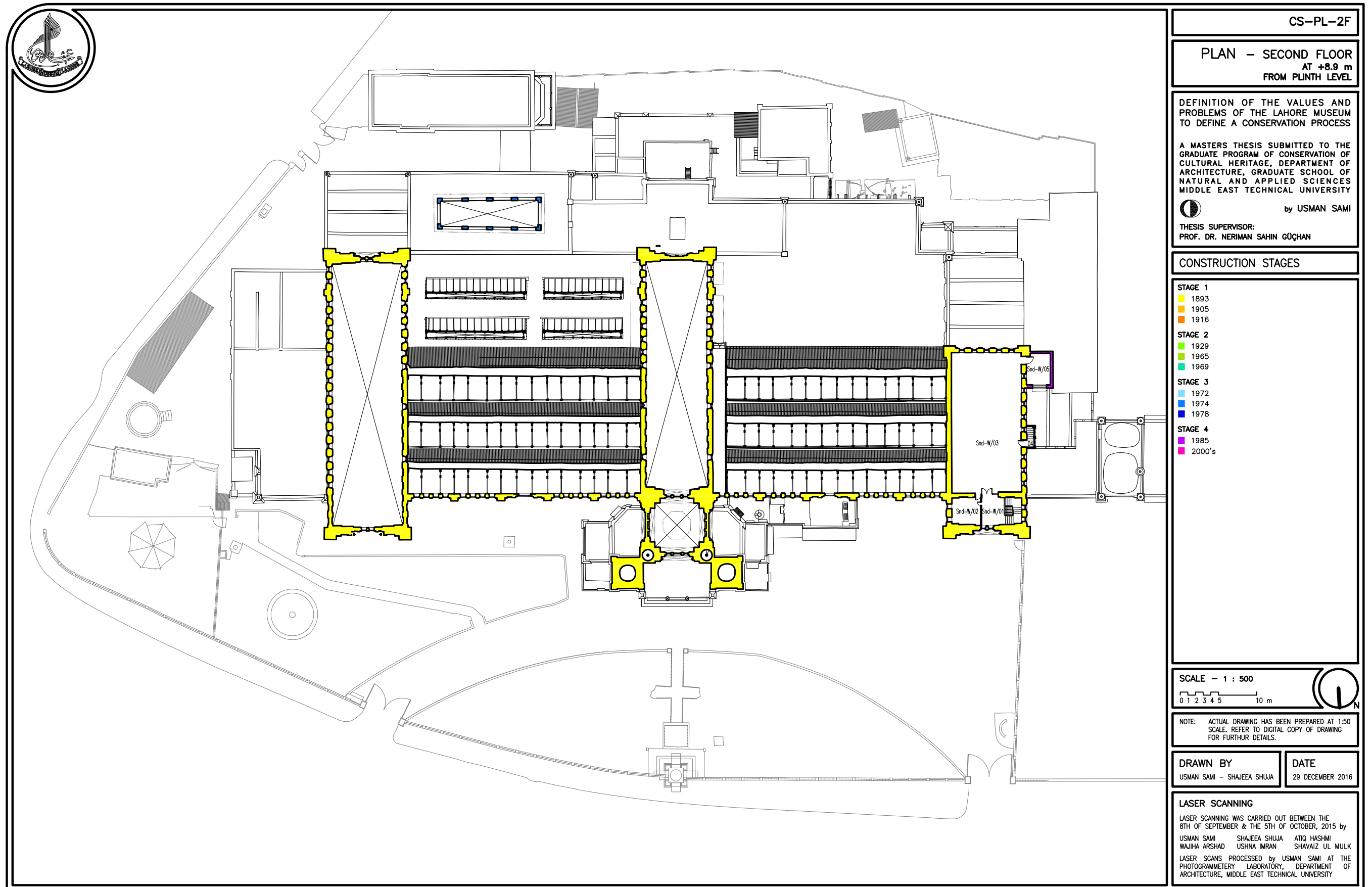


Figure 4.8: CS-PL-2F – Construction Stages – Plan – Second Floor (2017)





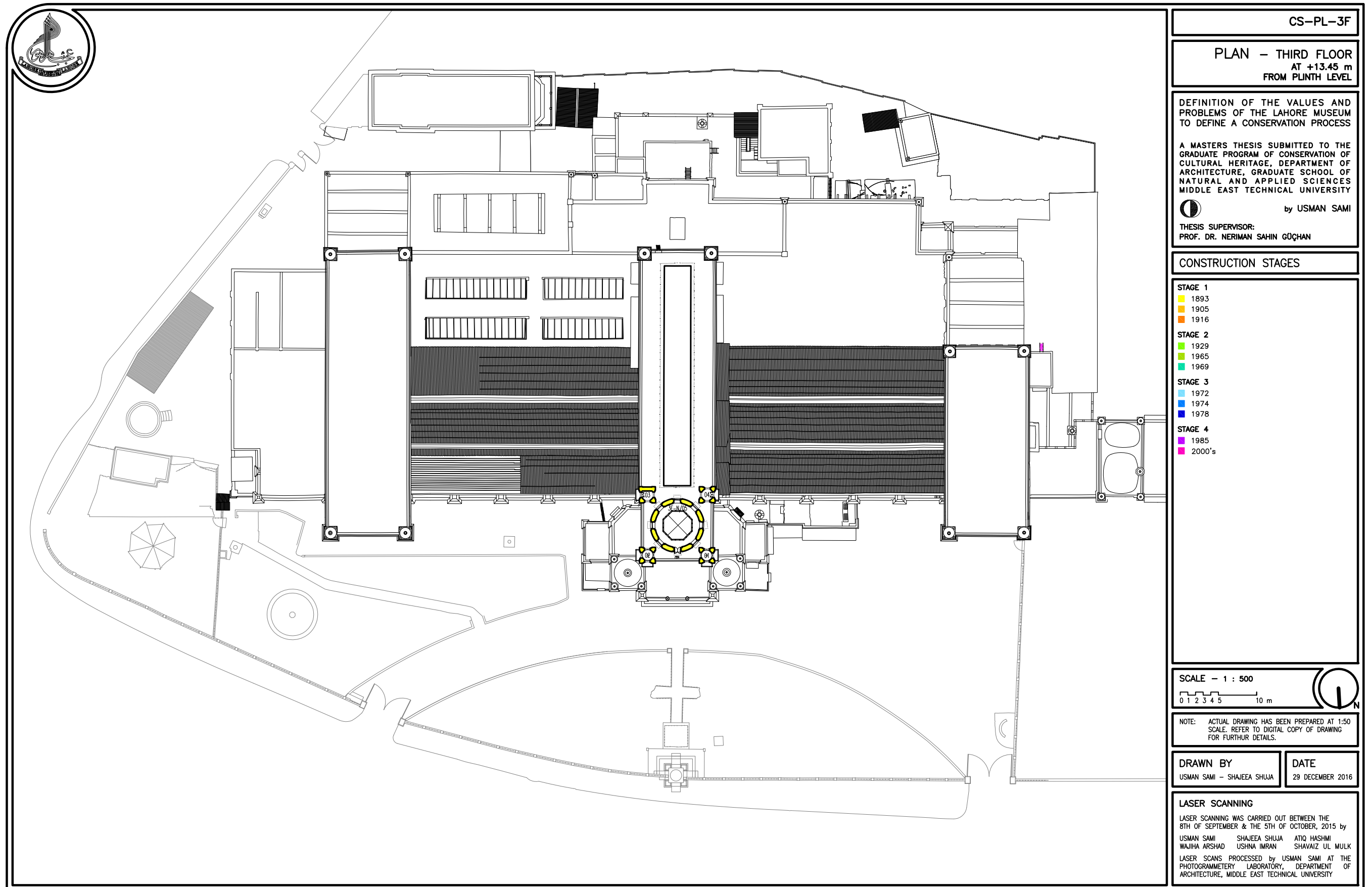


Figure 4.9: CS-PL-3F – Construction Stages – Plan – Third Floor (2017)



#### 4.2.2. Phase 2 – 1929

The sketch plan from 1929 (Figure 2.23) is self-explanatory. The scheme for this phase has been generated by cross-comparison of the 1929 drawing with the building documentation carried out for thesis. Most of the building fabric from this phase, exists till date, with the exception of some spaces which have been partially altered or replaced (Table 9).

In the year 1906, two cloak rooms (Gnd-N/04 & 06) were added to the frontispiece (Revenue and Agricultural Department, 1906). By 1916, a new gallery (Gnd-E/02), and three other rooms (Gnd-C/04), (Gnd-E/17) and (Gnd-W/07), were built (Central Museum, 1914, 1915, 1916; Lahore Museum, 1910, 1911, 1912, 1913). By the year 1929, a dedicated room for the keeping of the coin collection (Gnd-S/01) had been built along with a veranda that wrapped around the rooms, (Gnd-S/01), (Gnd-E/17) and (Gnd-W/07) (Figure 4.5).

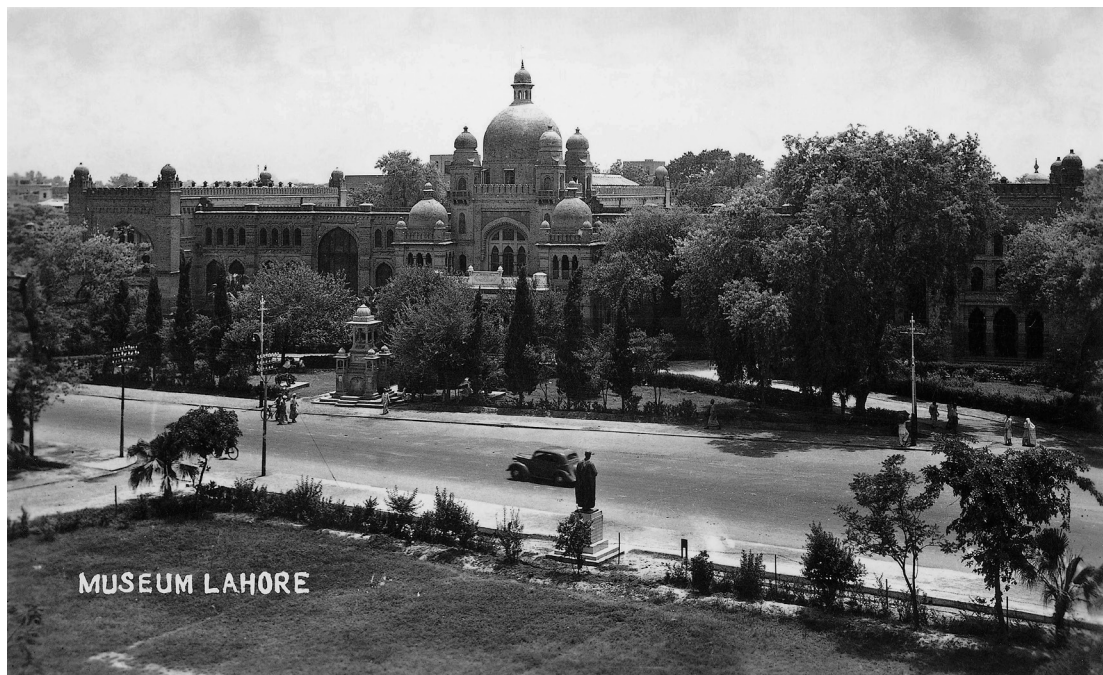


Figure 4.10: Museum, Lahore (1838)

Source: Aijazuddin, F. S. (2003). Lahore Recollected: An Album. Lahore: Sang-e-Meel. p.110.

Some parts of the southern veranda shown in the sketch plan are now missing, their spaces are now occupied by later constructions. Almost all of the archways of the

southern, eastern and western verandas are now blocked off and portioned in to small rooms. The original state of the verandas was reconstructed, primarily from the existing fabric, barring the missing sections, which were reconstructed with the help of the 1929 plan.

**Table 9:** *Room Functions – 1929*

Space Name	Space previously part of...	Function in 1929	Is now part of...	
Gnd-N/01		Entrance Portico		
Gnd-N/02				
Gnd-N/03				
Gnd-N/04		Cloak Room		
Gnd-N/05		Entrance Vestibule		
Gnd-N/19		Cloak Room		
Gnd-C/01		Industrial Arts Gallery		
Gnd-C/03		Library		
Gnd-E/01		Applied Arts Gallery		
Gnd-E/02		Gandhara Sculpture Gallery		
Gnd-E/03		Brahmanical Sculpture Gallery		
Gnd-E/04		Tibetan & Nepalese Gallery		
Gnd-E/17		Curator's Office		
Gnd-E/23		Gnd-E/22		Eastern Veranda
Gnd-E/24		Gnd-E/22		Room
Gnd-E/25				Room
Gnd-W/01				Punjab Gallery
Gnd-W/02				Picture Gallery
Gnd-W/07				Office
Gnd-W/09				Western Entrance Portico
Gnd-W/10				Arts & Crafts Depot
Gnd-W/11				Office
Gnd-W/21				
Gnd-W/24				
Gnd-W/26				Western Veranda
Gnd-W/27			Gnd-W/03	
Gnd-W/28		Store	Gnd-W/03	
Gnd-W/29	Gnd-W/22 / 23	Southern Portico		
Gnd-S/01		Coin Room		
Gnd-S/21		Southern Veranda		



#### 4.2.3. *Phases 3 & 4 – 1968 – Present*

This is the state of the museum as it exists today. Between the years 1967 and 1978, several major modifications were made to the museum building. New galleries were built, multiple roofs were modified or replaced and verandas were converted into office spaces, toilets and stores.

A handful of small rooms were further added by the year 1985. These additions are an eyesore as they are all attached to various exterior walls of the building. Fortunately, they are able to be removed with minimal damage to the building. The changes that took place between 1985 and the 2000's are superficial changes (addition of partition walls and replacement of flooring tiles) to the interiors of spaces built in 1985.

#### 4.2.4. *Assessment of Changes to the Museum and its Collection*

There is very little information about the objects forming the initial collection housed in the *baradari*, though it is known the T. H. Thornton upon taking up the curatorship added ethnological and geological artifacts to the existing collection, which contained “agricultural ... machinery and ... arts” related products (Kemp, 2017, p. 174).

B. H. Baden Powell, his successor, was “responsible for the ... large number of purchases [made by the museum] from the Punjab Exhibition of Arts and Industry of 1864” (Kemp, 2017, p. 174).

The “antiquarian remains of the Kabul Valley and Indian Frontier [were discovered between] 1830-1840 by Mr. C. Masson, Resident in Kabuls [sic], Dr. Honigberger, General Ventura and Captains Court and Cautlay” (Brown, 1908, p. 5). After the conquest of the Punjab, the archaeological sites became accessible for excavation. Under the directions of “Major Cole, Curator of Ancient Monuments in India ... sculptures that had been excavated during that year [1883, were to] ... be deposited in the Lahore Museum” (Brown, 1908, p. 5). As previously mentioned, this directive was issued after large collections were lost during their transport to England. Some of these antiquities had already reached the museum prior to the directive, and many more were deposited afterwards. This sequence of events was responsible for the formation of this eclectic mix of collections that forms the holdings of the museum.

When the current museum building was constructed (during Phase 1), the gallery spaces were distributed accordingly, with two galleries dedicated to the *Industrial Arts* (Gnd-C/01 & Gnd-E/01), one to *Archaeology & Antiques* (Gnd-E/03) and one to *Economic Products & Natural History* (Gnd-W/01). Indeed, the building itself was presented as an object that grew out of knowledge acquired from the museum's collection of Industrial Art objects.

During Phase 2, the building had expanded to accommodate the, even more diversified collection of the museum. Gallery spaces were added to the building and the museum collection was reclassified. New galleries were dedicated to the *Applied Arts* (Gnd-E/01), (probably reclassified and separated from the *Industrial Arts* collection), and *Brahmanical (Hindu) Sculpture* (Gnd-E/03). By this time products of the *Punjab* were displayed separately in two galleries (Gnd-W/01 & 02). Objects were also sent to the museum from British missions to *Tibet and Nepal* (Gnd-E/04). A gallery had also been designated as a *Picture Gallery* (Gnd-W/02) for the display of museum's painting collection.

The museum's collection, today, is a stripped down version of the groups of artifacts listed above, having lost large parts of the collection (S. Bhatti, 2012, pp. 97-99). The remaining artifacts were again reclassified into newer categories, which broadly follow the same Victorian logic.

The collection, along with the building itself, requires reorganizing. The artifacts need to be positioned into a de-colonized context, framing them in a civilizational and cultural perspective that presents the continuity of historic influences and traditions, making them socially and anthropologically relevant to present day Pakistan.

#### **4.3. Values and Significance**

The following assessment of values of cultural significance embodied in the Lahore Museum has been carried out as laid out in *Articles 5, 7 – 11 and 13* of the Burra Charter (Australia ICOMOS, 1999). These values have been understood as described

in *Article 2 of the Guidelines to the Burra Charter: Cultural Significance*, which accompany the Burra Charter.

From the very start, the history of the Lahore Museum was intertwined with larger geopolitical events in the Indian subcontinent. The British Crown's taking over the reins of power in India led to the establishment of governmental and state authorities for the regulation of the economy. This was followed by the establishment of educational and cultural institutions. The Lahore Museum was established as part of the imperial network of museums connected to localized art manufactories in the Indian provinces, in addition to being a monument dedicated to the Queen Empress herself.

As an organization, the museum was directly connected to almost all of the persons championing the cause of the conservation, development and revival of indigenous design and crafts in India. These included George Birdwood, Caspar Purdon Clarke, Major Charles Mant, B. H. Baden Powel and John Lockwood Kipling himself. These personalities served as conduits that connected the Lahore Museum to the South Kensington Museum. The museum used the methods, pioneered by the SKM, for the presentation of objects, and their use as exemplary objects to be learnt from and emulated in the new designs to be produced. The use of and appropriate architecture to house the items, came as part of this paradigm. Due to these reasons, the building has **Historic Value**.

The Lahore Museum is embedded with a complex tapestry of values of cultural, historic, aesthetic as well as of a political nature. For the building to be assessed in totality, the history of its inception and the historic political nature of its beginnings cannot be ignored. The museum and art school dyad was inherently embedded in the British industrial art apparatus. All four schools<sup>60</sup> of the like, established during the British Raj, have since moved on to modernized pedagogical constructs. The museum, particularly in the case of Lahore, separated itself from the school gradually, following the independence of Pakistan in 1947. The final step towards total separation, was

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<sup>60</sup> The Madras School of Art (1850), the School of Industrial Art, Calcutta (later known as the Government School of Art) (1854), Sir J. J. School of Art, Mumbai (1857) and the Mayo School of Art, Lahore (1875).

when the storage room for the museum reserves was constructed on the western end of the museum. This severed the direct connection the museum and the school had enjoyed earlier. The NCA has moved on to keep its cultural relevance, locally, as well as internationally, by the revamping of its curriculum<sup>61</sup> (Sponenburgh, 1958, p. 75), moving away from its craft oriented origins, towards a Bauhausian modern art based model (Mayo School of Art, 1947; National College of Arts, 1959).

The first thing a museum communicates to a visitor is its own architecture. Historically, since the development of the building-type, museum buildings have borrowed their forms from the buildings of the past. George Dance's 1763 design for a public gallery intended to display statues and pictures, was modeled on the baths of Caracalla, while Karl Friedrich Schinkel's vision of the museum was based on classical architecture, with a "temple-like portico and domed rotunda rupturing the roofline" (Giebelhausen, 2008, p. 43). The architecture of the museum was to signify the ideals embodied by the institution as places of learning and repositories of art.

The Lahore Museum building is, in itself an object on display, exhibiting the aspirations of the administration's mastery of Indian (in this case, North Indian Mughal) architecture and its ornamentation. In some ways, the European imagination of the museum as a classical building or temple has been conformed to in its entirety. The arrangement of the colonnaded portico front, and the towering rotunda arrangement is central to its design, even though they superficially fashioned as *oriental* elements. Nonetheless, this method of design ushered in the creation of a new architectural language in the city of Lahore, which is still associated with its image as a colonial administrative center.

The museum building, at the time of its construction was itself a workshop for the development of indigenous design skill and training. The museum's connection with

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<sup>61</sup> This was instituted by, Prof. Mark Ritter Sponenburgh, the American sculptor and academician appointed by the Government of Pakistan for the express purpose of modernizing the school. In 1958, during his two year tenure as a Fulbright Research Fellow, the school's curriculum was redrafted and was renamed from the Mayo School of Art to the National College of Arts.

the MSA, was a project that serendipitously manifested itself in Lahore due to the political, financial and administrative conditions that existed there at the time.

Suggestions Kipling had made himself at the time of his assuming office in Lahore about consulting either Major Mant or Purdon Clarke (Kipling, 1875, p. 162) for the design of the MSA and Museum buildings were never followed through. The change of plans, from Kipling working with and cooperating with an expert<sup>62</sup> in the Indian style of architecture, to him directing the design scheme and entrusting the job to his protégé, has created a **unique piece of architecture**. The ornamentation of the museum building is detailed much more intricately than the building of the MSA which Bhai Ram Singh's had designed ten years earlier, though his talent for **the proportioning and masterful application of indigenous architectural details, gives his work a distinctive character**, which is consistent throughout the whole composition.

Indo-Saracenic has been a fluid term for the architectural style combining the architectural traditions of Europe with Indian architectural elements. In the design of the Lahore Museum, the **Indo-Saracenic style manifested itself in a truly regional manner. Exposed red brick, which had historically been associated with the architectural traditions of Lahore**, not to mention that the city walls of Lahore were themselves built in the same material and finish. Its use as the primary construction material by the Mughals in Lahore and elsewhere served as an inspiration to Kipling through grand edifices like the Wazir Khan Mosque.<sup>63</sup>

All official accounts from the time refer to the design language of the museum as *Late Mughal*. This highlights the perception of what the British thought had been achieved in the design and construction of the building, though the design is not related to Mughal architecture by any means other than the borrowing of ornaments. **The building presents itself as an imposing edifice with a distinctive character**. There

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<sup>62</sup> The word "expert" is used here in the context of this particular point in history, where within the British government and administrative circles, certain persons held a reputation for possessing extensive knowledge on this particular subject.

<sup>63</sup> The Mughals almost always used either revetments or various types of plasterwork to cover the brick masonry. In the Wazir Khan Mosque, *kashi* glazed tile work revetments ornament the surface of the building. The wall surfaces between the *kashi* panels are plastered and painted with frescoes depicting red brickwork with white pointing.



are numerous other buildings in Lahore that follow a similar design language, some of which have also been designed by Ram Singh during his long career. **The Museum, thus, has to be given due credit for its contribution in the development of a Lahori Indo-Saracenic architecture. This is the architecture that is most associated with the urban landscape of British Lahore, and forms in the popular imagination, the image of the city.**

The imposing character of the building exterior is not lost on the visitor once the museum building is entered. The succession of the Entrance Portico (Gnd-N/01), Vestibule (Gnd-N/02) and the Miniature Painting (or Central) Gallery (Gnd-C/01) are **designed to bombard the visitor with ornament and impress with the large scale of the space housed within.** This effect does not diminish in the least as the visitor moves through the large gallery spaces,<sup>64</sup> all of which have distinctive characters, barring the General (Gnd-W/01) and Islamic Galleries (Gnd-E/01), the two of which are identical architecturally. These naturally lit, expansive and fluid spaces, provide the visitor with an uplifting feeling. Due to these reasons, the building has **Architectural and Aesthetic Values.**

The building is one of a few around the world, which are in totality, John Lockwood Kipling's vision. **It is the pinnacle of the Arts and Crafts project in India.** The staging ground for this project was the MSA building. The designs prepared by the MSA staff and students became increasingly complex with successive projects. The Museum building was envisioned as an example for how the craft techniques and design language of Indian design could be studied, abstracted and combined in various iterations of geometries and forms along with their ornaments, to create holistic designs. This tied in neatly with the government's economic interests in training artisans in the traditional arts for the purposes of inducing a trickledown effect for the general improvement of the quality of design and the production of marketable products.

Built ten years after the establishment of the MSA and in around the same timeframe as the Billiard Room at Bagshot Park (1885-88) and the Durbar Room at Osborne

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<sup>64</sup> This is in reference to the gallery spaces built within the Stage 1 of the museum's construction phases. The spaces built afterward are much more utilitarian and can be seen to lack the attention to detail in their ornamentation.

House in (1890-91), the Lahore Museum (1890-93) was a Joint design effort between Kipling and Ram Singh. The building proper, was designed by the two while various ornamentation tasks were assigned to other personnel from the MSA. The molded and cast plaster of Paris doorways and the *Persian / Mughal style* paintwork in the central gallery were entrusted to the Vice Principal of the MSA, Sher Mohammad (Aijazuddin, 2003, p. 109). It is quite interesting to see the similarity of design vocabulary used in the plaster of Paris work in the Museum, with that of the ornamentation at Osborne House (Figure 4.11). The comparison showcases the parallels in design thinking between various personnel at the MSA.

The building showcases various ornamentation techniques, starting from the exposed brickwork detailing along with carved sandstone brackets, *pinjra-work*, *gaulabkari*, ornamental doorways in plaster of Paris, Mughal style raised plasterwork and frescoes on the internal surface of the main dome, geometrical patterned paneled wooded ceiling, a carved wooden paneled coin room, and a carved white marble portico. This variety of craft techniques along with a varied language of design used in the building makes it unique among its contemporary buildings in Lahore.

Due to the these features of the interior design, the building has **Outstanding Universal Value**, in terms of its relation to, and it **being part of an International Design Movement**, associated with the British royalty, as well as artists and academics who had a **vast impact on the arts and crafts of India and later Pakistan**.



Figure 4.11: Durbar Room – Osborne House – Isle of Wight (1892)  
Source: <http://blog.english-heritage.org.uk>

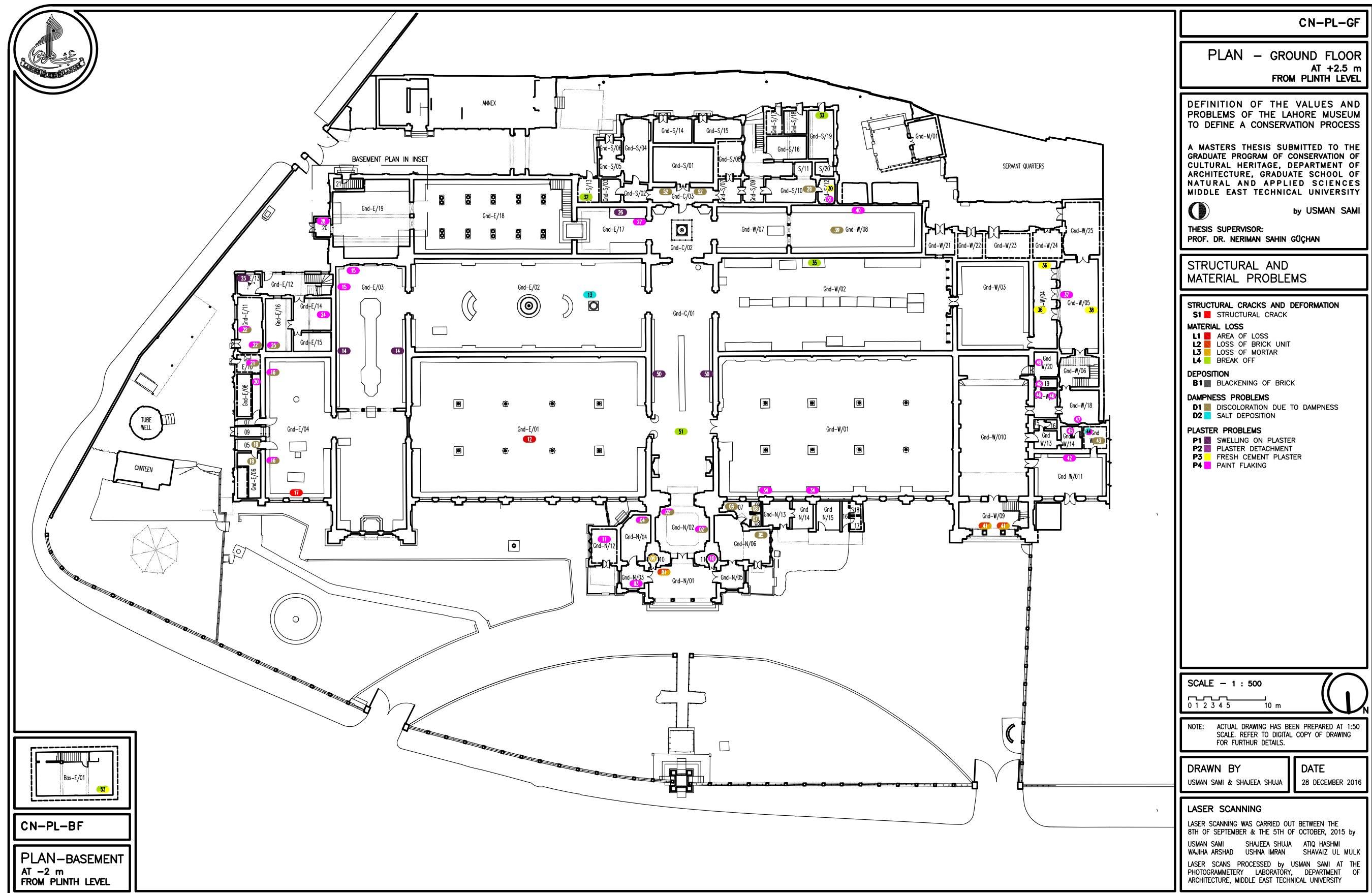
The Lahore Museum is one of the primary architectural landmarks in the city. As an institution, the “magnetism [of the city’s *Ajaib Ghar*] ... gets its strength from the expectation of visiting the Lahore Museum. This dynamism continues to be evident today” (S. Bhatti, 2012, p. 146). Apart from being a physical entity in the city, the mystique of the museum is an essential part of the lore and experience of Lahore.

The Lahore Museum retains its relevance, today, by virtue of its exceptional collection of artifacts. Since the formation of the collection, the artifacts have been in the constant danger of being exposed to the elements. Apart from physical damage, there are various other ways in which this collection has also suffered over the years. The greatest damage caused to the collection was by its division between the Pakistani and Indian Punjab (S. Bhatti, 2012, pp. 97-99). During this period, objects were divided arbitrarily between the two countries leaving no written records. Even in the face of such adversity, the museum still boasts an impressive cache of objects. The Gandharan Sculptures, in particular, are world famous. The Lahore Museum, still retains the most important pieces anywhere. **These artifacts represent a highly refined artistic tradition from a small kingdom from which they originate, making them very rare. This collection alone has aesthetic, historic and uniqueness values.**

Today, the state of conservation of this collection is very much like the building that houses it, poor and in urgent need of attention. The Lahore Museum and its collection have grown together, and are thus part and parcel of each other’s identities. A comprehensive understanding, encompassing all facets of the museum, is required for the preparation of a program for the revitalization of the institution.

#### **4.4. Adaptability to problems based on contemporary techniques and materials**

The museum building is plagued with a multitude of problems related to its architectural and institutional makeups. The building is overburdened and is aging at an accelerated rate, but the measures taken for its upkeep have not been sufficient. In some cases, repair / maintenance works have also damaged the building. The following is an assessment of the architectural and usage problems facing the building.





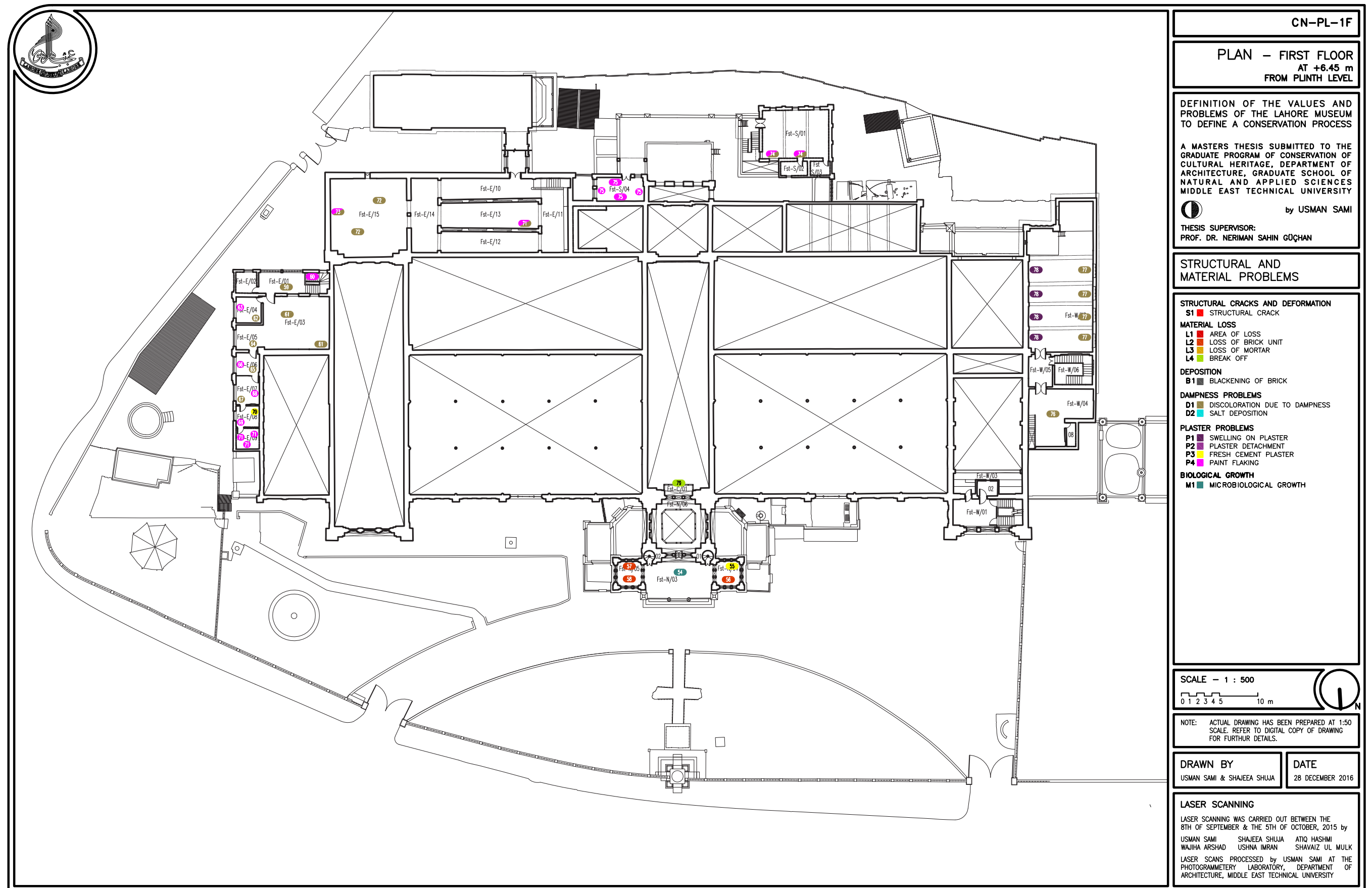


Figure 4.26: CN-PL-1F – Structural and Material Problems – Plan – First Floor (2016)





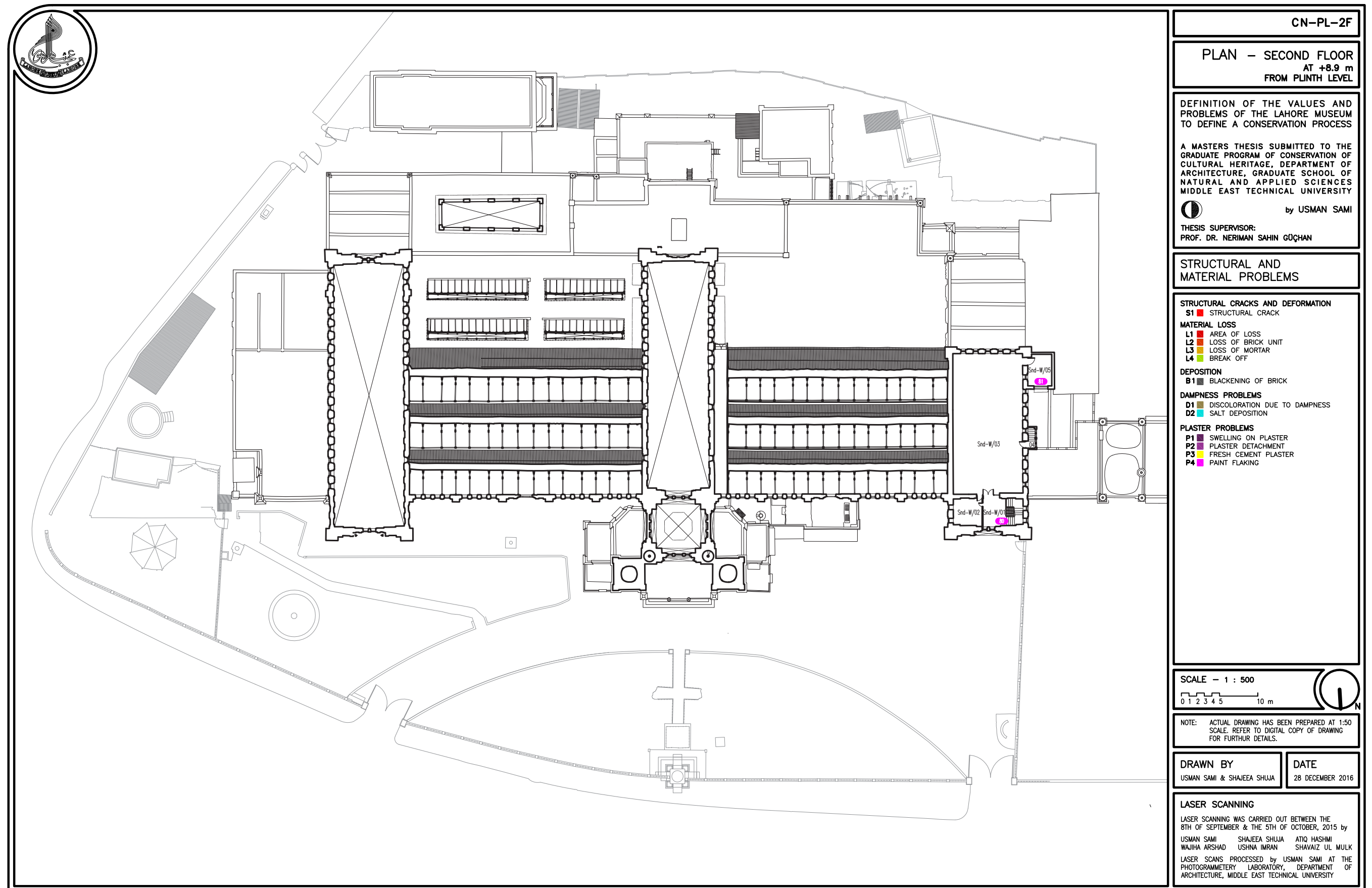


Figure 4.27: CN-PL-2F – Structural and Material Problems – Plan – Second Floor (2016)



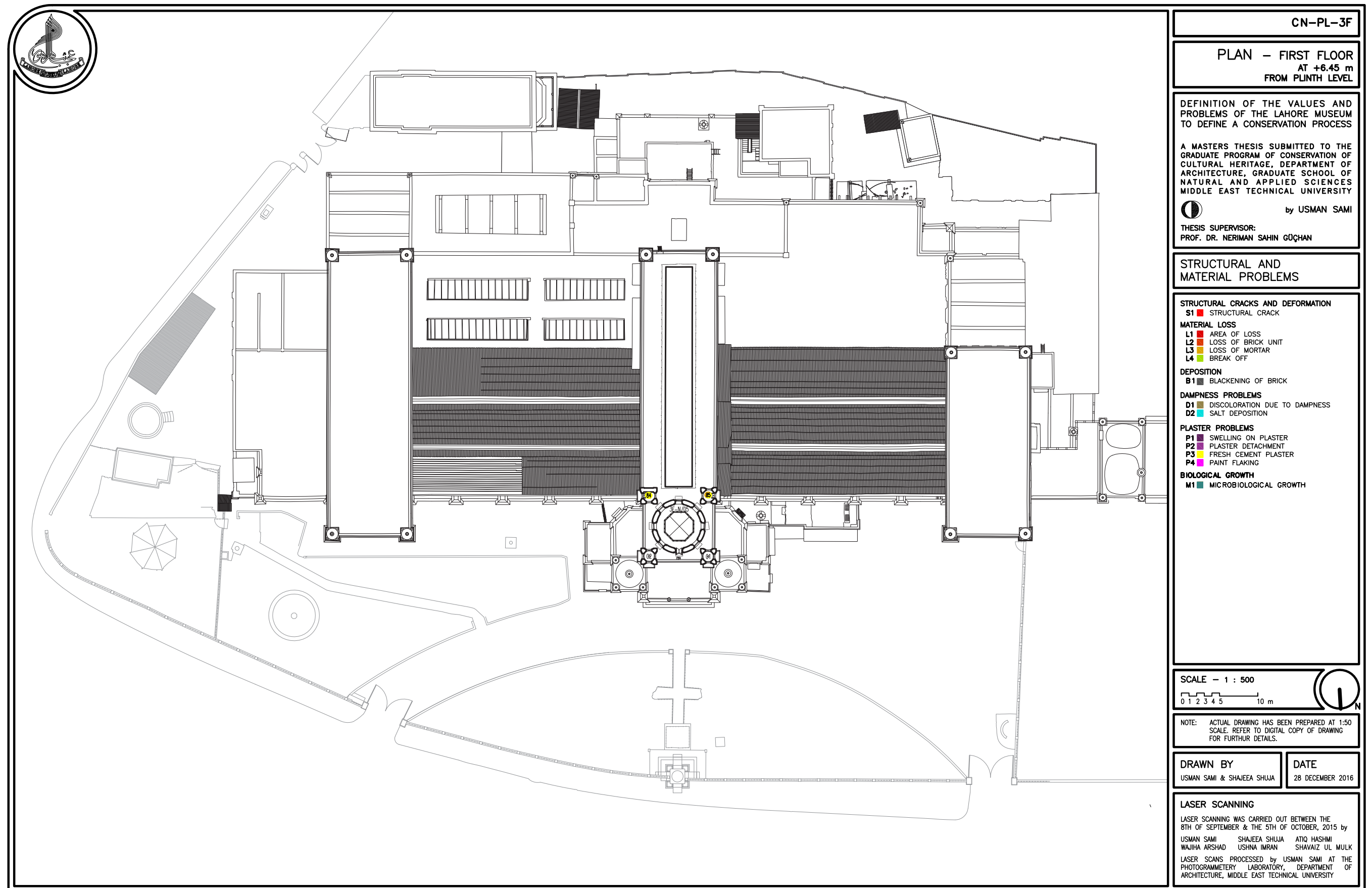


Figure 4.28: CN-PL-3F – Structural and Material Problems – Plan – Third Floor (2016)



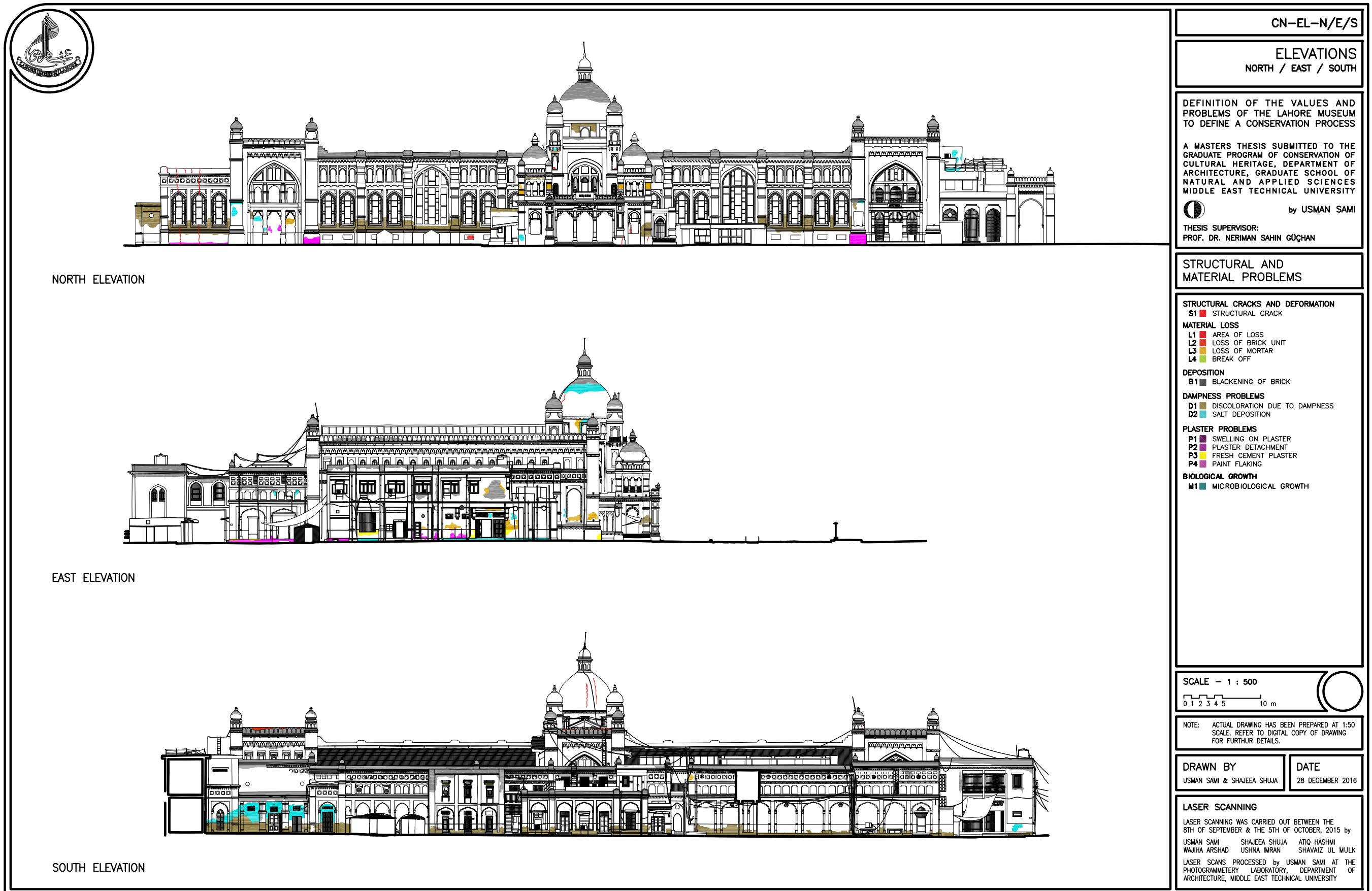


Figure 4.29: CN-EL-N/E/S – Structural and Material Problems – Elevations – North / East / South (2016)







Figure 4.17: CN-SE-1/2/3 – Structural and Material Problems – Sections – 1 / 2 / 3 (2016)



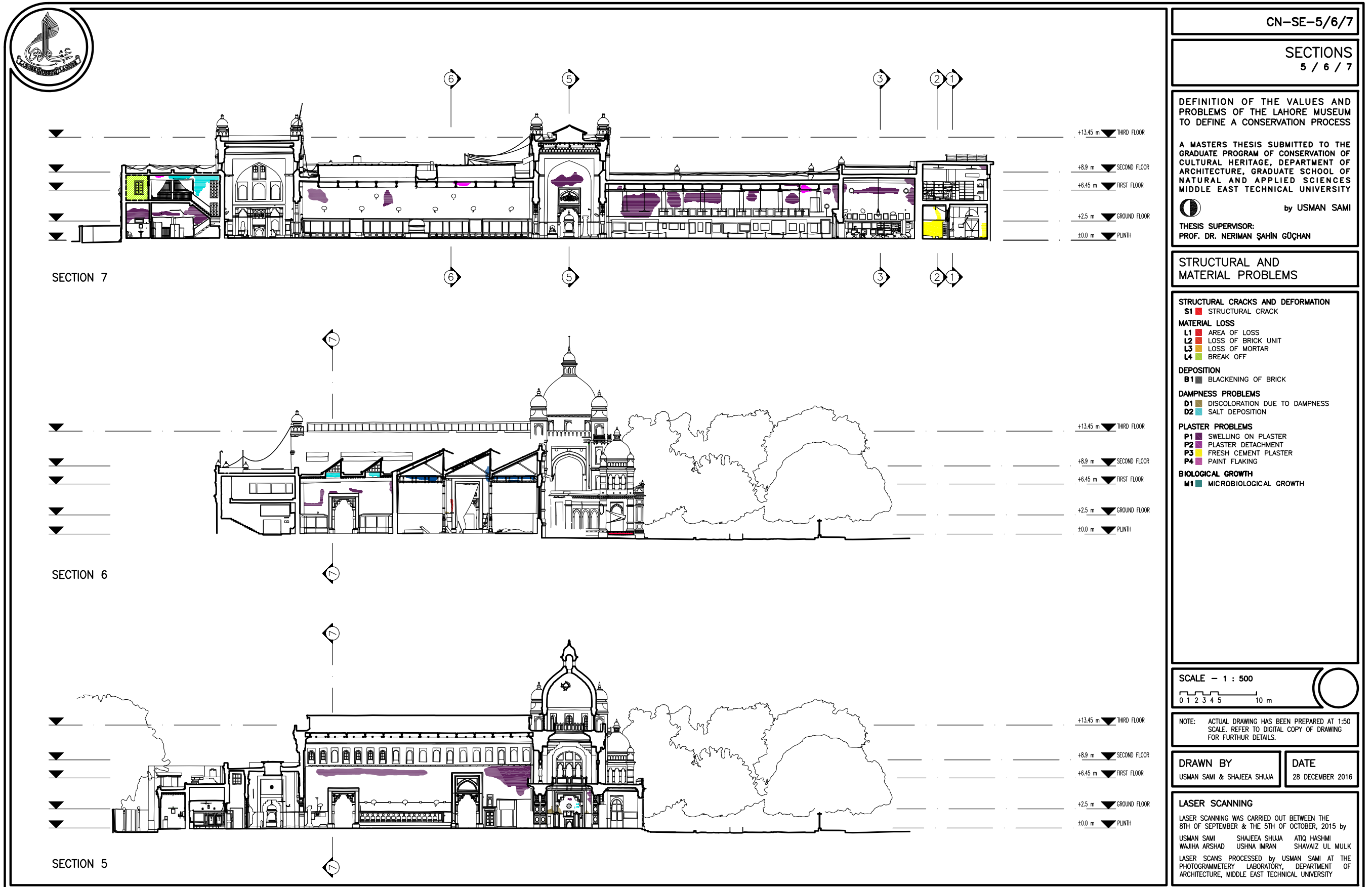


Figure 4.18: CN-SE-5/6/7 – Structural and Material Problems – Sections – 5 / 6 / 7 (2016)



#### 4.4.1. *Architectural Problems*

There are various architectural problems that the museum building faces. Most of these have originated in, or are in some way linked, to modifications made to the building. Some of these problems are structural, while others are of a spatial nature.

The museum building can be seen to be a hodgepodge of different design ideas. In reality, these anomalies can be attributed to the haphazard additions and alterations made to the building over the past 114 years (please see APPENDIX A for a listing of these works). Once the objective of designing the building expansions became purely a task of providing additional space for the museum's expanding collection, the attention to detail diminished. The expansions were all designed by engineers at the PWD and later the C&W. All the expansions try to mimic the original architectural detailing on the building exterior, though each of them have noticeably different proportioning systems. Each building addition / alteration cherry-picks ornamentation elements from different parts of the building, and are thus uniquely identifiable by the arrangement of their design elements. The interiors of the additional rooms<sup>65</sup> are basic rectangular spaces with plastered and painted walls. The roofing systems change from room to room, reflecting the times they were built in or modified in. Over time, there had also been a steady shift from lime based to cement based construction materials. This change in materials, coupled with the wetting and drying cycles brought on by the heavy monsoon rains, and rising damp, which is visible on the exposed brick surfaces of the building exterior, has led to material degradation all over the building.

The museum building has expanded till the edges of the southern and western lot. The museum sits on the edge of the lot and abuts the NCA towards the west. The auxiliary building has been constructed on the lot's southern edge and abuts the Punjab Public Library's lot behind it, as do the servant quarters. Building expansions cannot be made towards the south or the west as there is no more space left. The eastern side of the building faces the road at a distance of 2.56 m. The only part of the museum lot that is not occupied is the lawns towards the north of the building. These have not been expanded onto, as it would obscure the building.

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<sup>65</sup> Rooms that were added after the initial completion of the building in 1893.



#### 4.4.2. *Structural and Material Problems*

By and large, the building seems structurally stable, though there are a few exceptions. The following problems have only been observed visually and will need to be monitored and analyzed further by conservation architects and engineers.

According to the museum's annual reports, the museum building has suffered more than its share of roof leakage problems. The roofs had to be repaired constantly, almost every year till they were completely overhauled in the year 1925. Even after these major changes, minor repairs were carried out on leakages in various rooms.

The use of multiple types of roofing systems in the building, also present problems, each of which differs from the other.

##### *Structural Problems*

There are multiple structural problems facing the museum building, such as, Structural Cracks (S1) as well as areas of Material Loss. There is a Loss of whole Areas of fabric (L1) and areas where Brick Units have been Lost (L2). Mortar Loss (L3) is quite commonly found all over the building fabric, and there are some areas where parts of the building fabric has Broken Off (L4) (Figure 4.12, Figure 4.13, Figure 4.14, Figure 4.15, Figure 4.16, Figure 4.17 & Figure 4.18).

There are two visible structural cracks on the exterior of the building. One passing through the central arched window in Block B on the north elevation and the other on the southern side of the main central dome (Figure 3.43 & Figure 4.19).

This crack through the arch in the space (Gnd-E/04), is visible on both sides of the wall. This crack has been expanding since it appeared in the year 2014, when the roof was opened for repairs. The earth-fill and roof boards were removed without the use of scaffolding to keep the slender north wall stable. Additionally, a crane for the hoisting of repair materials was placed on top of the wall. This extreme shift in loading patterns has caused out-of-plane behavior in the wall. The crack has been opening up at a greater rate towards the top of the wall (Figure 3.43), and the parapet can now be seen to be tilting towards the east. This may also indicate differential settlement.



Figure 4.19: Main Dome – South Face (2016)

A faint trace of the grouted up vertical structural crack can be seen near the middle of the image.

The crack on the main dome appeared during the Kashmir Earthquake of 2005. The crack has been grouted a few times, but keeps reappearing.

These two cracks have to be monitored with measured markings or glass slides placed across them for the measurement of their expansion. Their movement should then be compared with the computer model for structural analysis, for the conformation of the initial hypothesis of the root causes of these problems. Proposed remedial measures can then, also be tested on the structural analysis model.

### *Concrete Roofs – Sagging*

Roofs for spaces built after 1929 are invariably constructed in reinforced cement concrete (RCC). In most cases, they are supported by either drop or inverted concrete beams to break their spans. Earlier wooden or jack arched, flat roofs have also been replaced by RCC slabs. The steel I-section beams that supported these earlier roofs have been used in their original places to break the spans of the RCC slabs poured over them. These steel beams do not seem to have been designed to take the loads of these

RCC slabs, as in each of these cases, the beams are sagging in the middle along with the slabs.

### *Material Deterioration Problems*

The building suffers from a host of material deterioration problems. This includes Dampness Problems, causing Discoloration (D1) and in some cases, Salt Deposition (D2). There is also Blackening of Brick (B1) on the building exterior. The plastering in the building has multiple recurring problems such as the Swelling of Plaster (P1) and Plaster Detachment (P2). Some areas where the plaster had detached, have been freshly Re-plastered with cement (P3). Flaking of Paint (P4) has been observed in some areas. Microbiological Growth (M1) has also been observed on some parts of the roof (Figure 4.12, Figure 4.13, Figure 4.14, Figure 4.15, Figure 4.16, Figure 4.17 & Figure 4.18).

The prime problem is the composition of the building's own construction materials. It is known that the building was constructed with brick masonry laid in and pointed with lime mortar. The walls were plastered with lime as well. There were constant additions and alterations made to the building throughout the 20<sup>th</sup> century. The advancements in construction technology and materials were embraced by the PWD, who unreservedly used cement based construction materials, once they had become available, as well as bricks produced with advanced firing methods. These materials were incorporated in the *PWD Specifications* and were also used for the repair of earlier structures, due to the lack of knowledge of the consequences of their combined usage with lime based construction materials.

Multiple repair, maintenance and addition schemes, coupled with constant re-pointing in red colored cement mortar, has made it almost impossible to differentiate the brick types. The continuous reintroduction of salts carried by cement have caused powdering of the edges of bricks which are pointed with successively thicker layers of mortar in an unending cycle (Figure 4.21).

The physico-mechanical properties of different brick types will thus have to be determined by, first, identifying the locations of different brick types along with different decay types, and second, conducting laboratory tests on samples collected from various parts of the building.

There are indications of rising damp on the building exterior and visible powdering of brick along the upper edge, up to which the moisture has risen. There is also microbiological growth on various parts of the building roofs and blackening of the brick surfaces at the upper edges of walls and the upper parts of the domes.

The museum requires a broad analysis of the materials used for construction. This should be done by sampling materials from various parts of the building. The cross comparison of material samples from various building sections with known construction dates can be used for dating other samples.

The salinity levels and the types of salt present in the bricks and the pore-size-distribution of various types of bricks also have to be taken into account. Salts have been repeatedly introduced to the brickwork, with parts of, and in some cases the whole of the building being repeatedly repointed using tinted Portland cement.

The rising damp may carry other types of salts that may indicate the sources of moisture, which may contain, leaking storm water or sewage pipes. A restoration and consolidation proposal of the building fabric can only be formulated after these studies have been carried out.

The roofs of the General (Gnd-W/01) and Islamic Arts (Gnd-E/01) galleries are hybrid systems. Grids of cast-iron columns support saw tooth trusses in steel. These trusses have inherent design flaws as they are oriented in the east-west direction and abut the two, much higher building blocks, on either side. Rainwater from the two drainage valleys is trapped in catchment channels in the middle of the roof. These are evacuated into drainage pipes that, first, drop below the soffit into the gallery spaces, where they are then, channeled out of the building through drains concealed by plaster of Paris cornices that slope towards the north, and run along the eastern wall of (Gnd-W/01) and western wall of (Gnd-E/01). The water is finally flushed out through spouts on the upper levels of the northern façade of the building. Though the annual reports from the early years of the museum mention drainage problems, they don't explicitly mention the rooms. It is assumed that the reports talk about these

rooms as they are the only rooms with metallic gutters (which the reports do mention) (Butt, 1980, p. 52).<sup>66</sup>

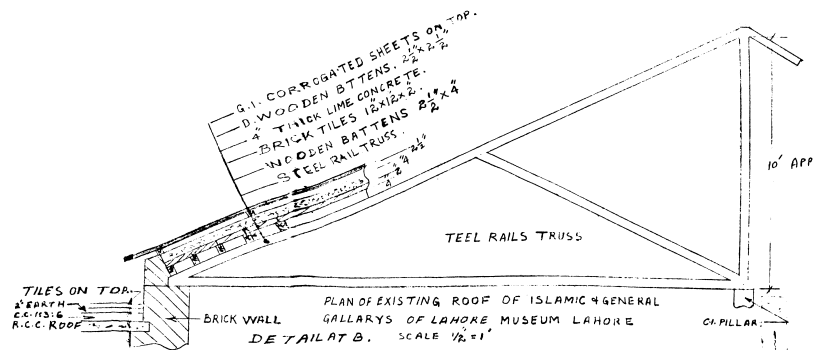


Figure 4.20: Section through the General and Islamic Gallery Roofs – Existing (1980)  
Partial drawing extracted from: Butt, Q. u. H., Executive Engineer, 4th Provincial: Building Division, Lahore. (1980). Estimate for: Re-construction of corrugated sheet roofing & drains over existing trusses of Islamic & General gallery in Lahore Museum Lahore. To: Director Lahore Museum. Letter No. E-50-0/50-LM-5915 dated. 10.9.1980. p. 52



Figure 4.21: Fst-W/01 – Exterior Wall – Powdering of Brick / Detachment of Pointng (2017)

#### 4.4.3. Interpretation, Presentation and Usage Problems in the Museum

The museum faces multiple problems arising from a variety of factors. The museum building, has created many of these problems itself, due to its spatial configuration.

<sup>66</sup> These construction details have been pieced together from various examples of PWD construction methods. The two primary pieces of evidence are the Cost Estimate for Construction cited above where a section of the trussed section shows the construction detail and photographs of the dismantled roof while it was being repaired in 2014-2015.

These spatial problems contribute to problems of curation and presentation. The problems in curation are compounded by discordant presentation schemes.

In its original state (1893) (Figure 4.4), the museum was envisioned with a clear plan, having a single linear circulation, running east-west through all the galleries. This clarity was lost over time with the addition of extra rooms, and the creation of their entrances from wherever it was convenient. Due to this, an increasing number of rooms could only be accessed by passing through a series of other rooms. These linear sequences of rooms invariably terminate in dead-ends. This circulatory problem is at its peak today, as is illustrated in (Figure 3.178).

The fragmentation of spaces, in these series of labyrinthine clusters, has limited the potential for the re-organization of exhibitions. This lack of flexibility has also caused certain exhibitions to be permanently stuck in particular rooms.

The museum is still steeped in the pedagogical constructs of the 19<sup>th</sup> century. The objects on display are classified and organized in broad categories and placed according to the availability of space. The displays used to be much denser before their rearrangement in 1968. Prior to the overhauling and this “thin[ning] out” (Dar, 2016, February 25) of the museum, cabinets with multilevel shelving were arranged in the exhibition halls with narrow alleys between them for circulation (Figure 2.22). The complete collection was on display at all times. During the process of thinning out, objects were sorted and displayed based on arbitrary values, such as; what would look better when displayed (Dar, 2016, February 25).

The remaining objects that were removed from display, were “dumped” (Dar, 2016, February 25) in a storage room. This disorganization and piling up of discarded objects was of great detriment to the collection. Many pieces were damaged and others went missing as there was no effort to catalogue the stored reserves.

There are chemists and archeologists on staff, but since independence in 1947, not a single museologist has been appointed as the curator / director of the museum. Each gallery is handed over to an individual on staff, who is charged with organizing the space. This remains the administrative practice till date, resulting in a situation in which the museum operates on the lines of a government office with a top down hierarchy, as opposed to being an educational and scientific organization aimed at a



unified and sequenced transmission of knowledge. Even though there were attempts at reorganization, which involved moving whole collections from room to room, the presentation of the museum collection has been in stasis ever since it was inherited by the state of Pakistan.

There is no recommended system or sequence for viewing the exhibits. All galleries are standalone entities serving as display spaces for objects, grouped into overly generalized categories. Apart from the Gandhara Gallery, Contemporary Paintings Gallery and the Freedom Movement Gallery, which are dedicated to specific sets of objects, all other galleries carry objects from various time periods and from various locations. This method of organization becomes problematic in framing the significance of individual objects.

The exhibitions themselves are also displayed haphazardly with no sequencing or framing of narrative. The objects are in most cases displayed according to their sizes and availability of display cases / space. This creates confusion and thus, according to Bhatti (2012, p. 147),

“Parallel to object narratives and institutional ideology, run[s] visitor experience and discourse, which cannot be assumed to replicate either since visitors have their own agendas. This interpretative autonomy of the visitor becomes more significant in a South Asian context, where the idea of a museum, since its colonial introduction, has been involved in a double translation: one for the (post)colonial authorities and another for the local public — past and present”.

The presentation of objects is also arbitrary. The display cases are either jam-packed with objects or are disproportionately empty (Figure 4.22). Particularly, large architectural wood work pieces, which are permanently attached to the walls, all over the museum, have no relation to their surrounding exhibits. These objects are either bolted higher up on the walls or affixed into the existing or additionally erected masonry (Figure 4.23). In addition to this, there are also no temperature or humidity controls in the display cases, even for organic objects.

The museum premises is disorienting for the visitors, due to the lack of an overall system for the presentation for the various sets of artifacts and a unified design language. There is no system of orienting the visitor through the museum other than the existing cacophony of signage, some of which is carried over from late last century.



Figure 4.22: Display Cases (2017)  
Indus Gallery (Gnd-E/04) (left), General Gallery (Gnd-W/01) (right)



Figure 4.23: Doorway permanently fixed in the Miniature Gallery (Gnd-C/01) (2017)

There is only one guide map of the museum, which labels and shows the locations of exhibition spaces. This map is placed outside the museum building next to the ticketing counter (Figure 4.24). There are no additional maps or literature available for the visitors to guide themselves through the building.

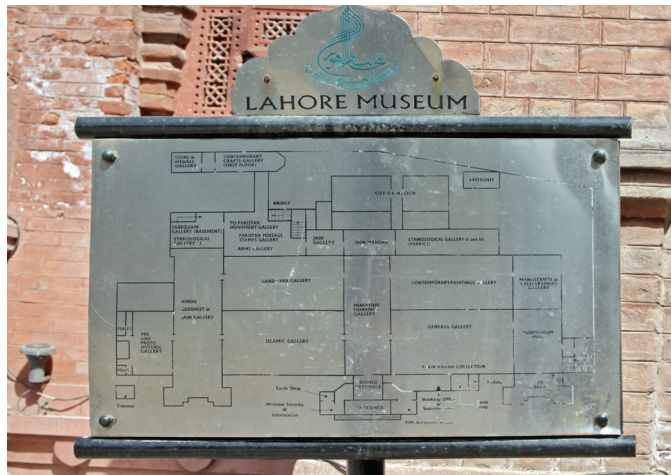


Figure 4.24: Museum Guide Map (2017)  
Outside the museum, next to the ticketing booth.

The signage inside the museum, showing the names of the galleries, is arbitrarily placed. There are four main types of signage that show the names of spaces.<sup>67</sup> The first type is stainless steel plates with black printed lettering hanging from the soffits of the door openings (Figure 4.25, No. 1). The second type are green, arrow shaped, hand painted (in white) signs. They are inscribed with the names of the rooms and are placed in door jambs (Figure 4.25, No. 2). The third type of signs, are integrated into the doorways themselves, with metallic lettering blocks (Figure 4.25, No. 3). The fourth type of signs, are hand painted directly onto the walls or doorways (Figure 4.25, No. 4).

The signages that provide information on the contents of the gallery spaces, are either too small, as in the case of the wooden plate in the Jain Gallery II (Gnd-E/17), or are of poor design and production quality, such as the printed sign on flex in the Islamic Gallery (Gnd-E/01) (Figure 4.26).

The confusion caused by the generalization of exhibits is compounded by the labels accompanying the exhibited objects, which are invariably simplified, vague, and in some cases incorrect, and ultimately misleading. The labels accompanying the objects are also unsystematic as there is no consistent methodology for the presentation of the objects (Figure 4.28). The changes in the historic, stylistic and religio-political framing of the information cards can be easily traced, firstly, by their graphical and material

<sup>67</sup> The other signs are variations of these four types.

styling, and secondly, by the reduction of detailed information concerning the objects. The labels produced at later dates, not only reduce information and generalize the nature of the objects, they also place a nationalist, religious and cultural tilt on the information, dividing objects belonging to the arts and crafts of Islam and of the non-Muslim, ultimately separating the exhibition narrative into *us* and the *other*.

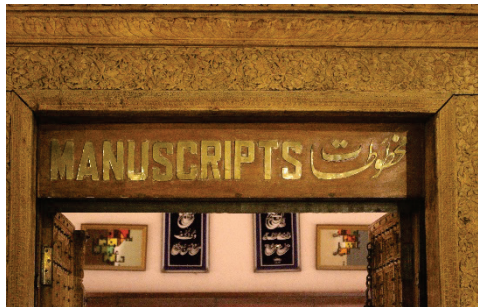
These changes in the framing of the narrative of certain objects coincided with the establishment of “the [Islamic] gallery [which the museum created with the] overt aim ...to provide a greater visual presence of Muslim arts and culture in the museum” (S. Bhatti, 2012, p. 104). Unfortunately, this problem of politicising the exhibits has permeated all parts of the museum.



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Figure 4.25: Wayfinding Signage (2017)

1. Stainless steel plate with black lettering, hung from the tops of doorways; 2. Small green arrow shaped signs with hand painted labels; 3. Large metallic lettering integrated into the doorway; 4. Hand painted labels, directly on the surface of the doorway.

In many cases, object labels do not include dates, while some carry broad time frames spanning a century. Objects not conforming to the nationalist narrative of the glorification of Islam, are ascribed to India, whereas the objects that fit neatly into the



narrative are attributed to Pakistan. Illustrating this, is a label attached to an architectural woodwork piece, permanently fixed in and dividing the Hindu and Buddhist gallery into two. It is dated, *19<sup>th</sup> century A.D. Pakistan*, as it conforms to a broadly Islamic architectural language (Figure 4.27). Other signs such as the label for a sword (a tool of war), is ascribed to both Pakistan and India. The date on the label spans the whole of the 20<sup>th</sup> century. For an object produced (and acquired) after the establishment of the museum, the date of its production could have been recorded with a lot more accuracy, or at least narrowed down, to within a quarter of the century or preferably a decade.

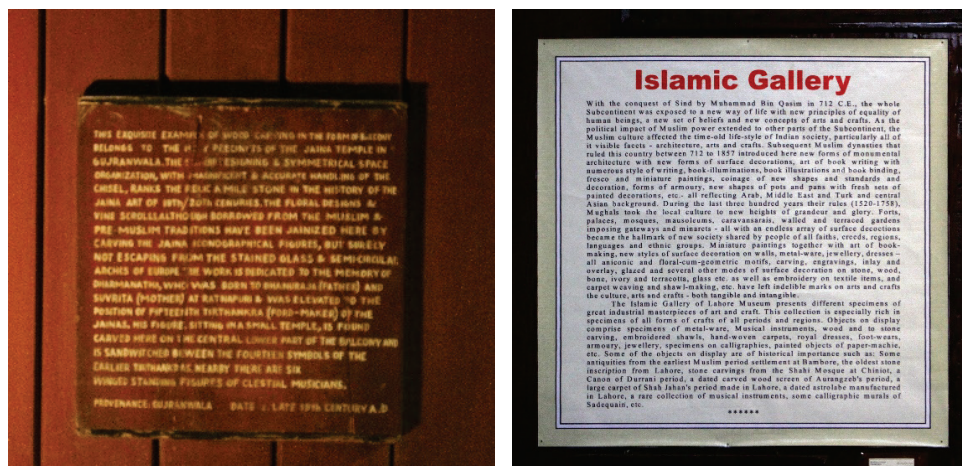


Figure 4.26: Gallery Labels (2017)

Labels providing information on the exhibits in a gallery.

Hand written sign on a wooden plate nailed to a wall in the Jain Gallery II (Gnd-E/17) (left), Sign printed on flex, pasted on the side of a display case in the Islamic Arts Gallery (Gnd-E/01) (right)



Figure 4.27: Object Labels – Ideological Issues (2017)

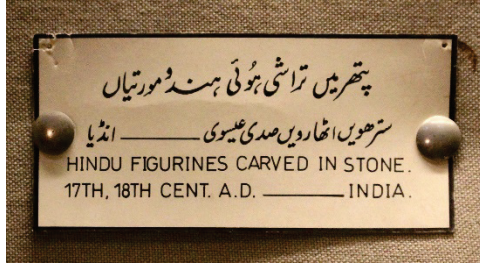
Label stating the location; Pakistan and dated 19<sup>th</sup> century (left), Label stating the location; Indo-Pak Subcontinent and dated 20<sup>th</sup> century (right)



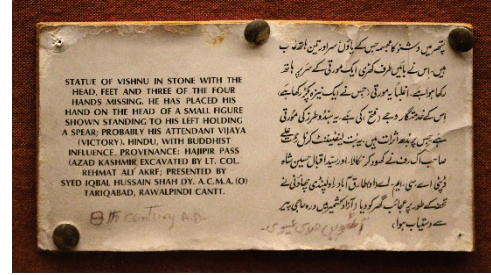
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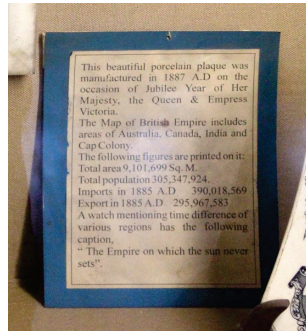
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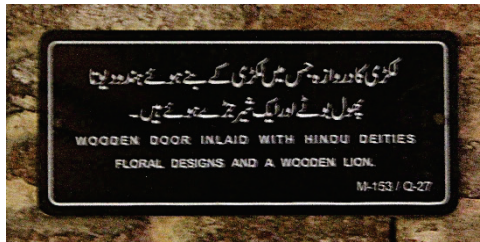
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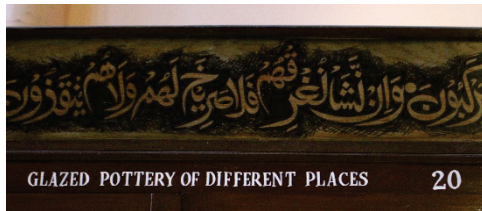
8

Figure 4.28: Types of Object Labels (2017)

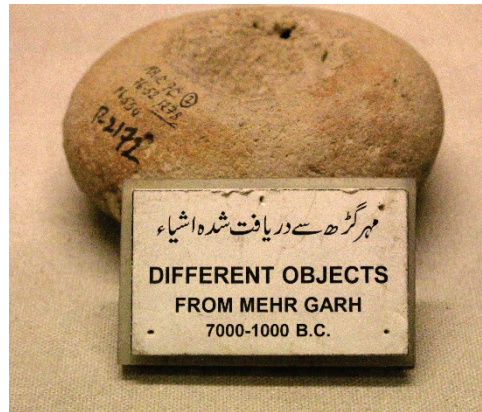
1. Handwritten on a wooden plate; 2. Freestanding wooden stand with hand written sign; 3. Hand written label on Urdu and English on paper; 4. Printed English and hand written Urdu label on paper; 5. Printed and mounted English label; 6. Printed Urdu label; 7. Acrylic plate label etched in Urdu and English; 8. Hand written label on wooden plate nailed to an exhibit.



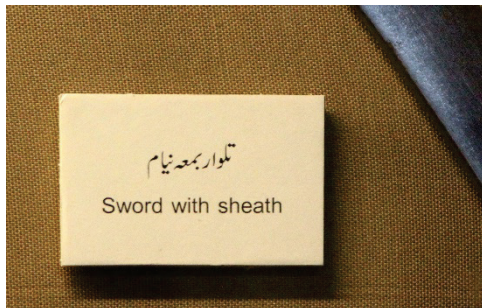
There is also an arbitrary selection of the language that the labels are written in. The older signs, produced under the British administration, are written only in English. The post-independence signage includes translations in Urdu. On certain labels, only English or only Urdu is used, where it is also evident by cross comparison that other labels from the same production period use both languages (Figure 4.28, No.5 & 6).



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Figure 4.29: Vague Labels (2017)

1. No information except the type of object; 2. No information except location of origin; 3. No information except name of object; 4. No information except owner of objects

Some labels seem to be placed next to the objects as a formality. These labels provide no information to the visitor about the objects. These can be divided into four categories. Firstly, there are labels that only name the *type* of object (Figure 4.29, No.1). The second kind of label only provides information about the location of origin of the object

(Figure 4.29, No.2). The third kind of label only provides the name the object (Figure 4.29, No.3), and fourth kind of label only provides information about the original owners of the objects (Figure 4.29, No.4). By providing incomplete information about the objects, the significance of the cultural property is lost on the visitor.

There are labels dotted all over the museum, which provide opinionated descriptions of objects. In some cases these opinions are ideologically driven, as stated above. In other cases, they are framed with political, religious, sexual or aesthetic biases.

Examples of this are most evident in the Hindu and Buddhist gallery, where objects seem to be much more open to interpretation, as in a Nepalese Buddhist ceremonial mask (Figure 4.30, No. 1), labeled *Terrible God*, as it does not conform to the local cultural sensibilities and is easy to demonize. The statuette of a Hindu goddess, has been framed in a misogynistic and sexualized fashion, by not referring to its origins but its suggestive form (Figure 4.30, No. 2). Other signs overtly impose upon the visitor that an object is *beautiful* (Figure 4.30, No. 3).

The least, but inexcusable, of the labeling problems is spelling errors. These show up everywhere in the museum and seem to draw more attention than the objects they accompany (Figure 4.31).

The curatorial, presentational and orientational problems described in the preceding section, directly affect the users' overall experience. The jarringly over packed, scattered, unorganized and free of a singular narrative, exhibitions have a negative effect on the visitor's ability to comprehend the exhibits, as Bhatti (2012, pp. 146, 151) says;

“Rarely is the Lahore Museum the temple of silent contemplation suggested by the rules of proper museum visiting habits in the West, where any divergences are referred to as I misconceptions. Instead, visitors at the Lahore Museum in a very striking manner directly implicate themselves as an essential part of the museum that is hard to ignore ... [In] this seeming state of chaos, misrecognition, and disinterestedness, the Lahore Museum's visitors are interpreting and creating meanings that address a set of requirements different from the museum's authorised knowledge and visual pedagogy”



1



2



3

Figure 4.30: Opinionated Labels (2017)

1. The mask is described as that of a 'Terrible God'; 2. The statue of a Hindu Goddess is only labeled as 'A beautiful female torso'; 3. No information is provided about the lacquer work except that it is 'beautiful'.

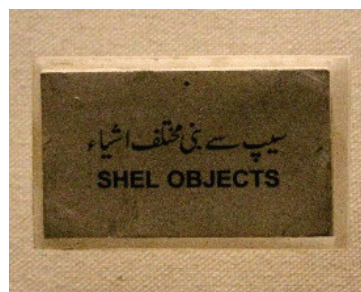
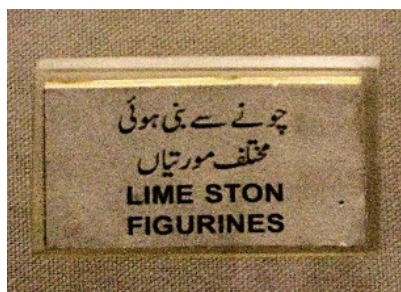


Figure 4.31: Object Labels – Spelling Issues (2017)

With a history of piecemeal expansion, the building now suffers from its large size and the fragmentation of its administrative and service areas, which are located in whatever space was available at the peripheries of the building. There is no dedicated circulation between these spaces and have to be accessed from either the building exterior, or through the exhibition areas.



The record keeping practices of the museum have deteriorated over time. Any files or documents, other than running paperwork, is deposited in the Record Room, on top of paperwork that has previously been discarded, lying partly in heaped piles on the record room floor (Figure 4.32). There is no listing available for these records.



Figure 4.32: Fst-S/04 – Record Room (2016)

The situation regarding storage of objects fares no better. The heavier objects (mostly from the Gandhara Collection), are stored on the floor of the ground floor Reserves Store. Their item numbers are handwritten on pieces of paper which are pasted onto the objects with glue (Figure 4.33). The smaller objects kept in the Reserves Storage on the first floor fare no better. The room has dampness problems due to leaking ventilators. The smaller objects are kept on shelves, unprotected, and are covered in thick layers of dust (Figure 4.34).



Figure 4.33: Gnd-W/04 – Reserves Storage (2016)



Figure 4.34: Fst-W/07 – Reserves Storage (2016)

#### 4.5. Assessments

The conservation proposals to be prepared for the building might include building modifications and reorganization of spaces. It is imperative that no changes be made to the building that undermine or have a negative impact on the cultural significance of the place. These issues are discussed in Article 2.6, of the *Guidelines to the Burra Charter: Conservation Policy*, which accompany the Burra Charter (Australia ICOMOS, 1999). Assessments also need to be made, on the impact made by unavoidable interventions (such as measures taken for structural stability), on the cultural significance of the place. Under these guidelines, it is recommended that the future conservation plan be prohibited from making certain modifications to culturally significant parts of the building fabric.

The design of the spaces (Gnd-N/01 & 02), (Gnd-E/01 – 04), (Gnd-W/01 & 02),<sup>68</sup> (Gnd-C/01), (Fst-N/06), (Fst-C/01) and (Thd-N/05) is a unified whole as a set of spaces. The arrangement of the group of spaces as well as their individual characters, defined by the use of various types of traditional ornamentations, expresses the museum's sense of place. The ornamentations, each of which is unique, also need to be conserved as individual objects.

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<sup>68</sup> Gnd-W/02 has a modified roof to which changes may be proposed in case it is required to preserve its cultural significance.

Any changes made to these spaces, all of which have been minor modifications,<sup>69</sup> need to be reverted to their original design, only allowing necessary changes to improve their functionality and make them conducive to contemporary museum and exhibition practices. As all of these rooms are either double or triple heightened spaces, it may be tempting to interject floor plates into the spaces to double the floor area. This should not be permissible under any circumstances.

Though the conservation of these spaces may call for the restoration of defused light from north facing windows, ventilators and skylights, necessary steps may be taken to integrate appropriate security apparatus in the otherwise large, unprotected, plate-glass windows. Minor modifications may also be allowed to featureless walls to make new connections between gallery spaces. These changes may be required for creating more flexibility, facilitating exhibition displays that may require additional space and regulating a structured flow of visitors.

As the roofs of the spaces (Gnd-E/01) & (Gnd-W/01) have historically been prone to leakage etc. and still introduce dampness to the abutting walls, their architectural detailing may be redesigned, in case a better drainage solution is available. Care should be taken that the saw-tooth trusses, supporting cast-iron columns and the wood-paneled soffits of the ceilings be retained, and that interventions have the least impact on the interiors of these spaces.

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<sup>69</sup> Except for the roof replacement in Gnd-W/02.





## **CHAPTER 5**

### **DEFINING A CONSERVATION PROCESS**

In this, the concluding chapter, the preliminary studies have been used to chart-out all tasks necessary for the complete process of conserving the Lahore Museum. All this information has been laid out as a flow chart that roughly conforms to the timeline provided for carrying out the tasks. In the chart, each process is shown as a box bearing the title and brief description of the task to be carried out. These tasks are numbered and correspond to following descriptions. The chart includes all the processes that have already been carried out and continues on to show the processes to be carried out later for the preparation of a comprehensive architectural conservation project for the building. The processes is grouped in two tiers. The primary grouping follows the Burra Charter Process, with a secondary, sub-grouping following project stages.

The prime task group concerning this thesis is Architectural Conservation Works, which is defined in the largest amount of detail. The remaining tasks have been identified as blocks of activities. The concerned experts of the particular discipline will be tasked with defining and elaborating the process within the relevant task blocks. The inputs and outputs of information required from these task blocks have been defined with relation to the other tasks.

The conservation management plan is beyond the scope of this thesis as it was not possible, given the available time, to acquire necessary input from all the stakeholders in addition to documenting such a huge building. The timeframe only allowed for a small sampling of tasks to be completed that would be necessary for the definition of the remaining studies to be carried out.

The chapter ends with a conclusion to the thesis which also proposes further studies and makes recommendations for future possibilities for broadening the horizons of the

museum, by collaboration with other organizations and the reorganization of the museums as an institution and a physical entity.

### **5.1. Definition of the Conservation Process to reach a Conservation Management Plan**

The Conservation Process for the Lahore Museum has been defined as a series of interconnected tasks sorted by their categories. The limits of this process have been identified through the course of this thesis. The conservation process has been particularized and elaborated using the Burra Charter Process (Australia ICOMOS, 1999) as its framework (Figure 1.14). The following tasks have been defined under the guidelines of *Articles 2 – 4, 6, 10, 12, 14, 23 – 28, 30 – 32 & 34* of the charter.

The conservation process has been elaborated as a flow chart (Figure 5.1), showing the relation between tasks to be carried out. The conservation process is accompanied by an Action Plan (Figure 5.2), which sets out an estimated timeline for these tasks to be completed in.

Each task group has been assigned a unique code and each task in the group, a number. See Table 4 for the conservation process coding system. These codes and numbers are used to identify tasks in both the conservation process flow chart and the action plan.

Each task produces information used by subsequent tasks, making the process interconnected, thus making all of the following tasks mandatory. There are three main task groups; 1. Architectural Conservation Works (CS), 2. Legal, Administrative and Managerial Works (LAM) and 3. Improvement of Building Function and Museology (MBF). **Each of these has sub groups with separate sequences of processes which will all be carried out in parallel.**

Within the group, *Architectural Conservation Works*, the sub groups are Architecture (CSA), Historical (CSH), Material Analysis (CSM), Structural Analysis (CSS) and Mechanical Systems, which are further subdivided into Water and Sewage (CSW), Climactic Control (CSC), Lighting (CSL) and Security Systems (CST).

Within the group, *Legal, Administrative and Managerial Works*, the sub groups are Administration (LAMA), Users (Experts and Visitors) (LAMU) and the Ministry of Culture / Government (LAMG).

Within the group, *Improvement of Building Function and Museology*, the sub groups are Museum Collection (Objects) (MBFC) and Museology & Functional Aspects (MBFM).

This chapter will describe each task, all of which are listed and numbered by their task groups. The descriptions will elaborate on the following; what is the nature of the task, who is responsible for it, how will it be carried out, where will it be performed, why is this task necessary, and when does this task have to be completed.

The conservation process and action plans would organize the activities, to be carried out by experts of all concerned disciplines, within a single process, set within an acceptable timeframe. This process would allow for all tasks to be performed as efficiently as possible, taking advantage of multiple groups of experts carrying out interrelated works. The integrated process would minimize redundancy in work and loss of time while setting out a clear directions for a research based reorganization of the museum.

The process for the conservation of the Lahore Museum has to start with the museum administration's decision on engaging conservation experts. The preparation of the process of the conservation and action plan for the Lahore Museum starts, when the administration engages in consultation with a team of conservationists.

#### 5.1.1. *Legal, Administrative & Managerial Works*

This task group consists of tasks related to the management of the institution and the relationship between its users groups. There are three broad sets of users. Firstly, there is the museum Administration, which includes the Directorate with the oversight of the Board of Governors, the office staff and the security staff. Secondly, there is the Experts group, which includes Archaeologists, Historians, Researchers, Conservators and Museum Guides. Lastly, there are the General Visitors and Educational Tours (from schools etc.).

#### 5.1.1.1. Museum Administration

This subgroup is composed of tasks related with administrative functions and museum personnel. These tasks are primarily to be completed by the museum staff, with some tasks requiring external input.

**LAMA 2**      *Meetings organized by the museum administration for development of better policies / processes.*

The first meeting is called by the Directorate of the Lahore Museum for the preparation of an integrated, multidisciplinary conservation process and action plan. To initiate the program for the conservation of the museum, the museum directorate invites experts to discuss the scope and goals of the project as well as for the listing persons who will be contributing to the project. The discussion entails the charting out the overall of the museum operations (LAMA 2) along with the preparation of a list of stakeholders (LAMU 1).

**AP 1**              *Preparation of the Conservation Process & Action Plan*

The preparation of the action plan and the development of the integrated conservation process starts with LAMA 1. Though this task is triggered by an administrative action, it has been placed outside the purview of the task group as LAMA 1 is itself part of the overall process.

**LAMA 2**      *Carry out Survey on Museum management practices along with its Legal and Administrative Setup and Financial Sources*

This is the first step to understanding legal and administrative workings of the museum. Tasks are handed down to the administrative staff to prepare reports on the operative mechanisms of the museum along with notes on their shortcomings and suggested improvements. The legal positioning of the institution would be determined along with the set of specific legislations that apply to it.

A report would also be prepared on the sources of funding, from various government agencies, available to the museum.

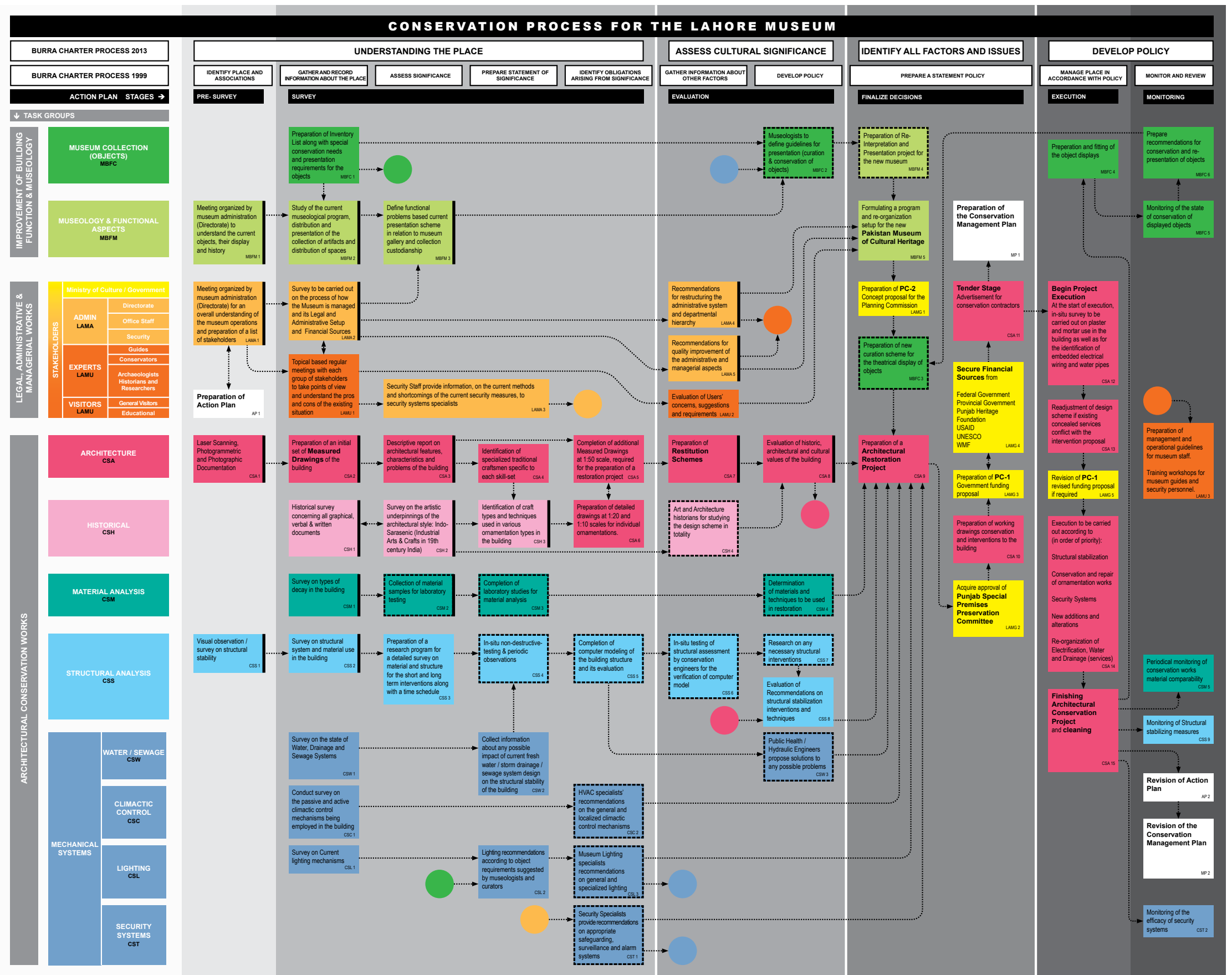


Figure 5.1: Flow Chart – Conservation Process for the Lahore Museum (2017)





## ACTION PLAN for the CONSERVATION OF THE LAHORE MUSEUM

[illegible]

Figure 5.2: Action Plan for the Conservation of the Lahore Museum (2017)



### **LAMA 3**      *Meeting with the Security Staff*

As part of the periodical meetings with stakeholder groups, regular meetings are to be held with the museum security staff. The staff will provide a report on the security protocols in place and all details related to surveillance.

Security of priceless movable cultural properties housed in the museum is of utmost importance. The security staff, has the most intimate knowledge of the museum, as they spend the most amount of time in it. They are present even after closing hours, thus their input for the requirements and the design of security systems is essential.

### **LAMA 4**      *Recommendations for restructuring the administrative system and departmental hierarchy*

Using the knowledge collected in the comprehensive reports prepared by each section of the museum staff (LAMA 2) and reviewing the funding and legal mechanisms that the museum falls under, the directorate, on approval from the board of governors, can present new requirements in from of a draft legislation, for reforming hierarchy that suits a modern museum.

This will facilitate interrelated higher educational institutes and other groups of independent experts to work with and contribute to the museum.

### **LAMA 5**      *Recommendations for quality improvement of the administrative and managerial aspects*

In the reports submitted to the directorate (LAMA 2), the administrative staff would make suggestions for improvement of administrative and managerial setups. The suggestions would be based on reducing redundant office practices and reforming procedures to facilitate different types of tasks.

#### **5.1.1.2. Users**

This subgroup is composed of tasks dealing with all types of museum users. These tasks are to be completed primarily by the administrative staff, taking in to account, suggestions from broad samples of these user groups.

**LAMU 1**      *Topical based regular meetings to be held with each group of stakeholders*

These meetings would be held with a large number of participants from each group, to determine the most frequent and broadly distributed criticisms on the functioning of the museum. Museum experts, such as Guides, Conservators, Archaeologists, Historians and Researchers as well as General Visitors, Tourists and institutions arranging Educational tours would all be consulted as separate groups. These meetings would take place periodically over an extended timeframe and carried out parallel to LAMA 2.

**LAMU 2**      *Concerns, suggestions and requirements suggested by user groups*

The recurring concerns pointed out by the each user group are tabulated, and compared with each other. This information would then be discussed and forwarded to the administration and the group of experts, particularly museologists charged with the re-interpretation and presentation program for the museum.

**LAMU 3**      *Preparation of management and operational guidelines for museum staff. Training workshops for museum guides and security personnel*

Suggestions and input received from the administrative staff on administrative (LAMA 4) and managerial (LAMA 5) reforms would be aimed towards providing training to the existing staff in the use of new systems, for the management and record keeping. These trainings would be provided by external, museum and / or software experts, who will develop and provide the Lahore Museum with the new procedures and softwares. Trainings would also be held to provide all staff members with the knowledge of new protocols and methods for dealing with museum objects, regardless of their everyday proximity to the movable cultural properties.

5.1.1.3. Government / Ministry of Culture

This subgroup is composed of tasks that have to be carried out to fulfil the requirements of the Ministry of Culture, Government of Punjab and the Federal Government. These

tasks will be completed jointly by conservation architects and the museum administration.

The legal framework that will dictate the future course of action is the Punjab Special Premises (Preservation), Ordinance of 1985 (APPENDIX B) under which the Lahore Museum along with the NCA, are protected buildings (listed as a single property). While the legislation does provide legal protection to the building, stating penalties for the unauthorized “alteration, ... renovation, demolition or re-erection” as well as for minor offences such as “destr[uction], break[age], damage, injur[y], deface[ment] or mutilate[ation] ... scribbl[ing], writ[ing,] engrav[ing] any inscription or sign” (“The Punjab Special Premises (Preservation) Ordinance, 1985,” 1985), it is fairly rudimentary and vague in its definitions and directives related to conservation. It does not dictate any specifics apart from the formation of *committees* responsible for the steering of the legislation, and that “[t]he Government may frame [any] rules to carry out the purposes of this Ordinance” (“The Punjab Special Premises (Preservation) Ordinance, 1985,” 1985).

With respect to this specific case, i.e. the Lahore Museum, the law places only a few restrictions on conservation activities; the prime restriction being that the conservation plans, in general, and a restoration project, in specific, would have to be approved by a committee set up under the ordinance. This detail has never come into play at any time that an addition or alteration has been made to the building, and will likely not be a hindrance to a well detailed comprehensive conservation process.

#### **LAMG 1**      *Preparation of PC-2, Concept proposal for the Planning Commission*

Once the museum authorities have prepared a concept plan for the new organization of the museum covering all relevant aspects, a PC-2 document will be prepared. This is a *concept plan* that is presented to the Planning Commission of Pakistan for approval. The document would also identify additional funding resources besides the government. This may include NGO's and other donor agencies.

This document will be prepared jointly by the group of musicologists, conservation architects and the museum administration and submitted to the Federal Government.



**LAMG 2**     *Acquire approval of Punjab Special Premises Preservation Committee*

Once the Architectural Conservation project has been prepared, preliminary plans of the conservation approach and project outcomes will have to be presented to the *Committee of Experts* appointed under the Punjab Special Premises (Preservation), Ordinance 1985.

Once this committee has approved the preliminary design scheme, detailed work on the project can begin.

**LAMG 3**     *Preparation of PC-1 Government funding proposal*

When the detailed drawings for the architectural conservation project (CSA 9) will have been prepared, a bill of quantities will be prepared by quantity surveyors under the guidance of the consulting conservation architect. This bill of quantities would be integrated into a PC-1 document, which is a detailed cost estimate presented to the Planning Commission of Pakistan for approval.

This document will be prepared jointly by the conservation architects and the museum administration and submitted to the Federal Government.

**LAMG 4**     *Secure Financial Sources from the government and donor agencies*

Along with the preparation of the PC-1 (LAMG 3), finances from any number of sources such as the Federal Government, Provincial Government, Punjab Heritage Foundation or the National Fund for Cultural Heritage, must be secured and presented to the government.

These additional sources of funding, apart from the government, would have to be framed as partial projects concerning conservation and research works. These will have to be prepared by the museum authorities and negotiated with the agencies directly.

**LAMG 5**     *Revision of PC-1, Revised funding proposal if required*

In the case that changes have occurred to the initial design proposal based on previously unknown factors presented by the site, a revised PC-1 (LAMG 3) proposal would be prepared and re-submitted to the Federal Government for the approval of a revised budget.

These changes to the document would be made by the conservation architects and approved by the museum authorities.

#### 5.1.2. *Museology & Functional Aspects*

This task group contains tasks related to the museology, presentation and curation of the museum. These tasks are primarily carried out by museologists.

##### **MBFM 1**     *Meeting organized by museum administration (Directorate) to understand the current objects, their display and history*

To start the process to understand the museological program of the Lahore Museum, a meeting is called by the museum directorate to discuss the goals and the scope and contributors to the project. This is the starting point from which a multi-disciplinary survey of the museum begins.

##### **MBFM 2**     *Study of the current Museological Program*

A team of museologists, cultural anthropologists, historians, archaeologists, designers and architects, start work by carrying out a general survey of the current state of the museum, its display, the distribution and presentation of the collection of artifacts and the distribution of its spaces.

##### **MBFM 3**     *Definition of Current museological problems*

A team of museologists, cultural anthropologists, historians and archaeologists along with architects use the information collected in MBFM 1 to identify the ideological and cultural interpretations of the objects by the museum and by its visitors.

##### **MBFM 4**     *Preparation of Re-Interpretation and Presentation project*

Once a new direction for the interpretation and presentation of artifacts is decided upon, along with the display of the building itself, museologists, conservationists, lighting and security specialists collectively discuss new exhibition possibilities.

## **MBFM 5**      *Formulating a new program*

Museologists, prepare a program for the new *Pakistan Museum of Cultural Heritage*, while highlighting the features of its collection, to present the comprehensive reading of the cultural heritage of the territories that form present day Pakistan.

### *5.1.3. Museum Collection – Objects to be Exhibited / Stored and their conditions*

This task group contains tasks related to the museum's collection of artifacts (movable cultural properties). These tasks will be carried out by archivists working under the guidance of the team of museologists and conservationists.

## **MBFC 1**      *Preparation of Inventory*

There is a need for a detailed inventory of the entire collection of the Lahore Museum. This should be carried out by creating a digital database that cross-connects all related bits of information, relating to an item. This task would be carried out by a team of archivists.

### *Software*

A specialized database software would have to be programmed for the management of data. This would keep detailed information about the location, custodianship and exhibition status of each object, along with all other historic and artistic details as well as the significance of the object, linking to all of the available relative literature in digital form.

### *Digital documentation*

Firstly, the objects would have to be documented / photographed / scanned from all angles using a high resolution digital camera. In the case of flat objects such as paintings and photographs etc. the object should be scanned at ultra-high resolution 1200 – 2400 dpi or above (color corrected for examination by art experts). In the case of three dimensional objects such as brass or stone figurines or reliefs etc. or sculptures in general, the objects should be laser scanned with hand held laser scanners for high

precision photo-textured models. In case laser scanners are not available, the objects would be modeled in 3d using digital- photogrammetry – dense surface modeling.

### *The Gandhara collection*

Digital copies of the collection should act as proxies for the actual items while researchers are carrying out studies or curating objects. This would also allow the cross-comparison of these objects with similar objects in other parts of the country<sup>70</sup> and the world. This is particularly important in the case of the Gandhara collection which now spread out over a multitude of museums around the world. Part of the Gandhara collection along with half of the museum's collection was sent to East Punjab<sup>71</sup> in 1947. This collection now rests in the Government Museum and Art Gallery in Chandigarh, India. No detailed inventory has been made of both collections in unison. These two, along with parts of other collections in the various museums and collections in Britain as well as the United States of America would present a holistic picture of this cultural heritage stock.

Backups for all the data should be kept with multiple copies in the museum servers as well as at least one physical copy of the data in a different location. This can be facilitated by the Punjab I. T. Board, a government department specializing in Information Technology.

### **MBFC 2**      *Guidelines for Presentation*

Museologists would prepare guidelines for the presentation of artifacts. These would try to eliminate the biases present in the current framing of some exhibits.

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<sup>70</sup> Large caches of Gandhara objects are part of the collections of Peshawar Museum and Taxila Museum. Gandhara objects are also part of the collections of other national museums as well as in private hands.

<sup>71</sup> At the time of India's independence from the British Empire, two major provinces of British India, Bengal and Punjab, were partitioned into two each. Lahore, the capital of the Punjab fell in West Punjab which became part of Pakistan. East Punjab became part of independent India. (S. Bhatti, 2012, p. 99) The collection of the Lahore Museum was arbitrarily halved and transferred to East Punjab. This collection now rests in the Government Museum in the city of Chandigarh, the new capital of Indian Punjab. (The new museum building was designed by Le Corbusier as was the plan for the city)

This process would also include guidelines for the display and conservation of artifacts along internationally recognized standards and contemporary museum theory. For this process options are discussed with and recommendations received from lighting (CSL 3) and security specialists (CST 1).

**MBFC 3**      *Preparation of new Curation Scheme*

Once the concept paper has been approved by the Planning Commission of Pakistan, musicologists would prepare a curation scheme according to the new museum program (MBFC 4). These curation schemes and exhibition proposals would be worked on by museologists along with the architects, who will make necessary adjustments to the designs and alterations to the building to facilitate as much flexibility as possible, for the current, as well as future curation and exhibition schemes.

**MBFC 4**      *Monitoring of the state of conservation of displayed objects*

Once the conservation of the building, along with the construction of displays has been completed, museologists carry out the fitting of displays, according to the new curation scheme.

**MBFC 5**      *Monitoring of the state of conservation of displayed objects*

Once the new museum is operational, periodical checks would be made, by a team of conservationists and museologists, to check the environmental conditions, and the state of conservation of the exhibited and stored artifacts, and present periodical reports in case any objects need special attention.

**MBFC 6**      *Recommendations on Conservation and Presentation of Objects*

If any objects are found to be in a poor state of conservation, they would be referred to the conservation laboratory for their immediate attention. This would be followed by a review of the curation scheme and an exhibition re-design.

#### 5.1.4. *Conservation Works*

This task group contains tasks related to all the programs associated with conservation works. The research and technical studies for conservation works will be divided into five subgroups namely; Architecture, Historical Research, Material Analysis, Structural Analysis, and Mechanical Systems consisting of Water / Sewage services, Climatic Control, Lighting Systems and Security Systems. All of these task groups and sub-groups would be handled by their area specialists (experts).

All the sub-groups work in unison, and also take inputs from all the other task groups, culminating in the plan for the reorganization of the museum and the preparation of an architectural conservation project. The redesign of the museum is evaluated at every stage till the project's completion, after which periodical monitoring mechanisms are established as part of the conservation management plan.

##### 5.1.4.1. *Material Analysis*

This subgroup is composed of tasks dealing with the material use in the building along with analysis of the problems causing their deterioration. These tasks are to be completed primarily by Material Scientists.

##### **CSM 1**      *Survey on types of decay in the building*

A visual survey is carried out to map out the types of material decay found in the building. This survey has been presented in in Section 3.4 of this thesis.

##### **CSM 2**      *Collection of material samples for laboratory testing*

Following the traces marked during the visual observations of decay forms, material samples are collected from different parts of the building fabric, that show signs of various deterioration types.

These samples are run through physico-chemical tests in the laboratory to identify the strength and durability of the materials along with the possible causes of deterioration.



### **CSM 3**      *Completion of laboratory studies for material analysis*

Once the material scientists have carried out all the required tests, the physico-mechanical properties determined by the tests are provided to conservation engineers for use in the structural modeling of the building.

### **CSM 4**      *Determination of materials and techniques to be used in restoration*

The conclusions from the material testing (CSM 3), are used to test possible material repair and protection methods and their material compatibilities, in the laboratory.

Once the repair methods are decided, these techniques are tested on a small portion of the building fabric under simulated weather cycles etc. to assess their effectiveness and durability, after the success of which, the techniques are recommended to be used wherever required.

#### 5.1.4.2. Structural Analysis

This subgroup is composed of tasks dealing with the structural stabilization of the museum building. These tasks will be completed primarily by conservation engineers.

### **CSS 1**      *Visual observation / survey on structural stability*

Signs of structural distress on the building, such as deflections and structural cracks are pinpointed and documented.

This survey has been presented in in Section 4.4.1 of this thesis.

### **CSS 2**      *Survey on structural system and material use in the building*

A mapping is prepared illustrating the materials used in the construction of the building. This documentation is carried out by conducting a visual survey. The structural system of the building is exposed, thus no probing needs to be carried out in the initial phase.

This survey has been presented in in Section 3.4 of this thesis.

**CSS 3**      *Preparation of a research program for a detailed survey on material and structure for the short and long term interventions along with a time schedule*

Conservation engineers would prepare a detailed program for the structural analysis process for the Lahore Museum building. The process would take cues from the observations in CSS 1 and CSS 2, to chart out all the necessary processes required to support the structural analysis process.

**CSS 4**      *Conduct structural stability analysis & Periodic observations*

Conservation engineers would be working in parallel with the CSM 3 and using the outcomes of CSS 4 to define areas of periodic monitoring of structural problems, identified in the visual survey CSS 1, along with a set of non-destructive tests. This task would be carried out on-site, to gather data to be used in the structural modelling of the building.

**CSS 5 & CSS 6**      *Completion of computer modeling of the building structure and its evaluation and on-Site testing of structural assessment by conservation engineers for the verification of the computer model*

Structural engineers create a computer based structural analysis model of the Lahore Museum. This model uses data gathered by conservation engineers and material scientists during the tasks CSM 3 and CSS 4.

The model is used to identify the areas of stress and strain on the building, when it is subjected to various types of stability tests using varying environmental conditions such as weak soil conditions, earthquakes etc.

The computer model can be said to be potentially accurate if it identifies correctly, the problems areas that have been observed visually. This model is then used to identify probable causes of the problems, which have already been observed, as well as identify other areas that may require attention or may present problems not visible to the naked eye.

The potential types / areas of structural problems indicated by the structural analysis model (CSS 5) are subjected to additional non-destructive tests by conservation engineers for its confirmation / accuracy.

**CSS 7 & CSS 8**      *Research on any necessary structural interventions and Evaluation of Recommendations on structural stabilization interventions and techniques*

Once the structural problem areas have been isolated (CSS 6), the structural analysis model is used to test the effectiveness of various structural stabilization options before the most suitable ones are considered.

All possible structural stabilization measures are considered in light of the cultural values embodied in the building. Conservation architects define the threshold of allowed interventions to ensure that there is minimum intervention to the building fabric and that the values of cultural significance embodied by the building are not weakened.

#### 5.1.4.3. Mechanical Systems

This subgroup is composed of tasks dealing with the various kinds of mechanical systems to be used in the museum. The subgroup is further subdivided into four sections dependent upon the task specialists.

The first section of the task subgroup is concerned with Water and Sewage works. These will be carried out by public health engineers. The second section is concerned with Climatic Control Systems. These will be carried out by HVAC professionals. The third section is concerned with Lighting Systems. These will be carried out by electrical engineers and lighting specialists and lastly, the fourth section is concerned with Security Systems. These will be carried out by security and surveillance systems specialists.

## *Water / Sewage*

**CSW 1, CSW 2 & CSW 3** *Survey on the state of Fresh Water, Drainage and Sewage Systems, collection information about any possible impact of current fresh water / storm drainage / sewage system design on the structural stability of the building and the presentation of Public Health / Hydraulic engineering solutions for any possible problems*

Public health engineers would be tasked with mapping out the current arrangement of fresh water plumbing and sewage lines. In the museum building, these services have been installed incrementally, over time, in an arbitrary fashion, and no complete documentation of these services exists at this time.

During the survey for mapping out the services (CSW 1), areas where the building fabric shows signs of dampness should be probed for plumbing and sewage leaks. This information is crucial as it affects the bearing capacity of the soil. These areas would have to be earmarked for carrying out soil tests (CSM 2).

Engineers would propose solutions to the storm drainage problems of the site along with proposing a comprehensive plan for plumbing and sewage works. This will be discussed with and provided to the conservation architects for use in the conservation design project.

## *Climactic Control*

**CSC 1** *Conduct survey on the passive and active climactic control mechanisms being employed in the building*

Climactic control and air containing experts would carry out an analysis of the current ventilation system employed in the museum, by means of electronic sensors to assess the temperature variations over the course of a day and night, versus the temperature differences created by the operation of the mechanical systems (ventilation extractors) currently employed.

These measurements would be carried out over an extended period. Lahore has a very high temperature differential over the course of the year as average temperatures range between 5°C to 45°C. Lahore also experiences a humid season after the heavy monsoon rains when humidity levels can reach up to 99%.

**CSC 2**        *HVAC specialists' recommendations on the general and localized climactic control mechanisms*

Museums are places that require tightly controlled environments. The temperature and humidity levels have to be maintained according to the nature of the space and artifacts being displayed.

The information gathered in CSC 1 would be evaluated against the requirements for the conservation of displayed artifacts. Following this, recommendations would be made to the conservation architects on the available options for the required localized and general climactic and humidity control and air-conditioning systems.

*Lighting*

**CSL 1, CSL 2 & CSL 3**        *Survey on current lighting mechanisms, lighting recommendations according to object requirements suggested by museologists and curators to lighting specialists and recommendations on general and specialized lighting by museum lighting specialists*

Lighting experts would examine the current lighting methods employed by the museum, measuring their luminance, electricity consumption, as well as the levels of UV light, as fluorescent tube lights are currently used in most display cases.

Electrical engineers and lighting specialists prepare a list of available lighting options that conform to international museological standards and requirements provided by the team of museologists MBFC 1.

After evaluation of museological and energy requirements, recommendations for the most appropriate lighting options are made to the architectural conservationists and the team of museologists and curators.

## *Security*

### **CST 1**      *Security Specialists to provide recommendations on appropriate security, surveillance and alarm systems*

The security experts would present their recommendations and specifications for updating the museum security apparatus after receiving inputs and discussing issues regarding the latest available security and surveillance equipment and technologies with the museum security staff (LAMA 3).

There should be compatibility between lighting and security systems proposed in CSL 1, CSL 2 & CSL 3. The lighting mechanisms should complement security systems so that there are no blind spots in the surveillance systems as well as be under the control of the security staff when required.

#### 5.1.4.4. Historical

This subgroup is composed of tasks dealing with the history of the Lahore Museum. These tasks are primarily to be completed by Architecture and Art Historians.

### **CSH 1**      *Historical survey concerning all graphical, verbal & written documents*

A literature survey is prepared by historians by collect all available sources of historic written material available. In addition to this, archival records are searched for building documents and photographs etc. General history books are also pored over to find any historical or literary references of the building.

### **CSH 2**      *Survey on the artistic underpinnings of the architectural style: Indo-Saracenic*

Architectural and Art historians find the roots of the artistic milieu in which the cultural property has to be framed. This helps in defining the cultural significance of the place.



**CSH 3**      *Identification of craft types and techniques used in various ornamentation types in the building*

This task is carried out in parallel with the identification of craft types found in the museum building (CSA 4). Historians carry out literature surveys to identify the sources and define the significance of individual craft types identified in the building.

**CSH 4**      *A study of the design scheme in totality – Art and Architecture historians*

This task is carried out in parallel with the preparation of restitution schemes (CSA 7) for the building. Very much like the restitutions, the architectural and art historians study the building as a single entity with all its harmonic and discordant properties. This helps in defining the character of the place and its social values.

5.1.4.5. Architecture

This subgroup is composed of tasks dealing with the Architectural Conservation Process and project of the museum. All of these tasks are to be completed by Conservation Architects.

**CSA 1**      *Laser Scanning, Photogrammetric and Photographic Documentation / Survey*

The documentation of museum is carried out using indirect measurement techniques such as laser scanners and photogrammetry as these minimize the time required on site. Any missing information is then documented using direct measurement.

The detailed process for this task is presented in the Section 1.2.2 of this thesis.

**CSA 2**      *Preparation Measured Drawings*

The set of drawings prepared for the purposes of this thesis are the minimum number of drawings required for the architectural / spatial and structural understanding of this building.

Drawings of all plans have been completed at 1:50 scale. The Eastern and Southern elevations have also been drawn at 1:50 scale with the Northern Elevation drawn at 1:100 scale. The western elevation will have to be drawn after it is laser scanned from within the NCA campus, though this is only a blank wall with a few recessed sections in the brickwork. The northern elevation can be redrawn during the drawing completion phase. The five sections cut in the north-south direction, looking west, and one section cut in the east-west direction looking south have all been also drawn at 1:50 scale.

The processing of the laser scans took a period of six months. The finished point-cloud model is capable of outputting any amount of scaled orthographic photos as may be required in the future.

The detailed process for how this process was carried out is presented in Section 01.2.2 of this thesis.

### **CSA 3**      *Descriptive report on architectural features, characteristics and problems of the building*

A report is prepared by collecting and describing all manner of relative observations about the exterior and interiors of every space in the building. This information is then used for the analysis of values and problems facing the building.

This report is presented in Chapter 3 of this thesis.

### **CSA 4**      *Identification of Craftsmen*

Using the information gathered in CSA 3, the various kinds of craft types used in the construction and ornamentation of the museum building will be identified. Once the persons continuing the practice of these traditional craft skills are located, a directory will be prepared listing these craftsmen.

This workforce will become a repository as a workforce as well as experts for troubleshooting on these crafts techniques.

**CSA 5**      *Completion of additional Measured Drawings at 1:50 scale*

The set of drawings to be completed should contain sectional elevations that show every vertical surface in the building. Additionally, flooring plans and reflected ceiling plans would also have to be produced.

**CSA 6**      *Preparation of detailed drawings at 1:20 and 1:10 scales*

This task is to be carried out in parallel with CSA 5. Drawings for doors, windows, ventilators and other architectural elements apart from ornamentation details should be prepared at 1:20 scale.

Details of individual ornamentations, such as carved wooden ceilings, ornamental carved wooden paneling, *pinjra work* and relief work in plaster of Paris, should be drawn at 1:10 scale.

Following this, classifications and ordering of ornamentation, and architectural element typologies should be prepared.

**CSA 7**      *Preparation of Restitution Schemes*

Restitution schemes of previous states of the museum building need to be drawn based on the physical traces found in the building fabric. This information will be combined with and framed through historical research, using written narratives about the building along with photographs, archival official documents and reports, to produce plans of older states of the building as accurately as possible.

**CSA 8**      *Evaluation of historic, architectural and cultural values of the building*

Conservation architects along with art and architecture historians define the cultural, aesthetic and scientific values of the place. The restitution schemes (CSA 7) prepared, are instrumental in determining the values of the place. The definition of values will assist in defining the appropriate, minimal, interventions to be made to the building fabric.

## **CSA 9**      *Preparation of an Architectural Conservation Project*

All previous tasks in the Conservation Works task group lead up to this task. Additional input is received from the Museology and Museum Collection task groups. All the knowledge bases contribute to the decision making process for the architectural conservation design project. The restitution schemes (CSA 7) and structural (CSS 5) and material assessments (CSM 3) of the building also facilitate in the identification of appropriate interventions to be proposed, during the architectural conservation design phase.

This design will be further refined in subsequent tasks, with input from administrative and governmental authorities as well as financial contributors.

## **CSA 10**      *Preparation of working drawings conservation and interventions to the building*

Once the conservation design project has been approved by the Special Premises Preservation Experts Committee, detailed working drawings along with a bill of quantities for the work to be done, will be prepared by the architectural conservationists.

## **CSA 11 & CSA 14**      *Preparation of Tender Documents along with a Prioritized list of Conservation Works to be carried out*

Once the PC-1 has been approved and funding for the project has been secured the architectural conservationists, prepare a set of tender documents for an open invitation for contractors to submit their bids for the project. Expertise in the contraction work of conservation projects would be a prerequisite for selection.

The conservation / construction work is to be carried out on site according to the following priority list.

- i.        Structural stabilization
- ii.       Conservation and repair of ornamentation works
- iii.      Review, reorganization and installation of Security Systems
- iv.       Reconstructions, alterations and new additions to be constructed
- v.        Re-organization of Electrification, Water and Drainage (services)

**MP 1**        *Preparation of Conservation Management Plan*

A conservation management plan should be prepared taking into account, points of view of all stakeholders in the conservation, presentation and administration and management process.

**CSA 12**        *Begin Project Execution*

The contractors start work on site once the go-ahead has been given by the museum administration. The work starts with investigations on site that might involve partial dismantling of sample areas to check, confirm or deny speculations made about questionable building fabric issues. If nothing irregular is found, the work moves on according to plan.

**CSA 13**        *Readjustment of design scheme if existing concealed services conflict with the intervention proposal*

If after the start of the conservation / construction work on site, any irregularities found that interfere with the initial design scheme, the architectural conservationists readjust the design to according to the conditions on site.

**CSA 15**        *Completion of Architectural Project & Cleaning of the Building*

Once the work on site is complete, the contractor cleans the site and fixes any minor flaws in the conservation work. At the end of this step, the work is declared complete and the building is handed over to the authorities after a thorough joint inspection.

**CSS 9**        *Monitoring of Structural stabilizing measures*

After the completion of the architectural conservation project (CSA 15), the structural stabilization measures used in the building would be monitored periodically to check their effectiveness and identify any problems that may arise from the interventions made to the fabric during conservation work.

**CSM 5**      *Periodical monitoring of conservation works material comparability*

The material conservation methods used are periodically checked by material scientists for their effectiveness and compatibility with the building fabric. In case the materials do not react in the predicted manner, alternative methods are tested in the laboratory. After which they are tested and applied on site.

**CST 2**      *Monitoring of the efficacy of Security Systems*

The security experts would monitor the surveillance and security systems to see if they have any shortcomings or if they are of detriment to the conservation of objects displayed within secure displays. In which case they would present solutions to these problems with alternative options.

**AP 2**      *Revision of Action Plan*

The conservation process and action plan would be periodically revised. The revised action plan would set out goals for the next phase of the museum's development.

**MP 2**      *Revision of Conservation Management Plan*

The management plan should be revised at a time period set by the Revised Action Plan AP 2, according to any new concerns that may require changing the scope and details of the existing management plan.

## **5.2. Conclusion**

This thesis has produced a comprehensive process for the conservation of the Lahore Museum. Though a clear direction has been laid out for the steps to be taken to achieve this, there is still much that remains to be done. The formulation of the conservation process is based on a partial documentation of the building. The process chart and action plan, elaborated in this chapter, has to be extended to include all the sub processes that are to be defined by experts from other disciplines. The conservation



process also falls short of the preparation of a conservation management plan, which is the next logical step to be taken.

#### *5.2.1. Further Studies*

Though, all completed works as well as the ones to be carried out in the future have been listed in the conservation process, there are a few pre-conservation-studies that need to be carried out add further detail to the action plan.

The first of these sets of tasks is the Structural Analysis. This has already been described in a moderate amount of detail. The second essential task is Material Analysis. This set of tasks has also been described in moderate detail. These works are essential as they will provide essential details of the physico-mechanical properties of various materials, to be used in the structural analysis calculations. It is mandatory to carry out these studies before the preparation of the architectural conservation project, which cannot be prepared without the knowledge of material and structural constraints.

The third set of tasks is to develop an Inventory for the museum's collection. The current curatorial scheme has not been intentionally arranged. Most of the collection is displayed in the space available, while the rest lies in storage. For systematically organizing and curating the museum, a task that will accompany the preparation of the architectural design, it is necessary to have an integrated database that facilitates the process highlighting associations between various artifacts. With the predetermination of exhibition layout options, spatial requirements can be correlated and expedited during the design phase.

The last and most important task to be carried out in the future, is the preparation of the management plan. For this, all stakeholders have to be involved in the decision making process. How the museum sees itself in the future, and how it is seen by visitors needs to be understood thus all user groups should provide input as to what their future requirements are, regarding the museum.

The management plan can then be prepared, so that all stakeholder groups can benefit from the reorganization of the museum, and from their future and regular input. Monitoring mechanisms can also be instituted as part of the management plan. These would be carried

out at pre-determined intervals according to plan. The management plan itself would be revised periodically according to input that it receives from the various stakeholders.

#### 5.2.2. *Recommendations*

##### **Expansion towards the South**

Currently, the museum is overcrowded with exhibits, with very little space and facilities to store the reserve collection, according to appropriate museum standards. The museum will eventually require complete reorganization.

The changes made to the museum building since 1967 have invariably limited possibilities for further expansions as well as reorganization. The empty space at the south of the museum lot has been taken up by a number of unimportant structures, such as the auxiliary block, the servant quarters and the mosque, all of which can be relocated. Expansions beyond the office spaces situated in the south veranda are currently impossible as that would cut access to light and ventilation to all of those spaces. Partial or total removal of these spaces may be considered to facilitate the construction of a more appropriate expansion.

##### **Integration with the Tollington**

The Tollington, situated in the city block to the east of the museum, is also a property owned by the museum, along with the large lot that it sits in. The building is used to hold craft exhibitions every year but has not been fitted with a permanent exhibition even after its restoration and designation as the *City Heritage Museum*, due to the lack of an appropriate security apparatus.

This building would be fitting as an expansion to the current museum premises. There is a possibility of an underground connection between the eastern section of the museum and the Tollington, provided the city municipality (CDGL)<sup>72</sup> and the Lahore Development Authority (LDA) allow for it.

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<sup>72</sup> The City District Government, Lahore's offices are situated in the Lahore Town Hall.

In such case, it is only fitting that the large, architectural woodwork and stonework pieces etc. be relocated to the building, as this was the site of the 1886 exhibition, their original display. These items accompanied with more appropriate exhibits, to be decided by museologists, may also present lesser security risks owing to their bulky nature.

The design of the future master plan of the museum should, under any circumstances, include this lot and building with appropriate connections between them.

### **Eastern and Western Verandas**

The eastern and western verandas were integral parts of the building façades. The modifications to both structures, has had a negative impact on the architectural design of the building.

The conversion of the eastern veranda into a block of toilets has erased almost all of the architectural detailing on the eastern façade. This face of the building is now covered with drainage and freshwater pipes and its walls are arbitrarily punctured with mismatched window openings. Effectively, the building does not have an eastern elevation anymore. This veranda should be restored to its original state to reverse the damage to the fabric which has also had a negative impact on its aesthetic value.

Though the western veranda still exists, it has been enveloped by an increasingly inward looking building. The removal of the structure encasing the veranda should be considered as a design option.

### **Collaboration with the NCA**

The western veranda was the conduit through which the art school was connected to the museum. The restoration of this design scheme will facilitate the re-integration of this mutually beneficial institutional relationship between the country's premier art school and best museum. This recommendation already shows promise, as the two institutions jointly signed a memorandum of understanding (MOU), in the year 2013.

## **Wazir Khan's Baradari**

Wazir Khan's *Baradari*, situated towards the south of the museum building within the lot of the Punjab Public Library is in a state of stasis and perpetual uselessness. The British period interventions to the building were stripped down and removed leaving the *baradari* vacant, the books housed within having been moved to the new building years before. It is currently used as a reading room by the visitors to the library.

The pavilion has been a bone of contention between the library and the NCA as the latter had requested to acquire the building for use as the college's miniature painting department.<sup>73</sup> The library has refused this proposal till date as it would mean the surrender of a large section of the library lot to be incorporated into the NCA's lot.

The use of the building as an intermediary structure between the three institutions may be a solution. This may facilitate a collaboration between the contemporary miniature painting department of the NCA and the museum, which would facilitate the school by offering its exceptional collection of miniature paintings,<sup>74</sup> to be available for referral, and in due course of time, conservation. In addition to this, the library could facilitate by housing its rare book collection in or very close to the same premises.

## **New Program – Pakistan Museum of Cultural Heritage**

The Lahore Museum, being Pakistan's oldest museum with largest collection of artifacts, gives it a significant advantage over other museums in the country. The museum holds a comprehensive collection of artifacts that define in the broadest possible way, the ancient, medieval, pre-colonial and colonial history of the nation. The only parts of the museum's collections that, house objects of a post-colonial nature

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<sup>73</sup> "Haji Sharif, a hereditary court painter from the Patiala family of Muslim painters ... [was hired by the MSA] three years before [the] partition [of India, to teach what is now referred to as] the Indian 'miniature' tradition that was to be invented later at the National College of Arts (NCA), the foremost art school in Pakistan, a development that would in turn spawn the contemporary reinvention of miniature paintings in South Asia" (Tarrar, 2011, p. 582).

<sup>74</sup> "The Lahore museum has one of the largest and most representative collection of miniature paintings in the [Indian] Subcontinent. The collection ... includes over a thousand paintings, ranging from early 16th century to the 20th century. These include ... Jaina manuscripts; significant examples of Persian, Imperial Mughal, Provincial Mughal and Bazar Mughal paintings; Rajput miniatures from Rajasthan; miniatures from the Punjab hill states, such as Guler, Basohli, Kangra, and Nur(pur); [and] specimens of Sikh [period] portraiture and miniatures on ivory" (Lahore Museum, 2017).

are the contemporary painting collection while some objects related to the 1965 and 1971 wars are contained in the armory exhibit. The freedom movement gallery also falls under the colonial timeframe.

The new museum should be presented as walk-through of the various civilizations that dominated this land before the creation of Pakistan. The exhibitions can be non-linear and staggered depending on the parallel timeframes and continuation of the narratives. These can then be linked to other programs such as the ones suggested above.

This program can be expanded to include the other structures the Tollington and Wazir Khan's Baradari etc. (this may include others if the opportunity presents itself), to create a multi-centric museum complex. With this kind of arrangement, the scope of the exhibitions can be broadened and diversified.

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### **Interview**

Dar, S. (2016, February 25). Interview conducted at the Lahore Museum.





## APPENDIX A

**Table 10:** *History of additions and alterations to the building*

Year(s)	Type	Stage	Definition	Source of Information	Reliability
1888–1889	Design	Building Plans Prepared.	Mayo School of Art prepared plans for the New Museum.	(Revenue and Agricultural Department, 1889)	High
1889–1890	Primary Construction	Foundation Stone Laid.	By Prince Albert Victor.	(Revenue and Agricultural Department, 1890)	High
1892–1893	Primary Construction	Building practically complete.	Building not yet occupied.	(Revenue and Agricultural Department, 1893)	High
	Ornamentation	Central Gallery back wall decorated in color (paint).	The treatment was to serve as a sample for general decoration of the building. (Additional treatment of this type did not take place).		
	Ornamentation	Plasterwork ornamentation prepared	Designs, models, molds and casts have been prepared but not yet fixed in place.		
	Function	Stupa assembled in-situ.			
	Primary Construction	Coin safes are built into the wall of the office block.			
	Primary Construction	Gallery built and seats fixed in Lecture Hall.	Presently, the Auditorium		

**Table 10:** Continued.

<b>Year(s)</b>	<b>Type</b>	<b>Stage</b>	<b>Definition</b>	<b>Source of Information</b>	<b>Reliability</b>
1893–1894	Ornamentation	Molded plasterwork installed.	On the doorways between the galleries.	(Revenue and Agricultural Department, 1894)	High
	Ornamentation	Decoration on the south wall of the Central Gallery.	Painted ornamentation complete.		High
	Problem	Roof leaking.	The Executive Engineer stated that the expansion and contraction of the roof is too great and leakage is inevitable. They will try to rectify by October.		
1894–1895	Problem	Roof leaking.	Problem not resolved by the PWD.	(Revenue and Agricultural Department, 1895)	High
1895–1896	Repair	Roof leak fixed.	Problem resolved.	(Revenue and Agricultural Department, 1896)	High
1896–1897	Problem	Roofs leak.	Roofs leak periodically during heavy showers.	(Revenue and Agricultural Department, 1897)	High
1897–1898	Repair	Roof leak fixed.	Roof leaks fixed by the PWD	(Revenue and Agricultural Department, 1898)	High
	Repair	Half burnt brick exterior walls repaired.	Exterior walls built of half-baked bricks in some places have been repaired and pointed with cement.		
1899–1900	Problem	Windows leak.	Large windows leak considerably.	(Revenue and Agricultural Department, 1900)	High

**Table 10:** Continued.

Year(s)	Type	Stage	Definition	Source of Information	Reliability
1900–1901	Problem	Zink gutters leak.	The zinc gutters wear out and have to be renewed frequently.	(Revenue and Agricultural Department, 1901)	High
	Repair	Roof overhaul.	Plans made for annual overhaul of roofing prior to the monsoons.		
	Problem	Mosaic floor wearing out.	Original materials used for the floor pavement were not good. The floor is under constant repair while parts of it wear out constantly.		
	Repair	Mosaic floor repaired.			
1901-1902	Problem	Roof leak.	Roofs leaking again. Contents of two cases damaged due to leakage from the gutters.	(Revenue and Agricultural Department, 1902)	High
	Problem	Roof leak.	Roof leaks have gotten worse flooding two rooms during the monsoon. Suggestion made to make alternative roof drainage plans instead of using the leaky gutters.		
1902-1903	Problem	Roof leak.	New plans for replacing the gutters submitted for sanction.	(Revenue and Agricultural Department, 1903)	High
1903–1904	Problem	Roof leak.	New system of gutters still not watertight.	(Revenue and Agricultural Department, 1904)	High

**Table 10:** Continued.

Year(s)	Type	Stage	Definition	Source of Information	Relia- bility
1904–1905	Alteration	Mosaic floor to be replaced.	The deteriorating mosaic floor is to be replaced by a marble design.	(Revenue and Agricultural Department, 1905)	High
	Addition	Fountain to be built in front of the entrance.			
	Alteration	Roof of the entrance and sculpture gallery and the verandas replaced	Roofs were removed completely and replaced		
	Problem	Attempts made to improve the state of roof leakage	During winter rains, the gutters leaked at 13 different places.		
1905–1906	Alteration	Mosaic floor replaced.	with marble.	(Revenue and Agricultural Department, 1906)	
	Alteration	Replacement of brickwork arches in the portico.	The brickwork flat arches in the portico have been replaced by a marble veranda.		
	Alteration	Replacement of terracotta grills flanking the porch.	Terracotta grills flanking the porch on either side have been replaced by 4 specially designed sand-stone <i>jalis</i>		
	Alteration	Replacement of window sashes.	All window sashes have been replaced and built to the original design which had not been executed and replaced with an alternative during the original construction.		
	Addition	Two cloak rooms added.	to either side of the entrance portico.		

**Table 10:** Continued.

Year(s)	Type	Stage	Definition	Source of Information	Reliability
1906–1907	Problem	Roof leaks.	Some galleries were flooded and several articles irretrievably damaged. Suggestion made to scientifically study roofing system in its totality.	(Revenue and Agricultural Department, 1907)	
	Alteration	Marble porch completed.	The design prepared at the MSA and carried out in Jodhpur white marble.		
	Problem	Roof leak.	As much as usual. Small repairs carried out by PWD in a perfunctory manner. Not much attention paid to the building.		
1907–1908	Problem	Replaced roof leak.	Total replacement of the roof made no difference as the new roofs leaked the same amount as the old ones.	(Lahore Museum, 1908)	High
1908–1909	Alteration	Roofing to be replaced.	by corrugated metal sheets.	(Lahore Museum, 1909)	High
1909–1916	Addition	New gallery and administrative spaces added.	The new gallery has been built along with office, library and printing room along with a workshop for <i>mistrees</i> at the rear of the building.	(Central Museum, 1914, 1915, 1916; Lahore Museum, 1910, 1911, 1912, 1913)	High
	Repair	Picture gallery wall repaired.	The wall was opened up and rebuilt.		



**Table 10:** Continued.

<b>Year(s)</b>	<b>Type</b>	<b>Stage</b>	<b>Definition</b>	<b>Source of Information</b>	<b>Reliability</b>
1916–1917	Ornamentation	Plasterwork	Completed on all but one doorway.	(Central Museum, 1917)	High
1918–1919	Problem	New roof leaking.	Roof of the newly constructed parts of the building leak.	(Central Museum, 1919)	High
	Repair	Picture Gallery walls re-plastered	The walls of the picture gallery were re-plastered with Portland cement.		
	Function	New gallery to be used as the Arts and Crafts depot.	The gallery was to be fitted with a permanent display of Punjab Industries and Arts and Crafts.		
1920–1921	Alteration	Central Gallery roof replaced	The arched portion of the roof [sic] has been replaced by a new wooden roof covered in malthoid sheets.	(Central Museum, 1921)	High
1921–1922	Function	Arts and Crafts depot shifted to the Lecture Hall	leaving the New Gallery vacant.	(Central Museum, 1922)	High
	Repair	Sculpture gallery skylights repaired.	The skylights were repaired to increase the amount of light entering the gallery and prevent pigeons coming through.		
	Alteration	New doorway opened in the western gallery.	A new doorway was opened by the PWD between the lecture hall and the western gallery to connect the main museum with the arts and crafts depot.		

**Table 10:** Continued.

Year(s)	Type	Stage	Definition	Source of Information	Reliability
1923–1924	Repair	New gallery roof was remodeled.	The roof has improved but there is still some leakage.	(Central Museum, 1923)	High
	Problem	All other gallery roofs leak.	Exhibits are damaged during every rain shower.		
1924–1925	Repair	Entire roofing was improved [sic].	General improvements were made to the entire roof of the building by the PWD.	(Central Museum, 1925)	High
	Alteration	Iron crossbars added to skylights in Tibetan Gallery.	Iron crossbars were added to skylights to increase security.		
	Alteration	Large window opened up Tibetan gallery.	Window opened up in the south wall of the Tibetan gallery to increase light.		
1925–1926	Problem	Sculpture gallery roof leak.		(Central Museum, 1926)	High
1926–1927	Function	New eastern gallery to be used as Sculpture Gallery.	The roof leaks have been fixed and the gallery is to be fitted with display cases.	(Central Museum, 1927)	High
	Problem / Repair	Dampness in the wall in the textile section damaged objects.	The display cases were repaired and refitted a few inches removed from the wall.		
1927–1928	Problem	Rising damp in walls of all galleries during rainy season.		(Central Museum, 1928)	High
1928–1929	Addition	New western gallery, new Coin Room, Godown, and 2 bathrooms built.	New gallery opposite the New Sculpture Gallery to be used for Painting displays.	(Central Museum, 1928, 1929)	High

**Table 10:** Continued.

Year(s)	Type	Stage	Definition	Source of Information	Reliability
1936–1937	Function	New central platform built in the middle of the Gandhara gallery	The sculpture gallery is now called the Gandhara gallery as most of the sculptural exhibits are Gandharan.	(Central Museum, 1937)	High
	Problem	Curator's room roof leaked.	Room flooded and books damaged.		
	Problem	Textile gallery roof leaked.	Carpets and Silks damaged.		
1937–1938	Repairs	Minor leakages repaired by the PWD.		(Central Museum, 1938)	High
1937–1938	Alteration	New cement floors laid.	in Agricultural Forestry and Raw product Gallery, Indian Antiquities and Prehistoric Gallery and the Central Asian and Further Indian Objects Gallery.	(Central Museum, 1938)	High
1941–1942	Alteration	New conglomerated cement floor laid in the left wing of the Applied Arts Gallery.		(Central Museum, 1942)	High
	Alteration	Walls of the Tibetan Gallery and the former Arts and Crafts Depot re-plastered.			

## APPENDIX B

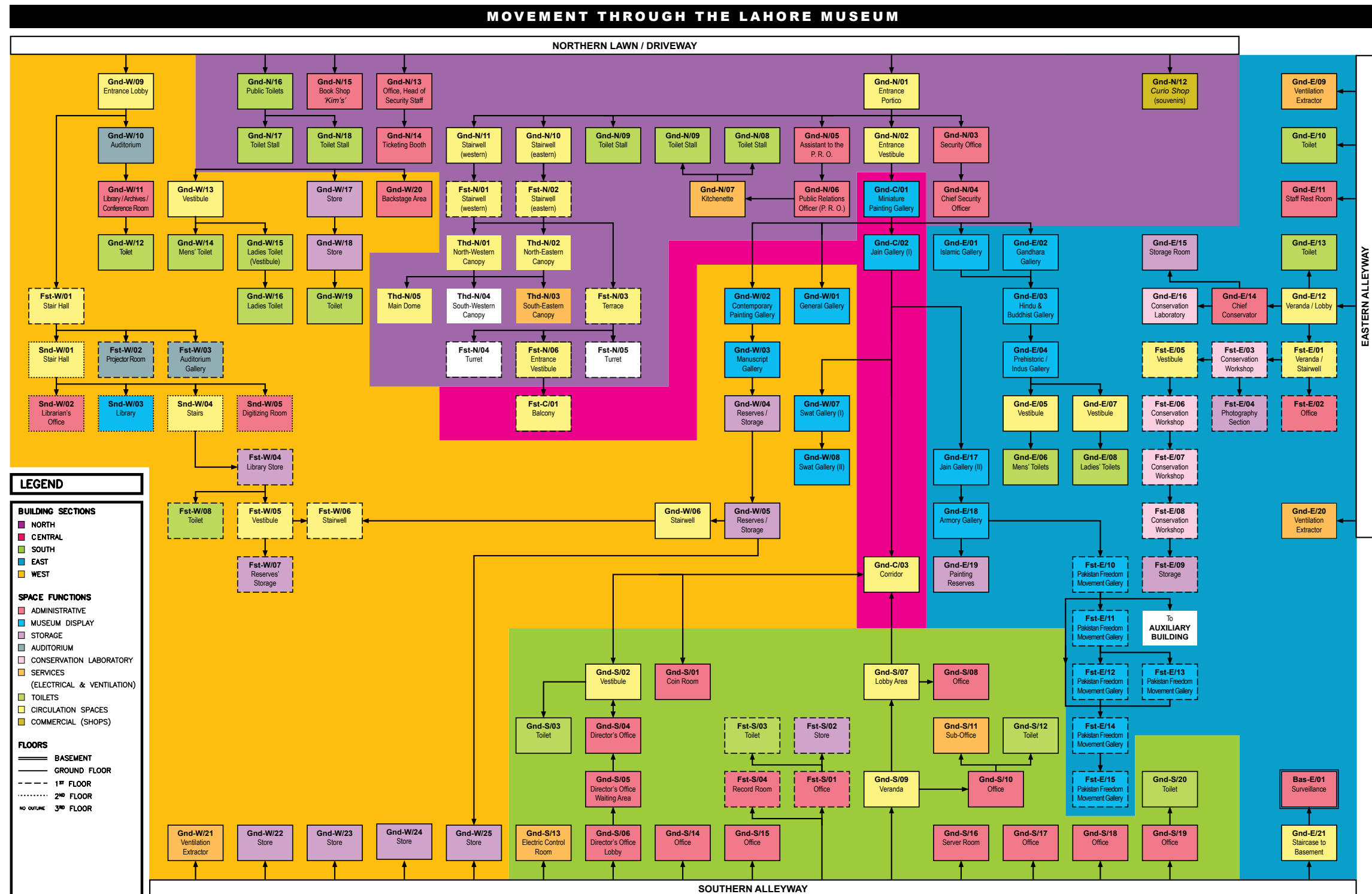


Figure B.1: Movement through the Lahore Museum (2016)



## APPENDIX C

### THE PUNJAB SPECIAL PREMISES (PRESERVATION), ORDINANCE, 1985 <sup>75</sup>

Pb. Ord. XXXIV of 1985

An Ordinance to provide for the preservation of certain premises in the Punjab

[27 February 1985]

**Preamble.** – Whereas it is expedient to preserve certain premises of historical, cultural and architectural value in the Punjab and to control and regulate alterations therein and demolition and re-erection thereof and for matters ancillary thereto;

NOW, THEREFORE, in pursuance of the Proclamation of the fifth day of July, 1977, read with the Laws (Continuance in force) Order, 1977 (C.M.L.A. Order No. 1 of 1977), and the Provisional Constitution Order, 1981 (C.M.L.A. Order No. 1 of 1981), the Governor of the Punjab is pleased to make and promulgate the following Ordinance:—

**1. Short title and commencement.** –

- (1) This Ordinance may be called the Punjab Special Premises (Preservation) Ordinance, 1985;
- (2) It shall extended to the whole of the Punjab;
- (3) It shall come into force at once.

**2. Definition.** –

In this Ordinance unless the subject or context otherwise requires –

- (a) “Special Premises” means any premises of historical, cultural or architectural value declared as such by the Government by notification and includes the land externally appurtenant thereto and the outer walls thereof;
- (b) “Committee” means a Committee constituted under section 3 (1) of this Ordinance.

**3. Constitution of Committees.** –

- (1) The Government may by notification appoint one or more Committees for the purposes of this Ordinance which shall perform such functions as the Government may determine.

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<sup>75</sup> This Ordinance was promulgated by the Governor of the Punjab on 25<sup>th</sup> February, 1985; and, published in the Punjab Gazette (Extraordinary) dated 27<sup>th</sup> February, 1985.



(2) The Government or a Committee may appoint a Committee of Experts to advise the Government or a Committee with regard to matters relating to this Ordinance.

**4. Ordinance to override other laws. –**

The provisions of this Ordinance shall have effect notwithstanding anything to the contrary contained in any other law for the time being in force.

**5. Prohibition of destruction etc. of Special Premises. –**

No alteration in or renovation, demolition or re-erection of such portion of a Special Premises as is visible from outside, or any part of such portion, shall be effected without the prior permission in writing of the Government or a Committee.

**6. Restriction on sanctioning of plan. –**

No authority or local body shall approve any plan in relation to a Special Premises without the prior permission of the Government or a Committee and any such plan sanctioned before the coming into force of this Ordinance shall be of no effect unless approved by the Government or a Committee.

**7. Prohibition of destruction etc. of Special Premises. –**

No person shall, except for carrying out the purposes of this Ordinance destroy, break, damage, injure, deface or mutilate or scribble, write or engrave any inscription or sign on such portion of a Special Building as is mentioned in section 5.

**8. Direction for restoration of original position. –**

(1) If such work as is mentioned in section 5 has been carried out in relation to a Special Premises before the coming into force of this Ordinance or in contravention of section 5, 7 or 8 the Government or a Committee may by order direct the owner thereof to restore it to its original position within such time as may be specified in the order.

(2) If the owner fails to comply with the order the Government or a Committee may take all necessary measures to give effect to it and the expenses incurred for the purpose shall be

**9. Direction to the owner to take measures for preservation of Special Premises.**

–

(1) Where the Government or a Committee considers that any Special Premises is not being preserved or conserved properly by its owner, the Government or a Committee may, by order in writing, direct the owner to take such measures for its proper preservation and conservation, and within such time and on such terms and conditions as may be specified in the order.

(2) If the owner fails to take the measures specified in the order referred to in subsection (1), the Government or a Committee may take all such measures in respect of the Special Premises and the expenses incurred for the purposes shall be recoverable from the owner as arrears of land revenue unless the Government directs otherwise.

**10. Compulsory acquisition of Special Premises. –**

If the Government apprehends that a Special Premises is in danger of being destroyed, injured or allowed to fall into decay, it may, acquire it or a part thereof under the Land Acquisition Act, 1894 (1 of 1894), as for a public purpose.

**11. Execution of development schemes and new constructions in proximity to Special Premises. –**

No development plan or scheme or new construction on, or within a distance of two hundred feet of a Special Premises shall be undertaken or executed except with the approval of the Government or a Committee.

**12. Prohibition of bill posting, neon signs, other kinds of advertisements, etc. –**

No person shall put any neon signs or other kinds of advertisement, including hoardings, bill postings, commercial signs, poles or pylons electricity or telephone cables and television aerials, on or near any Special Premises without the prior permission in writing of the Government or a Committee.

**13. Voluntary contributions. –**

The Government may receive voluntary contributions and donations for the acquisition, preservation or restoration of Special Premises and may make suitable arrangements for the management and application of the money so received:

Provided that a contribution or donation made for any specified purpose shall not be applied to any purpose other than that for which it has been made.

**14. Penalty. –**

- (1) Whoever contravenes the provisions of this Ordinance or the rules shall be liable to imprisonment which may extend to one year or with fine or with both.
- (2) The Court trying an offence under sub-section (1) may direct that the whole or any part of the fine recovered shall be applied for defraying the expenses of restoring the Special Premises to the condition in which it was before the commission of an offence relating thereto.

**15. Jurisdiction to try offences. –**

No court shall take cognizance of an offence punishable under this Ordinance except upon a complaint in writing made by an officer generally or specially empowered in this behalf by the Government and no Court inferior to that of a Magistrate of the first class shall try any such offence.

**16. Rules. –**

The Government may frame rules to carry out the purposes of this Ordinance



## APPENDIX D

### Images & Drawings

