



**KTH Architecture and
the Built Environment**

Department of Real Estate and Construction Management
Real Estate Development and Financial Services

Thesis no. 120
Master of Science, 30 credits

**A CASE STUDY OF THE PROCEDURE OF DEVELOPMENT
OF A LARGE REAL ESTATE PROJECT IN SÃO PAULO,
BRAZIL**

MATARAZZO PROJECT



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Stockholm, 2011

Master of Science thesis

Title	A Case Study of the Procedure of Development of a Large Real Estate Project in São Paulo, Brazil
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Master Thesis number	AI201X
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Keywords	Matarazzo, Tombado, Institutions, Organization, Master Plan, Work Cost Estimate.

Abstract

This thesis report presents the process which has been followed to develop a large real estate project in São Paulo, Brazil where the buildings remaining on the site are landmarks. The report includes an extensive case study the **Matarazzo Project** about which I performed the analysis of the procedure of development during my internship at *SCPM* – a French Project Management company. The ultimate goal of the thesis is to provide investors with brief recommendations to develop similar project in Brazil with respect of the cultural values.

A French Investor intends to develop the **Matarazzo Project** – a large and complex real estate project in São Paulo, Brazil – on a site defined as a national and municipal landmark by public authorities, respectively *CONDEPHAAT* and *CONPRESP*, due to the remaining buildings erected from 1904 which are witnesses of the well-organized institutions of Italian immigrants.

The protection of the existing buildings involved a particular procedure to apply for permits. Indeed, it implies the presentation of the project to several organs such as *IPHAN*, *CONDEPHAAT*, *CONPRESP*, *SEHAB*, *SMT*, *DEPAVE*, etc. with a list of required documents – *TAC*, *Projeto de Restauo*, *Relatorió de Impacto de Vicinhenza*, plans, layout, renderings, etc.

Thus, to apply for building permits such a situation implies a selected numbers of particular consultants as a *Legal Authorization Specialist*, *Retrofit Specialist*, *DEPAVE Specialist*, *Cultural Centre Specialist*, *lawyers*, added to the stakeholders normally present during the development of a real estate project – *architects*, *engineers*, *land surveyor*, *quantity surveyor*, *insurance companies*, etc. The case study involved, at this stage, more than 23 entities (2 from the Direction, 3 from the Supervision, and 18 from the Executive Stakeholders)

The combination of actors was such because I realized my internship at an early stage of the project – maybe the earliest. Indeed, when I started, the Master Plan had not been defined yet and the Work Cost Estimate had not been performed, even though the Project Manager already had an idea about the overall schedule and was hiring the appropriate stakeholders.

By now, the Master Plan has been fixed and shares both green and brown field areas. The existing buildings will host a Retail Centre (18.000m²) surrounded by glazed roof, a Palace Hotel (10.000m²), the Chapel remains a religious place, the Paediatric will be replaced by a Village Hall (500m²). Underground constructions will be located all above the site with a Cultural Centre (18.500m²) and a Parking Lot (55.000m²). Plus, depending on the Right-to-Built, a Tower (21.000m²) will be erected near the *Ponta*. Consequently, in terms of time, the Project Manager forecasts the whole project to last no less than five years – including legal documents approvals and works execution.

In terms of budget, a Work Cost Estimate – more or less accurate depending on the level of completion of the plans of each specific area – has been done so that the Client can start to

set up the Business Plan and develop the strategy to finance the project – finding financiers, operators, tenants, etc.

Having work more than five months on the **Matarazzo Project** enables to make an analysis of what the situation had been and what it should be.

It is crystal clear that mentalities and ways of proceeding between France and Brazil are different. Nothing is said but that is the role of the consultants to establish what strategy to choose, or to state things such as what is allowed to build, how to build, etc. Nothing is written either, indeed there is no code of construction, barely a *Código de Obras e Edificações* which define for which permit to apply depending on the work to perform. So, the spirit is *'do as best as you can and let's see if will be accepted by legal authorities'*. And conflict is avoided – problems are not pointed directly, they last and they became bigger putting the whole project on hold. The solution to all this has been to hire a Project Manager Assistant to work directly from there, increasing communication between France and Brazil, making researches about similar projects, and trying to keep everyone on the right track cause – due to the size of the project – minor points are often forgotten and became major points.

For the future, the Project Manager starts to forecast the whole organization of the project, in particular for the detailed conception and execution phases.

Regarding the work breakdown structure, to simplify communication proceeding having one representative for the architectural team and one general contractor is the favourite option despite the disadvantages it implies (information retention, increased fees for management of sub-contractor, etc.).

The analysis of the procedure of development of a large real estate project in São Paulo, Brazil has resulted in future recommendations on what attention should be focused on. In short, the recommendations include the following:

- Being aware of local culture and local way of proceeding (steps of development, local institutions, subsequent required documents);
- Having a good intern organization (being aware of what is due and by who);

For more details on the future recommendations, cf. chapter 6.

Acknowledgment

There are several people I would like to take the opportunity to thank for helping me complete this master thesis report.

At KTH, I would first and foremost like to extend my gratitude to Professor Hans Lind for entrusting me with the thesis project. His support throughout the project had been very helpful. Always ready to lend a hand, he has been of invaluable help, and is worth praise especially for reviewing my thesis report on more than one occasion.

At SCPM, I would like to express my gratitude to Guy Sanoian for sponsoring my thesis, for compensating me for my efforts, and for providing me with such a study case – it is always very interesting to discover new cultures, to learn new languages, and to meet people from all around the world. I am also grateful to Delphine Sanoian for supervising me at SCPM. Furthermore, I am thankful to everyone that has participated in any way in my internship. Without their co-operation, company and invaluable assistance the work would not have been as enjoyable and successful.

Table of Content

Introduction	7	4. Works Cost Estimate	38
Background	7		
Purpose, Objectives and Scope	7	5. Analysis	40
Method	7	5.1. Respect of the local culture and local way of proceeding	40
Disposition	8	5.2. Impact of the Design Director Involvement and Cultural Centre Lease	40
1. Presentation of the Project	9	5.3. Architect Negotiations	41
1.1. Description of the Area	9	5.4. Turning Point	41
1.2. Description of the Surrounding	9	5.5. Organisation - Work Breakdown Structure	42
1.3. Description of the Site	10		
1.4. The Land Owner	14	6. Conclusions, Recommendations and Opening	44
1.5. Federal and Municipal Institutions	14	6.1. Conclusions	44
1.6. Legal Documents	18	6.2. Recommendations	45
1.7. Project Approval	20	6.3. Opening	45
1.8. Concessionary	21		
1.9. The Schedule	21	References	46
2. Stakeholders / Organization	23		
2.1. Description of Stakeholders	23	Annexes	47
2.2. Organization	29		
2.3. Information Proceeding	30		
2.4. Internal Communication	31		
3. Master Plan	3455		
3.1. Macro Zoning of the Land	35		
3.2. Zoning of the Specific Areas	36		

Introduction

Background

This thesis presents a Master of Science degree project conducted at the department of Real Estate and Construction Management at the Royal Institute of Technology (KTH), with the objective to present the procedure of development of a large real estate project in São Paulo, Brazil, and more precisely a project based on the renovation of classified buildings which aims to be cultural and luxurious.

Purpose, Objectives and Scope

The following chapter outlines the overall purpose and the specific objectives of this thesis, as well as the scope of the degree project.

Purpose

The overall purpose of this thesis is to know what have been the required steps of the development of the large real estate project in São Paulo – the **Matarazzo Project** – at the time I was performing my internship.

Objectives

The goal of this thesis can be expressed as answering the questions: “What need to be done to develop a mixed used project in São Paulo, Brazil? Which stakeholders need to be hired? What are the required documents? What is the administrative procedure?”

Another goal might be to find out what worked well, where there were problems and how these problems could have been avoided.

Scope

The analysis of the steps of the development of such large real estate project may serve for similar projects; in particular it may be apply when a mixed-uses project located on a brown field area in São Paulo, Brazil is developed, especially if the existing buildings are protected for being national and municipal landmarks.

But the analysis is limited to the early period of development of real estate project which corresponds to the period of the development of the **Matarazzo Project** when I was doing my internship.

Method

Analysing the different steps/documents which have occurred during the development of the **Matarazzo Project** under current development at São Paulo, Brazil:

- Identifying all the actors involved in the project and define their role and their relationships (based on their contracts) in order to establish an organisation chart of the stakeholders. Discussing why a certain model (combination of actors for example) was chosen and what the decision makers see as the advantage of this model compared to other. Explain why certain things occurred and if they could have been done in another way.
- Analysing the Master Plan. What is a Master Plan? Why a Master Plan?
- Analysing the Works Cost Estimate. What is a Works Cost Estimate? Why a Works Cost Estimate?
- Analysing the local administrative procedure of the country, such as building permits, local plan, etc.

Disposition

Chapter 1 covers the general considerations of the case study ***Matarazzo Project*** such as a presentation of the site, the project, the buildings, the national institutions, the required documents, the Owner's vision, etc. Chapter 2 involved stakeholders have been identified; their roles and relationships have been defined in order to establish an Organisation Chart. Chapters 3 and 4 give overviews of documents which are considered as most of value by the Project Manager: the Master Plan and the Work cost Estimate performed for the ***Matarazzo Project*** as they define the project in terms of works-to-perform, budget and time. The structure of Chapter 5 follows the objectives of the thesis, stated in section 1.2, as it provides analysis of events according to the way they occurred, have been solved and are foreseen by the Project Manager. Chapter 6 gathers conclusions and recommendations on how to develop a large real estate project in São Paulo, Brazil on a site where remaining buildings are protected as national and regional landmarks and presents an opening for future Master of Science thesis.

1. Presentation of the Project

1.1. Description of the Area

The property of the **Matarazzo Project** is located in the neighbourhood *Bela Vista* at São Paulo, Brazil, and faces three streets: *Alameda Rio Claro*, *Rua Itapeva* and *Rua São Carlos do Pinhal*.

The part of the property facing Alameda Rio Claro is level with the street, the other sides are above street level. The area's perimeter is regular, but its topography is inclined.

In summary, the area has the following features:

- Land Area = 27,420.00 m², made of two lots (Matriculas)
- Built-Up Area = 35,686.00 m².

1.2. Description of the Surrounding

The property is located in the district of *Bela Vista*, one of the most exclusive and traditional areas in the city of São Paulo.

The region is served by subway and in the future will be reached by an additional line, in addition to a number of city and inter-city bus lines, with easy access to several points. The surroundings have a comprehensive infrastructure in terms of public facilities, equipment, and urban services. This is a district of a combined nature, with homes that range from a high standard to families with restricted means, and in addition the district embraces some of the city of São Paulo's most important attractions such as the neighbourhood of Bixiga with its typical restaurants, theatres, and outdoor feasts, and the "*Museu de Arte de São Paulo*" (MASP).



Picture 1.1 Avenida Paulista, São Paulo, Brazil



Picture 1.2 Bela Vista, São Paulo, Brazil

The district has its borders along three important arteries in the city of São Paulo: *Avenida Radial Leste* to the north (crossing the city's eastern axis to the downtown area); *Avenida Vinte e Três de Maio* to the east (a corridor that connects the north and south zones); and *Avenida Paulista* to the south (an important city of São Paulo business district).

Being close to *Avenida Paulista* enriches the region, as roughly 450 thousand people go there every day. On this avenue and in the region are found the offices of large domestic and multinational corporations in different businesses, such as construction companies, insurance companies, trading companies, foreign exchange operators, union headquarters, radio stations and TV channels, advertising agencies, consulates, and others.

There are a number of domestic and overseas bank branches, restaurants, fast food counters, bookstores, cinemas, theatres, shopping malls, and art galleries (Shopping Paulista, Top Centre, Centre 3, Shopping Frei Caneca), universities (FASP, UNIP, Casper Líbero), museums (MASP), parks and residential buildings. There are also a number of hospitals in the region, many hotels, and flats also.

1.3. Description of the Site

On the area was built the former Hospital *Umberto Primo Matarazzo*, inaugurated on August 14th, 1904 and built by *Societá Italiana de Beneficenza* in São Paulo, which was organized in 1878 with the purpose of providing health assistance to Italian immigrants, with funds obtained from groups of successful businessmen of Italian origin, such as the Crespi, Pignatari, Gamba, Falchi, and chiefly the Matarazzo. The original core of Hospital Umberto I, built by Giulio Micheli, was ultimately employed by the administrative area. From 1904 to 1974, around it other facilities were built, resulting in the hospital compound consisting in ten buildings, with heterogeneous architectural features. It is currently deactivated, awaiting refurbishing and adaptation to new uses.

- A Conte Francisco Matarazzo Health Care (1915)
- B Ermelindo Matarazzo Health Care (1925)
- C Original hospital centre core - Administrative pavilion (1904)
- D Vitorio Emanuele II pavilion - radiology - laboratory (1937)
- E Sisters housel, hospital ward pavilion (1930)
- G Contessa Filomena Matarazzo Maternity (1943)
- H Hospital Building Extension (1974) - construction discontinued
- I Amelia de Camilis Paediatrics (1935)
- J Chapel (1922)
- L Kitchen - Laundry - Dinning Hall (1929)

These buildings are the only remaining witnesses of those times in the neighbourhood.

At the end of the 90', the previous owner applied for and obtained a building permit with more than 90 000m² of new construction. This authorization went through the City approval process ("*Alvará de Aprovação de Prefeitura Municipal*"); however, the permit has been stopped and frozen after claims rose by association in front of the *Ministério Público* (administration). The claims led to litigation still pending in the local court.

Indeed, the existing buildings are the only remaining representative of the most organized institution of established immigrants in the city of São Paulo, the Italians.

The building used to play some role in medico-hospital care of the city's labour population, especially during the period in which assistance was absolutely deficient.

The hospital has been acknowledged as an area of training and study of medical science and as a pioneer in the development of some hospital activities in the city of São Paulo.

The complex is made of a harmonious whole which provides a good portioning of the spaces, especially in the oldest buildings.

That is the only one site which escaped to the "verticalization" of the surrounding of the *Avenida Paulista*, during those last few years.

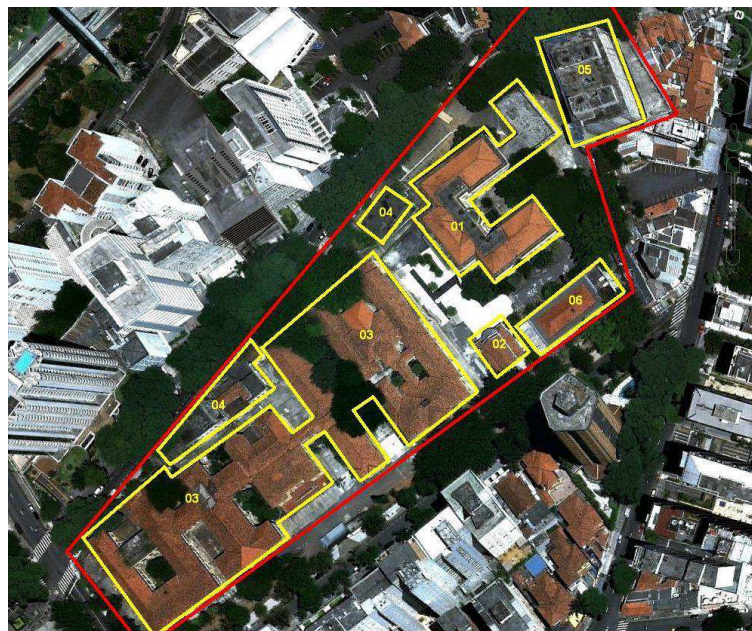
This complex can be considered as an architectural reference of the city. Thus the most important condition to its preservation is the awareness of its historical-, architectural- and scientific values.

Thus, the buildings erected in this area have been classified by the appropriate public organs as *Tombado* (Brazilian landmark) both at the state level, by CONDEPHAAT (Resolution 29/86), and at the municipal level, by CONPRESP (resolutions 05/91 and 22/2002).

- *Tombamento Estadual (State Landmark)*

Resolution SC 29/86 of the CONDEPHAAT, Art. 2^o establishes three grades of preservation:

- The Maternity (01) and the Chapel (02) get the strictest level of protection "*Grau de Proteção 1*" (GP-1) defined as the total preservation of buildings, minor internal refurbishments being allowed;
- The Hospital (03) gets the second level of protection "*Grau de Proteção 2*" (GP-2): preservation of façade, roof, and height. A property under GP-2 may have its inner part and layout changed, preserving only its outer portion;
- Support Building (04), Hospital Building (05), and Paediatrics Ward (06) get the third level of protection "*Grau de Proteção 3*" (GP-3): volumetric preservation, which means the property may be submitted to an inside and outside retrofit, preserving only its built-up area.



Picture 1.3 Map of the Resolution SC 29/86 - CONDEPHAAT

- *Tombamento Municipal (Municipal Landmark)*

At municipal level, besides the Resolution No. 05/91 which confirmed the terms of the CONDEPHAAT, the Resolution No. 22/2002 included the property as a landmark of the neighbourhood *Bela Vista*:

Resolução CONPRESP nº 22/2002 - Tombamento do Bairro da Bela Vista				
ANEXO I - Imóveis Isolados e Conjuntos Arquitetônicos Tombados				
S	Q	ENDERECO	L	N
09	15	ITAPEVA 545/569, R. C/ S. CARLOS DO PINHAL. C/ RIO CLARO 190	31 E 32	3

Figure 1.1 Resolution 22/2002 – CONPRESP – Protection of the Neighbourhood Bela Vista
Anexo I – Architectural Landmark

As listed in *Anexo I* above, the municipal *Nível de Preservação* (Level of Preservation) for the property is NP3, described as follows:

<p>Artigo 7º - the <i>Níveis de Preservação</i> (Levels of Preservation) NP1, NP2 and NP3 are considered as follow:</p> <p style="text-align: center;">...</p> <p>Nível de Preservação 3 (NP3): Partial Preservation. The external features, the ambience and coherence with the neighbouring property classified as NP1 and NP2 should be kept and the restoration of original architectural features should be planned.</p>

Figure 1.2 Resolution 22/2002 – CONPRESP – Protection of the Neighbourhood Bela Vista
Article 7º - Partial Preservation

But, in the case of urban legislation, the most restrictive provisions shall always prevail; here the Resolution from the CONDEPHAAT has the most limiting condition.

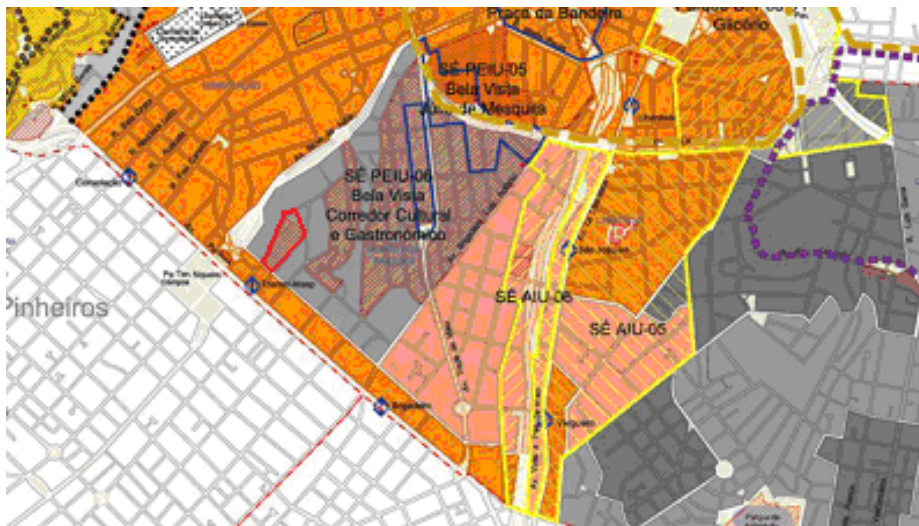
The CONPRESP established the following additional provisions to the Resolution 22/2002:

- external repairs are admitted in order to conserve and maintain the landmark, but excluding modification of openings, structure or material (Article 9);
- no intervention can be performed on the listed landmarks without the prior approval of the *Departamento do Patrimônio Histórico* (Department of Historic Heritage) and CONPRESP (Article 8);
- the existing arboreal vegetation should also be preserved, only being allowed to be replaced if a landscape project has been approved by the municipal organ of preservation; transplantation or removal of arboreal elements can only occur in exceptional and technically justified cases (Article 9).

Consequently, the property had been made by the *Subprefeitura da Sé* as a part of the *Zona Especial de Preservação Cultural – ZEPEC* (Special Zone for Cultural Preservation), as seen in the following illustration. ZEPECs are areas intended to preserve, rover, and maintain historical, artistic, and archaeological heritage, which may be in the form of sites, buildings, or urban neighbourhoods.

Uses permitted for properties rated as ZEPEC are those permitted in the zone or class of street on which the property is located, provided this is compatible with the rules defined in the official heritage preservation resolution, i.e.: despite the property under study being an official heritage preservation area, it is located in a High Density Combined Zone – a (ZM 3a).

Combined Zones are intended for residential and non-residential use, including in the same lot or building. Yet in this property's case, regardless of the class of use adopted, it is necessary to comply with official heritage preservation rules and levels.



Picture 1.4 Location of the property in the zoning area

The property is made of two *Matriculas* (lots), but, concerning the urbanism rules, it is seen by the administration as a unique land.

- A portion of the land is the *Tombado* area, with highly restricted rights to build. Indeed, the Floor Area Ratio (F.A.R) equals 1,0. There is about 24 600m² of Land and the same amount of construction to be maintained and renovated.
- The other portion of the land – with buildings to be demolished, the “green area” – is around 2 820m² of Land. Its situation depends on how it is considered by the local administration:
 - If seen as linked to the *Tombado* area, and therefore also with a F.A.R equals to 1,0, then the residual rights to build will be limited to 2 820m².
 - If seen as a “normal land”, F.A.R will be between 2,0 and 4,0, then the residual rights to build will be between 5 640m² and 11 280m².

Moreover, the Art. 20, § 1 of the *Plano Regional da Subprefeitura da Sé* (Regional Plan of Sé Sub-district) states that the maximum template of new constructions included within the protected perimeter of Bela Vista is 15.00 m.

In conclusion the rights to built due to the *Tombado* rule, related to the current zoning, are highly limited, and beside the 24 600m² of retrofit buildings, will reduce the project to only about 5 500m² to 11 000m² of green field development.

1.4. The Land Owner

The new Land Owner, who intends to develop the ***Matarazzo Project***, is a French investment group.

Its vision for the project is to give the *Tombado* buildings a new life by refurbishing them, underlining what time has done to them. Hence, the Owner has committed not to demolish the *Tombado* buildings and to preserve the main part of the site with the trees and its historical aspect, although the use will change. That way, he will contrast old and modern constructions.

Another will from the Owner is that the project aims to include Art and Culture. It will host auction houses, movie premieres, fashion shows, etc., turning ***Matarazzo*** into the cultural meeting point of São Paulo as a vibrant cultural environment.

Therefore, the Owner intends to develop a mixed-use real estate project, including a retail centre, a cultural centre, luxury hotels, towers and parking lots.

1.5. Federal and Municipal Institutions

This section lists an exhaustive number of federal and municipal institutions which are involved in the procedure of development of the ***Matarazzo Project*** in the municipality of São Paulo, SP, Brazil.

1.5.1. IPHAN - Instituto do Patrimônio Histórico e Artístico Nacional [1]

The ***Instituto de Patrimônio Histórico e Artístico Nacional*** (National Institute for Artistic and Historical Heritage) is one of federal agencies of the *Ministério da Cultura* (Ministry of Culture), responsible for preserving the diversity of the different elements of the Brazilian

society and its ecosystems. This implies the responsibility to preserve, disseminate and enforce the Brazilian cultural heritage and to ensure the continued existence and enjoyment of those assets for current and future generations.

The IPHAN was created by Decree-Law No. 25, November 30, 1937, the government of then-president Getulio Vargas, and structured by Brazilian artists and intellectuals of the time.

Preserving significant portion of the Brazilian cultural heritage, the IPHAN has, for over 70 years, saving from the disappearance the national culture legacy.

There are more than 20 thousand protected buildings, 83 urban centres, and 12.517 registered archaeological sites besides over a million objects – including museum collection, about 250 thousand bibliographical volumes, archival documents and photographic or film.

1.5.2. CONDEPHAAT – Conselho de Defesa do Patrimônio Histórico, Arqueológico, Artístico e Turístico [2]

The **Conselho de Defesa do Patrimônio Histórico Arqueológico, Artístico e Turístico** (Council of Defense of the Historical, Archaeological, Artistic and Tourism), was established by Law No. 10247 of October 22nd, 1968, whose purpose is to protect, enhance and disseminate the cultural heritage of the State of São Paulo. These assignments were confirmed in 1989 by the Constitution of the State of São Paulo.

Every citizen has the right to request the CONDEPHAAT for the protection of cultural assets as it is seen as important for memory and for environmental preservation. This protection begins when the process of *Tombamento* is initialized by the *Colegiado* (Board) of the CONDEPHAAT, completing, legally, with the approval of the *Secretário da Cultura* (Secretary of Culture) and the publication of the *Resolução de Tombamento no Diário Oficial do Estado* (Resolution of Protection in the Official Gazette of the State).

There are more than three hundreds properties listed by CONDEPHAAT. They form a set of representations of history and culture in the State of São Paulo between the sixteenth and twentieth centuries, composed of movable properties, buildings, monuments, neighbourhoods, historic centres and natural areas. Listed properties are represented on the map of the State of São Paulo.

- ***The new CONDEPHAAT***

With Decree No. 50941 of July 5th, 2006, the CONDEPHAAT was replaced by new structure. This was the opportunity for making changes. Now organized around a central axis that coordinates two boards, in turn accounted for two working groups, the result is a body headed by a team of six technicians, creating synergy between the expertise of specialists and doctors in various areas of knowledge related to historical heritage.

The strategy to be adopted is the opening of CONDEPHAAT for dialogue and joint action with society, municipalities and other public institutions of the state, civil institutions representatives or local councils. The idea is to mount a public policy of heritage preservation, in which the municipality has a primary role in maintaining the historical features of the urban and rural occupation, through local laws and integrated master plans.

- ***The Council***
 - Secretaria da Cultura

- Secretaria do Meio Ambiente
- Secretaria de Turismo
- Secretaria da Justiça e da Defesa da Cidadania
- Secretaria de Planejamento e Desenvolvimento Regional
- Procuradoria Geral do Estado
- Universidade de São Paulo – USP
 - Departamento de História
 - Departamento de Geografia
 - Departamento de História da Arquitetura
 - Departamento de Ciências Sociais
- Universidade Estadual de Campinas – UNICAMP
 - Departamento de História
 - Departamento de Geografia
 - Departamento de História da Arquitetura
- Universidade Estadual Paulista “Júlio de Mesquita Filho” – UNESP
 - Departamento de História
 - Departamento de Geografia
 - Departamento de História da Arquitetura
 - Departamento de Ciências Sociais
- Instituto do Patrimônio Histórico e Artístico Nacional – IPHAN
- Conferência Nacional dos Bispos do Brasil - Conselho Episcopal Regional Sul 1
- Instituto dos Arquitetos do Brasil – Departamento de São Paulo
- Museu de Arqueologia e Etnologia, da Universidade de São Paulo – USP

1.5.3. CONPRES P – Conselho Municipal de Preservação do Patrimônio Histórico, Cultural e Ambiental da Cidade de São Paulo [3]

Conselho Municipal de Preservação do Patrimônio Histórico, Cultural e Ambiental (City Council preservation of historical, cultural and environmental) of the city of São Paulo is one council connected with the *Secretaria Municipal de Cultura* (Municipal Board of Culture), supported by staff from the DPH - *Departamento do Patrimônio Histórico* (Department of Historic Heritage).

The CONPRES P was created by Law No. 10.032 of December 27th, 1985.

CONPRES P Assignments are to:

- decide on the total or partial *Tombamento* (protection) of movable and immovable, public or private properties;
- give information about the *Tombamento* (protection) of the properties on registers and to state and federal agencies;
- formulate policies and strategies needed to ensure the preservation of cultural and natural properties;

- designate an area around the Tombado (landmark) so that it can be adequately controlled.

Official documentation, required by the *Prefeitura Municipal* (Municipality) of São Paulo, is requested for the assessment process by the CONPRESP. In addition to this required documentation, it is recommended, a minimum amount of technical documents that make the *Projetos de Restauro* (project of restoration) of buildings protected by municipal rules, to be submitted for review and approval of the DPH and the CONPRESP in the preservation of full or partial architectural and construction features most relevant of these buildings.

1.5.4. SEHAB – Secretaria da Habitação e Desenvolvimento Urbano [4]

Founded in 1977 by Decree No. 14.451, the **Secretaria da Habitação e Desenvolvimento Urbano** (Municipal Housing Secretariat) of São Paulo is responsible for implementing housing policy. Among its responsibilities are to control the use and occupation of land, and to promote the preservation of the landscape and environment of São Paulo.

1.5.5. SMT – Secretaria Municipal de Transportes [5]

Founded by Law No. 7.065 of October 30th, 1967, the **Secretaria Municipal de Transportes** (City Department of Transportation) is responsible for studying the planning, integration, supervision, monitoring and control of public transport, taxis, trucks and others.

1.5.6. SVMA – Secretaria Municipal do Verde e do Meio Ambiente [6]

Founded in October 1993, the **Secretaria Municipal do Verde e do Meio Ambiente** (Municipal Board of Environment and Green Areas) of São Paulo is responsible for planning and coordinating activities related to the defence of the environment of the capital.

The SVMA defines the criteria to contain environmental degradation and pollution and maintains relationships with federal agencies related to the environment.

The *Secretaria* has departments that look after specific areas:

- DECONT - *Departamento de Controle de Qualidade Ambiental* (Department of Environmental Quality Control) is responsible for controlling, monitoring and management of environmental quality and biodiversity.
- DEPAVE - *Departamento de Parques e Áreas Verdes* (Department of Parks and Green Areas) is responsible for managing and creating new parks and green areas, the production of ornamental plants and preservation of wildlife in the city.
- Departamento de Educação Ambiental e Cultura de Paz - *Universidade Aberta do Meio Ambiente e Cultura de Paz* (Department of Environmental Education and Culture – Public University of the Environment and Culture) coordinates and executes programs and educational activities to encourage the participation of society in improving environmental quality. The department is also responsible for the *Planetários do município* (municipal Planetary), the *Escola Municipal de Jardinagem* (Municipal School of Gardening), the *Universidade Aberta do Meio Ambiente e Cultura e Paz* (Public University for Environment and Culture) and the *Escola Municipal de Astrofísica* (Municipal School of Astrophysics).

- DEPLAN - *Departamento de Planejamento Ambiental* (Department of Environmental Planning) plans and executes the actions needed to bring the city to the new scenario of climate change, to develop management plans for public lands and environmental zoning of the municipality.
- DGD - *Departamento de Gestão Descentralizada* (Department of Decentralized Management) coordinates the activities of the technical divisions of the *Núcleos de Gestão Descentralizada* (Centers of Decentralized Management) and the coordination between the secretariat and other environmental agencies.
- DAF - *Departamento de Administração e Finanças* (Department of Administration and Finance) plans, develops and manages activities related to the finance and budget of the SVMA.
- *Departamento de Participação e Fomento a Políticas Públicas* (Department of Participation and Development of Public Policy) encourages the participation of society in environmental planning and ensures the functioning of the *Conselho Municipal do Meio Ambiente e Desenvolvimento Sustentável* (Municipal Council for the Environment and Sustainable Development); *Conselho do Fundo Especial do Meio Ambiente e Desenvolvimento Sustentável* (Council of the Special Fund for the Environment and Sustainable Development); *Fundo Especial do Meio Ambiente e Desenvolvimento Sustentável* (the Special Fund for the Environment and Sustainable Development) and *Conselhos Regionais de Meio Ambiente, Desenvolvimento Sustentável e Cultura de Paz* (Regional Councils for the Environment, Sustainable Development and Culture).

1.6. Legal Documents

This section lists an exhaustive number of documents which were required during the development of the **Matarazzo Project** in the municipality of São Paulo, SP, Brazil.

1.6.1. TAC – Termo de Ajustamento de Conduta [7]

Termo de Ajustamento de Conduta (Terms of Adjustment of Conduct), also known as **Compromisso de Ajustamento** (Commitment to adjustment), was created by the *Estatuto da Criança e do Adolescente* (Statute of Children and Adolescents) Law No. 8.069/90 art. 211 - ECA (Law 8069/90) and by the *Código de Defesa do Consumidor* (Consumer Defense Code) Law No. 8.078/90 art. 113, is an extrajudicial execution instrument, taken by one of the legitimate government for civil action as the *Ministério Público*, through which an entity who causes damages to the diffuse interests, collective interests or individual interests is committed to adjust its conduct to the law, through sanctions.

It is widely used in environmental, consumer, cultural heritage protection and other transindividual interests.

1.6.2. Projeto de Restauro [8]

The **Projeto de Restauro** (Restoration Project) presents the plans to be adopted to restore the *Tombado* buildings to respect *Normas Técnicas Brasileiras* (Brazilian Technical

Standards) so that the project may be approved by the public organs such the CONDEPHAAT, the CONPRES, etc.

In general, the scope of the *Projeto de Restauro* contains the following items:

- **Historical Research**

Illustrated technical report containing historical analysis of the protected property, resulting from research conducted in textual and iconographic registries, public and/or private records; in the literature about the property, among others.

- **Constructive Chronology**

Plans of protected property (with an appropriate scale) containing labelled graphic information indicating the various stages of interventions on the architectonic elements (beforehand identified with an approximate or accurate dating), accompanied by a brief analytical report, including documentary sources or techniques that have made the dating possible.

- **Condition of conservation and constructive pathologies**

Plans of protected property (with an appropriate scale) containing labelled graphic information indicating:

- condition of conservation of the constructive-, architectural-, decorative- or artistic building components ;
- methods to remove coating materials and structural components such as floors, walls, ceilings, roofs, stairs, elements and/or paintings and decorative arts;
- indications about existing pathologies such as water leaks, cracks and crevices, plumb, insect attack, etc.

- **Photographic documentation**

Photographic record of the current condition of protected properties, including external photos (immediate vicinity, layout, land, outside features of the building) and internal photos (inside ambience, construction details). The photos have to be referenced on a plan and accompanied by captions.

- **Schematic design of architecture and restoration**

Graphic documentation of the protected property (with an appropriate scale) established from the analysis of the above items and the program, including:

- plans, sections, elevations, at a minimum scale of 1:100, containing, legends of the building to build, maintain and demolish;
- descriptive report of works, services and restoration processes.

1.6.3. RIV – Relatório de Impacto de Vizinhança

According to the *Norma Regulamentadora 3* (Regulatory Norm), projects with significant impact on the neighbourhood and Urban Infrastructure, such as project with commercial destination for which the computável equals or exceeds 60.000m², are subject to the presentation of the **RIV – Relatório de Impacto de Vizinhança** (Neighborhood Impact Report).

This study aims to estimate the traffic generated by the new project as a PGT - Pólo Gerador de Tráfego (Pole Traffic Generator) with modal, temporal and spatial distributions in order to evaluate the conditions of access to the project and the impact which are likely to occur on the traffic of the bordering roads.

Such a document may contain the following items:

- **Initial Considerations** in which the methodology chosen to perform the study is described
- **Summary of the Current Situation** showing the location of the project, catchment area, road hierarchy, bordering land use, public transport serving the neighbourhood, traffic counts and possible projects for the region;
- **Characterization of the Project** presenting briefly the objectives of the project with the kind of use, the accesses and exits;
- **Demand Estimate** in which are shown the calculations of the estimated number of trips due to the activities of the project in their critical times (entry or exit of employees and users), as well as the hypothesis of distribution of these trips on the surrounding;
- **Impacts on the Traffic** in which are verified the access to the project when simulating the expected demand and in which are identified the parts of the surrounding road system that will suffer from the increase in vehicles.

1.7. Project Approval

The approval of a particularly large project will face, beyond the usual analysis of use and occupation of land, the consent of several other organs, according to the process described below:

- a. the project must be submitted to the *Departamento de Aprovação de Edificações* (Department of Buildings Approval) of the SEHAB;
- b. as the property is *Tombado*, the project must be submitted to the CONDEPHAAT and CONPRESP, with a request for assent and the presentation of stamped plans;
- c. as the project can be defined as a *Área Especial de Tráfego* (Special Area of Traffic), the project must be submitted to the SMT, with a request for issuance of the *Certidão de Diretrizes* (Certificate of Guidelines), which may require works and services to be performed at the expense of the entrepreneur ;
- d. as a RIV is mandatory, a protocol separate from the item a) must be led as follow:
 - d.1 CAIEPS – *Comissão de Análise integrada de Edificações e Parcelamento do Solo* (Commission for Integral Analysis of Buildings and Parcelling), another subsidiary body of the SEHAB that request the manifestations of
 - d.2 SMT and
 - d.3 SVMA that will define the mitigation measures;

With the return of the file from those bodies to the CAIEPS, will go to:

- d.4 SEHAB for approval and signature of the *Termo de Compromisso* (Term of Commitment) of the mitigation measures;
- d.5 CTLU – *Comissão Técnica de Legislação Urbanística* (Technical Committee for Urban Legislation), linked to the SMDU – *Secretaria Municipal de Desenvolvimento Urbano* (Municipal Office of Urban Development) which, by legal authority, must approve the presented RIV;
- d.6 return to SEHAB for instruction of the analysis for the *Alvará de Aprovação* (Permit of Approval) which also depends on consents and opinions of other organs – CONPRESP, CONDEPHAAT and SMT;
- e. Opinions issues by both the CONPRESP and the CONDEPHAAT, about the principal process initially analyzed by the SEHAB, to instruct a technical analysis;
- f. Opinions issues by the SMT, about the principal process initially analyzed by the SEHAB, to instruct a technical analysis;
- g. prior to the issuance of the *Alvará de Execução* (Execution Permit), the RIV and mitigation measures approvals by the CADES and the SVMA shall be submitted;
- h. as the property is characterized as ZEPEC, the file must be submitted to the SMDU;
- i. due to the complexity of the subject, a property with historical and exceptional artistic-, cultural- or environmental- values to be preserved, due to the action pending on local court and as seen as a pole traffic generator, the SMDU or the SEHAB should request the assessment of the CTLU.

Thus, the approval of such a project does not give an optimistic perspective in term of time.

1.8. Concessionary

This section lists an exhaustive number of concessionaries who are in place in the municipality of São Paulo, SP, Brazil.

• Water	SABESP	Public Organism
• Electricity	ELECTRO PAULO	Public Organism
• Phone	TELEFONICA	Private Organism
• Gas	COMGAZ	Public Organism
• Road & Traffic	CET	Public Organism
• Fire	CORPO DOS BOMBEIROS	Public Organism

1.9. The Schedule

Matarazzo Project started in January 2011. It is entitled to last until June 2014.

The Schedule is divided into four main steps:

- Phase I: Master Plan
- Phase II: Legal Documents
- Phase III: Call for Expression of Interest / Invitation to Tender
- Phase IV: Work

Phase I corresponds to the Conception of the Master Plan, during which, the Owner, the Interior Design Director and the Architect define the specific areas, their surfaces and their locations. The Master Plan results into macro-zoning maps and zoning plans. This phase should last until the end of May 2011.

Phase II corresponds to the Filling of Legal Documents, which is the major deal of the Project, in collaboration with the addressed stakeholders (local administrations, different public organisms, future buyers, etc.). This phase should end by the end of June 2011.

The approval of such legal documents is assumed to take at least one year, after which the physical Work would begin.

The involved stakeholders are the SPV, the Project Manager and the Financial and Technical Advisor.

In parallel with the phase of legal documents' approval will proceed the Phase III which corresponds to the Call for Expression of Interest / Invitation to Tender of contractors such as structural/technical building companies. Gathering all contractors should end by the end of June 2012.

The involved stakeholders are the SPV, the Project Manager and the Financial and Technical Advisor.

Phase IV corresponds to the physical Work of Construction. This phase should end by the end of June 2014.

The involved stakeholders are the SPV, the Project Manager and all the awarded contractors.

2. Stakeholders / Organization

Several Actors – involved in the **Matarazzo Project** – have been identified, as well as their roles and relationships in order to establish an Organization Chart (cf. Charts 2.1 & 2.2). At this stage of the development, stakeholders are mainly Architects, Consultants and Engineers.

2.1 Description of Stakeholders

2.1.1 First, the land Owner defines objectives, time and financial constraints and having analysed the complexity of project he intends to develop in terms of technical challenges, surfaces, costs and administrative issues, he decides who will be its representatives, what type of stakeholders is important to hire to manage the project, if there is a need for an ad hoc organization formed for the duration of the project...

2.1.2 The land Owner, a French investment group, decided to form a **Special Purpose Vehicle** (SPV) to be represented for the duration of the project.

The SPV has been established at the very beginning of the project.

Its role is mainly, but not limited to, an administrative position; e.g.: signing contracts, following up the work of the legal advisor (consultant, lawyers, etc.), helping the Client to define a strategy for land acquisition and to obtain legal approvals in Brazil. But the SPV has no right to take financial-, technical- or artistic decisions.

The team of the SPV is composed by:

- A Chief Executive Officer,
- Chief Financial Officer: should be hired soon to deal with the financial issues, investment strategy, etc.
- Property Manager: issue related to the land purchase, the building sales, the building rents, etc...,
- Administrative Manager,
- Lawyer

2.1.3 Regarding the size of the project to be developed (almost 135.000 m²) and the complexity of the project (25.000 m² of Brownfield development / 110.000 m² of Greenfield development, 75.000m² of underground construction), the Owner hired a **Project Manager**, SCPM, to be responsible for accomplishing the stated project objectives in terms of budget, time and quality. Based on the knowledge of the firm SCPM is representing, we determine and implement the exact needs of the Owner. To ensure that the key issues are realized,

Project Manager adapts the various internal procedures of the contracting party, and form close links with the nominated representatives.

Project Manager assists the Client with the coordination of Architects, Design Offices and Consulting Engineers; with the technical and administrative constraints of the site; with the technical feasibility studies, checking the conformity of the preliminary designs with the administrative statute of limitation; with the preparation of the filing of administrative authorizations; following-up of all contracts and contractual documents involved in the project.

To summarize its mission, its scopes are the following:

- Developing the project plan,
- Managing the project stakeholders,
- Managing the project team,
- Managing the project risk,
- Managing the project schedule,
- Managing the project budget,
- Managing the project conflicts.

2.1.4 The **technical/financial adviser** is concerned with maintaining the schedule and budget through efficient methods of assembly. He assists the Client:

- with the administrative coordination of the Architect;
- obtaining proposals from stakeholders to perform civil and technical studies (geotechnical engineer, structural consulting engineers; sustainable design accredited consultant, acoustical consultant, etc.);
- defining the budget for each type of work (shell & core, technical- and architectural-finishing trades; decoration).

2.1.5 The **Architect** had been engaged as independent services provider to perform the services related to the Conception Phase as described below:

- validate the administrative, technical and commercial feasibility of the project which shall be concluded by the delivery of an exhaustive technical note providing recommendations to the issues mentioned above;
- on the basis of the Validation (i.e. the Technical Note is duly delivered in a satisfactory manner), the delivery of all necessary and required documents that should be submitted to the competent local authorities in order to apply for the respective building permits:
 - a. Preliminary Master Plan including the macro zoning with the impacts on infrastructure and superstructure;
 - b. Transverse and longitudinal change in elevation with openings desired;
 - c. Preliminary 3D Volumetry;
 - d. Preliminary Investigation soil survey;

- e. Summary Table of gross area, including: usable area, gross area, private area;
- f. Preliminary Construction Project cost estimation (budget price);

The Architects, Project Manager and Financial Advisor have been hired at the same time.

2.1.6. The **Design Director** was hired almost at the same time than the Architect but it had really been involved in the Conception barely three months later (around end of March 2011). His mission is to give complete artistic direction services for the whole Project during the program length.

- Assisting in the creation, selection and global monitoring the decoration-, design- and architecture teams work;
- Assisting in the selection of architects, designers and decorators who can be assigned to development of certain specific areas;
- Personal assistance to the general architectural design of the Project;
- Personal assistance to the overall design style and overall aesthetic elements likely to affect the Project, including - without limitation – defining the bias, symbolic elements and signature of the entire project, defining the assignments of spaces within the business constraints set by the Owner/Operator and technical constraints set by the Architects and Consultants and possible adaptation of the program;
- Aesthetic direction of all signage / logos, and other aesthetic elements related to the Project (including stationery, uniforms etc.);
- Aesthetic direction for the development or selection of items of street furniture, including subsets (e.g. Doorknobs) to be included in the project;
- Artistic Direction for the design and decoration of inside and outside circulations, alleys, squares etc.
- Artistic Direction in the development of specifications that can be imposed on tenants or operators of commercial space located in the complex.

2.1.7. Legal Authorization Consultant:

- performs technical consultancy services for the development of the project by the architect with clarification on legal restrictions;
- consults authorities involved in the approval of the project;
- follows-up the processes for obtaining formal statements by authorities in charge of the cultural heritage;
- follows-up the processes for obtaining authorization and licenses for undertaking restoration.

2.1.8. **DEPAVE Specialist Consultant** provides the Owner consultancy and project design for obtaining *Laudo Avaliação Ambiental* (Environmental Assessment Report) and *Termo*

de Compromisso Ambiental (Statement of Environmental Commitment) with the DEPAVE.

To this end, the Consultant shall perform the Consulting Services, Protocol and Monitoring of projects to be presented to DEPAVE as described below:

- prepare the project according to the parameters set by DEPAVE, including but not limited to the plan of the current situation, desired plan and Projeto de Compensação Ambiental – PCA;
- set the process suitable for presentation to DEPAVE, as well as its protocol;
- monitor the process and steps to meet the demands made, if any;

Both the Legal Authorization and DEPAVE Specialist Consultants have been hired at the beginning of the project following the kind advices of the Architect who knew what having a protected buildings imply when a new project is intended to be developed on this type of site.

They intervene early in the project because their mission is to provide advices and strategy to present the project at the local administrations, and they determine what/how to do for the project to be approved.

2.1.9. Landscape Architect should develop the landscape project of **MATARAZZO** following the Design Director recommendations and the following conditions:

- Provide assistance to the Owner to obtain the building permits, and all approvals from the competent organisms in environmental Protection regarding the preservation, the transplantation and measures to take for the vegetation;
- Produce any graphical documents representing the approved Master Plan which aim to serve as a basis for the next steps of the development.
- Make a list of the local materials to use to develop the project as described in the Master Plan.

The landscape architect intervenes early in the project, whereas the project is not yet sure to be constructed, because there is a need for global renderings of the project when the project is presented to the legal administrations. Indeed, as the façades of the old buildings are protected, the organism of protection want to see the visual impact the project will have on the outside area.

2.1.10. Soil Investigators gather soil samples to find out about the composition of the soil and rock beneath the construction site;

Due to the great number of unknown conditions, underground constructions are very often sources of big variations in the budget. Even if there is no need for a subsoil-conditions report or whatever when applying for the building permit, underground constructions may bankrupt a whole project, so it is important that this type of investigations intervenes quite early in the project.

As the Matarazzo project is deeply developed with underground constructions (almost 75.000m²) it is important to consider it quite early, keeping it in mind, in order to develop a realistic preliminary concept and to determine directly the right budget. Moreover, it will limit the demands of building permit modifications as well as the number of breaks when removing earth due to a lack of soil knowledge and misapprehension to the work to perform.

2.1.11. Existing Foundations/Structure Investigators open the brickwork in order to analyse the structure of the Hospital and Maternity;

In order to ensure the stability of the remaining buildings when underground works will be performed it is important to know their quality, in terms of structure, cause for the same reason than above, the budget allocated for this type of work is quite huge so it is important to have it in mind when performing a global cost estimation and defining the budget.

Moreover, the use of the buildings will change (from a health care centre to commercial/hotel use), thus the live loads will change as well and as the buildings are old enough maybe their frame are not dimensioned properly, thereafter the need for an existing foundations/structure investigation.

2.1.12. Structure Consultant provides the Client with general advices for the design of the structure, both the sub- and the superstructure, by:

- evaluating the viability of the structure to realize, considering the preservation of the existing buildings;
- proposing construction methods;
- collaborating with the architecture team to optimize the structural concept;
- providing preliminary data to evaluate the cost of the structure.

His mission resumes quite well the two precedents items in terms of budget (cost structure estimate) and of techniques (preservation of the existing buildings/defining structural concepts).

2.1.13. Topographical Surveyor performs:

- the geometric levelling of the floors of the Umberto I Hospital to define a relationship of the height between the slab and the floors;
- a survey of the façades of the six registered buildings, namely the original core Umberto I, the Casa de Saúde Francisco Matarazzo, the Casa de Saúde Ermelino Matarazzo, the old residence of the sisters, the actual paediatric wing and the Vitória Emanuele III wing and the Condessa Filomena Matarazzo Maternity.

2.1.14. Retrofit Consultant should analyze the elements of the existing buildings to be restored in order to determine the necessary treatment to safeguard the monuments and write a descriptive report to be presented to the appropriate organisms.

This stakeholder is important at an early stage of the development as the result of his mission is related to legal administration approvals. Indeed, the descriptive report of retrofit is one of required document for the building permit application.

2.1.15. Traffic Survey Specialist has to prepare a *Estudo de Impacto de Vizinhança* (Survey of Impact on the Neighbourhood) which should address the positive and negative effects of the development on the quality of life of people living around it, and make studies of traffic demand, accessibility and micro impacts of traffic expected in the region, from the implementation of the project on the site to support the analysis of the competent authorities of São Paulo because due to its size, the new project is considered as a generator of traffic.

This stakeholder is also important at an early stage of the development as the result of his mission, the RIV is one of the compulsory documents to be presented to the competent authorities when applying for the building permit.

2.1.16. Mechanical, Electrical & Plumbing Consultant's scope of services is to support the architecture team, with definitions of technical areas, with the subsequent issuance of the report containing calculations of pre-sizing of facilities and different regulatory criteria to be observed in designing the "Master Plan".

From the administrative approvals point of view, an MEP consultant is not compulsory at this time of the development, but from the budget/technique approvals it is important to integrate it early so that the proper amount of areas dedicated to the MEP facilities are known and the allocated budget is determined directly with the good order of magnitude.

2.1.17. Theatre Specialist Consultant will work together with the architect and other designers to define a specific program for the Culture Centre, such as :

- Adjusting the volume of the project;
- Setting the stage and audience spaces considering the relationship artist / audience;
- Define the aspects of production and performance and rehearsal spaces and presentation;
- Recommendations on inputs and outputs for greater operational efficiency;
- Studying the visibility from the audiences spaces to the stage;
- Developing the backstage and technical spaces;
- Defining the necessary electrical power for lighting and other equipments;
- Defining the infrastructure and loading information for all systems of production and stages and all the requirements to support the performances;
- Giving instructions for the design of Air Conditioning;
- Defining the acoustic envelope;
- Controlling Noise and Vibration;

It is important that this stakeholder intervenes very early as he works in collaboration with the Architects, the Structural Engineer and the MEP Engineer and especially as his recommendations have impacts on their drawings and calculations, thus on budget.

2.1.18. Parking & Traffic Specialist Consultant,

2.1.19. Cultural Centre Building Permit Lawyer.

This paragraph enables to define the boxes of the Organization Chart (cf. Chart 2.1 at the end of Chapter 2).

2.2. Organization

Three types of actors have been recorded depending on their power and on the way information is managed / communicated: the Developer, the Supervision and the Executive Stakeholders.

2.2.1. Developer

- The Land Owner,
- The Special Purpose Vehicle.

2.2.2. Supervision

- Design Director,
- Project Manager - SCPM ,
- Financial and Technical Advisor.

2.2.3. Executive Stakeholders

Executive Stakeholders have been separated into different groups regarding the type of work they are performing, as described below:

- *Architectural Synthesis* :
 - Architect,
 - Landscape Architect;
- *Sub and Superstructure Engineering*:
 - Soil Investigators,
 - Existing Foundations/Structure Investigators,
 - Foundation Consultant,
 - Structural Consultant;
- *Others Engineering Services*:
 - Land Surveyor,
 - Mechanical, Electrical & Plumbing Consultant,

- Retrofit & Theatre Specialist Consultant;
- *Temporary Services* :
 - Legal Document Consultant,
 - DEPAVE Specialist Consultant,
 - Parking & Traffic Specialist Consultant,
 - Site/Project Condition Survey Specialist;

This group includes stakeholders who intervene only during the phase of the conception of the Master Plan (Phase I) and the phase of the Deposit of Legal Documents (Phase II).

- *Others*:
 - Soil Chemical Laboratory,
 - Cultural Centre Building Permit Lawyer.

This paragraph enables to define the places of the boxes in the Organization Chart (cf. Chart 2.1 at the end of Chapter 2).

2.3. Information Proceeding

The exchanged information depends on its nature which might be Technical, Financial, Contractual or Legal/Administrative.

2.3.1. Developer -> Supervision

The Developer explains to the Supervision what kind of project they want to develop, what they have in mind.

2.3.2. Supervision

The Supervision analyses the Information with a technical point of view.

2.3.3. Supervision ->Developer

The Supervision gives feedback to the Developer about what is feasible, both financially and technically. They advise the Developer about the kind of Work to perform to realize the project and the time it takes.

2.3.4. Developer -> Supervision

The Developer gives its approval.

2.3.5. Supervision -> Executive Stakeholders

The Supervision contacts some appropriate executive stakeholders to know, if indeed they are the appropriate stakeholders, how they perform the work and for how much.

2.3.6. Executive Stakeholders -> Supervision/Developer

The Executive Stakeholders send their proposal/contracts.

2.3.7. Supervision

The Supervision analyse the proposal and check if indeed it corresponds to the expected work to perform. They communicate to the Client which companies are appropriate and might be hired. Then they negotiate the fees with the finalist.

2.3.8. Developer

The Developer gives its green light by signing the proposal/contracts.

From this point, the work can start.

The Developer should never communicate directly to the Executive Stakeholders and the other way around. Every data have to be analysed by the Supervision first.

But it has not been always respected. Indeed, once or twice the Client communicated directly to the Architect team about the design without letting know the Supervision. The draughtsman made the corresponding corrections.

Problem is that the architect sends its bill with an amount which corresponds to the performed work i.e. lump sum + *extra cost* for the extra work.

Therefore, the Supervision is in a default position because the extra cost had not been negotiated by the Client and it can not be negotiated once the job is done and the bill is send...!

This last paragraph enables to define some of the direction/orientation of arrows between the boxes of the Organization Chart (cf. Chart 2.1 at the end of Chapter 2).

2.4. Internal Communication

2.4.1. Supervision

The Project Manager and the Technical Adviser receive directions about the Design from the Design Director and they make sure that the Concept is indeed feasible.

The Project Manager and the Technical Adviser analyze together financial and mission proposals from the Executive Stakeholders.

2.4.2. Executive stakeholders

The group *Architectural Synthesis* works in collaboration with the groups *Sub and Superstructure Engineering, Engineering Services* and *Temporary Services*.

This last paragraph enables to define the missing direction/orientation of arrows between the boxes of the Organization Chart (cf. Chart 2.1 at the end of Chapter 2).

The Chart 2.1 'Organization Chart' presents the *relationships* between the actors of the Project and their *Scope of Work*.

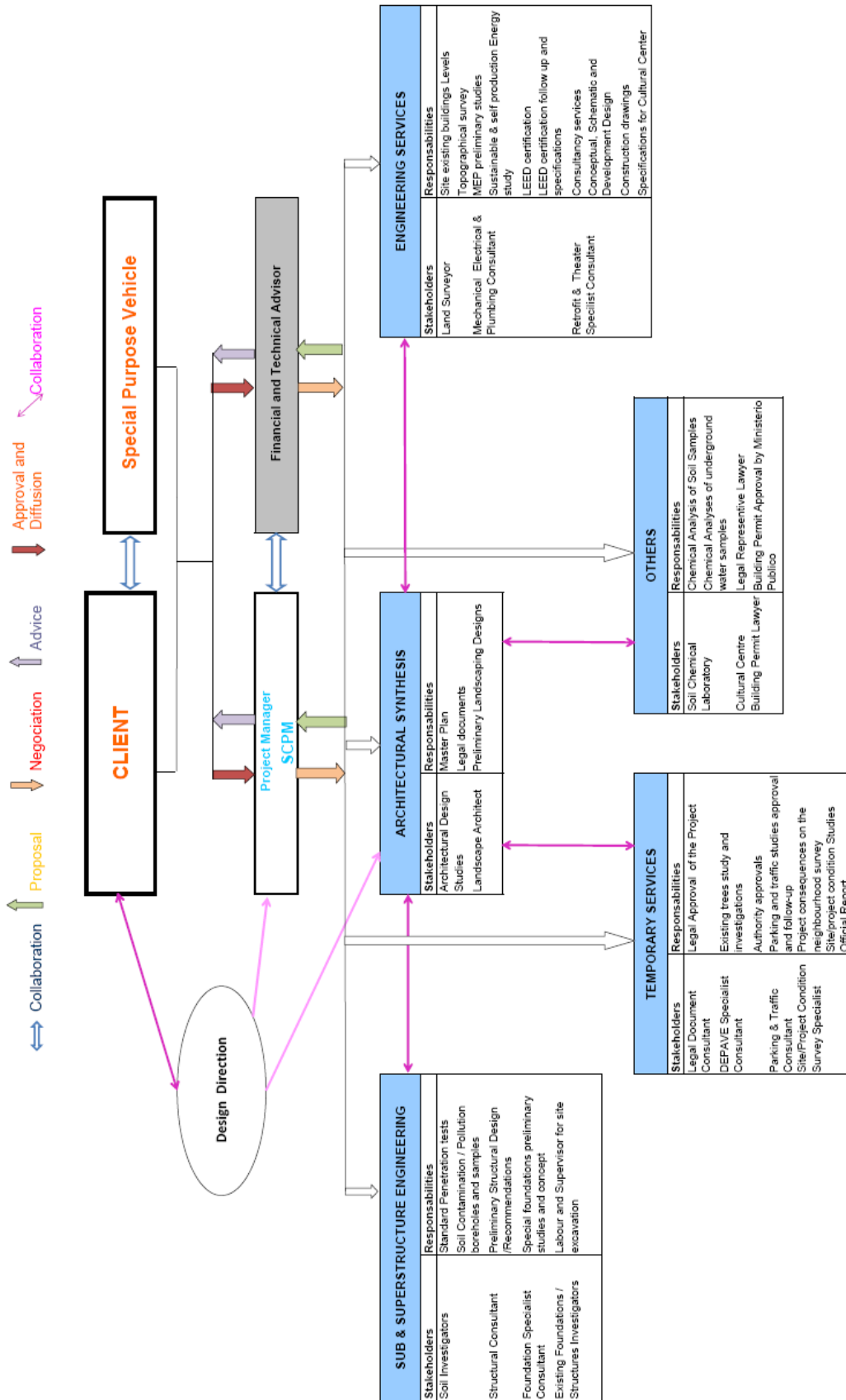
The ***Matarazzo Project*** is too complex to be resumed as it has been in the Chart 2.1 'Organization Chart'.

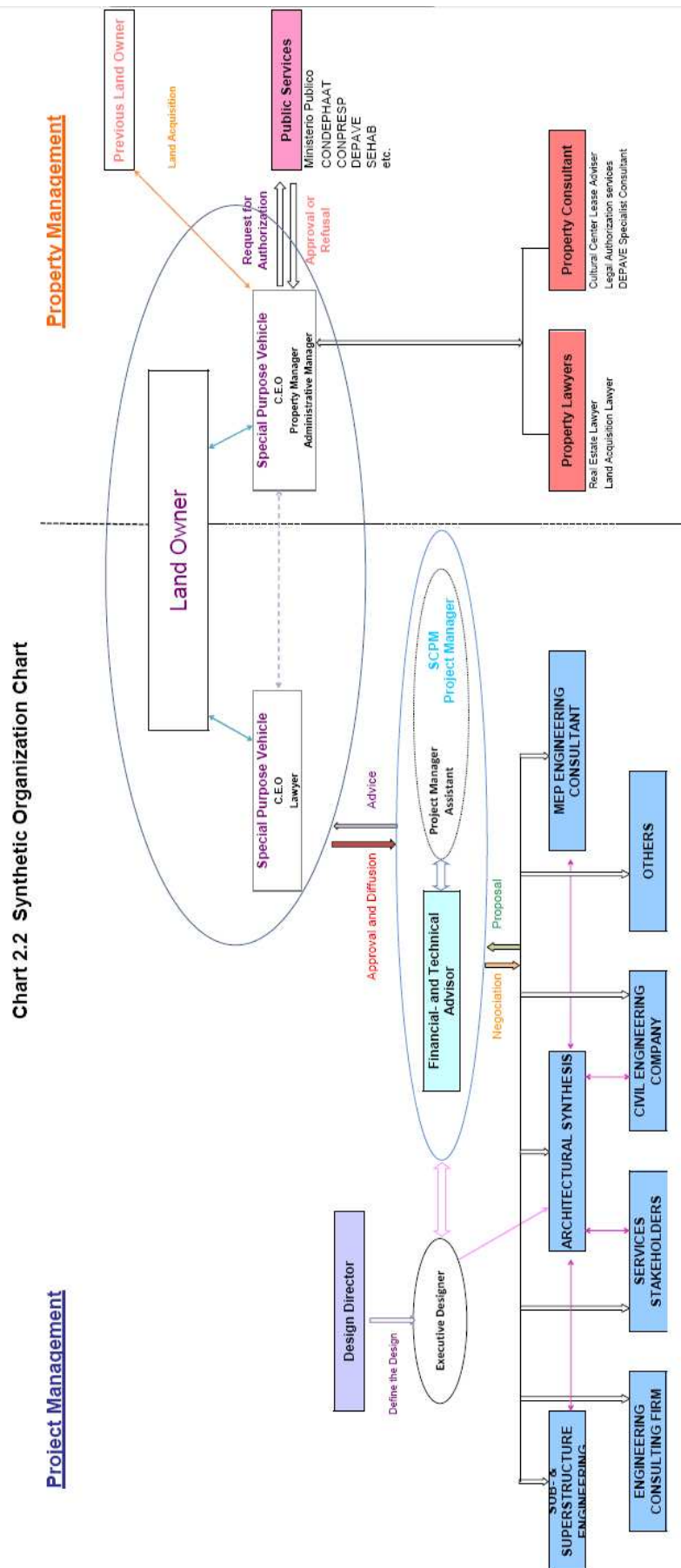
Moreover, a major actor has been added "a Project Manager Assistant" who is based at São Paulo. He is the Project Manager's eyes and ears there and he works in close collaboration with the Financial/Technical Adviser, who is at São Paulo as well.

Plus, the role of the SPV has been better defined (because until now, no one knew what the SPV actually did!) and the workload of the Financial/Technical Adviser has been readjusted and better balanced.

So we decide to set up another Organization Chart 'Synthetic Organization Chart' (cf. Chart 2.2) in which the Project Management and the Property Management are separated.

Chart 2.1 Organization Chart 1





3. Master Plan

The purpose of the Master Plan is to define the Use of the Project, the surfaces of the specific areas and their locations dealing with the Rights to Build of the Land.

The rights to build depend on:

- The Floor Area Ratio (F.A.R), which determines how much surfaces you can built based on the amount of ground land you have. The F.A.R is different for the “*Tombado*” area and for the other portion of land;
- The countable (“*Computavel*”) surfaces, which are taken into the accounting of the F.A.R (parking lot and technical areas are not “*Computavel*”).

The “*Matarazzo Project*” is subject to both brown and green field developments. The latter is divided in two types of construction: “classic” (external) and underground constructions.

3.1. Macro Zoning of the Land

The macro zoning of the Land consists in dividing the site into specific areas depending on their uses. It has been defined in compliance with the Owner’s vision who wants to develop a mix-used real estate project. The result of this step is the production of a zoning map (cf. Figure 3.1).

At the present stage, the Land has been split as follow (subject to further analysis and modifications):

- a Retail Centre 12 700m²
- a Palace Hotel 8 500m²
- a Cultural Centre 18 600m² (underground construction, therefore not visible on the map)
- Tower 1 21 000 m² (under questioning due to the rights to build)
- Tower 2 23 000 m² (not located on the main site but across the street “*Alameda Rio Claro*”)
- and a Parking Lot 55 000m² (underground construction, therefore not visible on the map)

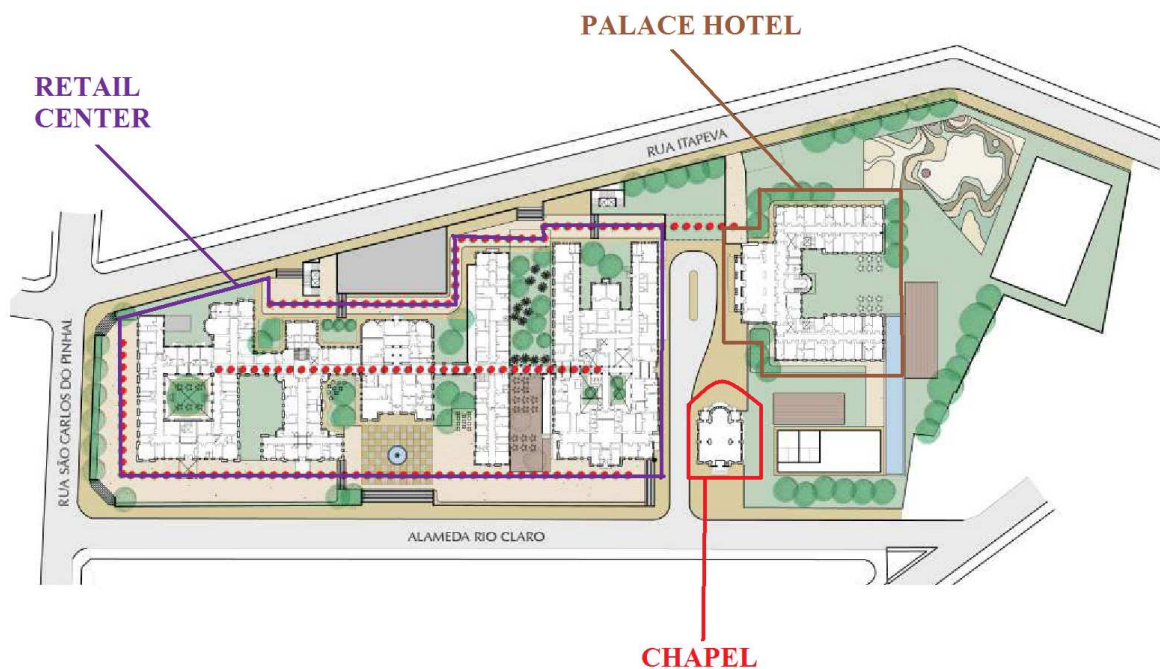


Figure 3.1 Macro zoning of the existing buildings

3.2. Zoning of the Specific Areas

The meaning of the zoning of the specific areas is to define their exact use. It has been defined in compliance with the Owner's vision as well. The result of this step is the production of zoning plans for each specific area.

The specific areas have been defined as describe below.

The **Retail Centre**, located into the former *Umberto I* Hospital (cf. Figure 3.1), will contain:

- Ready-to-Wear shops,
- Haute Couture stores,
- Restaurants,
- Department Stores,
- Craftsman workshops,
- Cultural spaces,
- and Offices.

Glass roofs will be added around the Hospital to create pedestrian circulation, and some glass roofs will cover some patios increasing the surface of the ground floor of the Retail Centre, therefore containing more shops.

The **Palace Hotel**, located into the *Condessa Filomena Matarazzo Maternity* (cf. Figure 3.1), will contain:

- Rooms and Suites,
- Food and Beverage,
- Restaurant,
- Outside Pool,
- Back of House and Technical Areas.

The **Chapel** will remain a Chapel (cf. Figure 3.1) which might host weddings.

The **Cultural Centre**, entirely located underground, will contain:

- 3 Theatres (1200, 400 and 200 seats),
- 2 Cinemas (200 and 100 seats),
- an Auditorium,
- a School,
- a Library
- and Exposition Halls

A huge lighting staircase will serve the building.

The **Tower 1** will be located at the point of the site, within “Extension 1”. The right to build is not defined yet but the Owner expects to be allowed to build:

- SPA
- Residential / Office Area

The **Tower 2** will be located across the street “*Alameda Rio Claro*”. Its development depends most on the land acquisition than on its rights to build (which are not supposed to be an issue as this land, as far as known, is not submitted to any restricting regulations). The Owner expects to be allowed to build 23 000m² of residential area.

The **Parking lot**, entirely located underground – under the Hospital and the Maternity – should contain around 1650 parking spaces, with a maximum of seven underground floors.

The surfaces of every specific area are presented in the Annex 4 ‘**Program**’.

4. Works Cost Estimate

When developing a **Business Plan** for a new project, planners typically make **cost Estimates** in order to assess whether revenues will cover costs.

At this stage of the project, the works cost estimate is not done to assess if whether or not the proposed project is worth doing, as a lot of money has already been spent (due to the land purchase and the huge numbers of hired stakeholders), but to determine lease amounts and terms, as well as sale amount according to the works cost, the market prices and the expected margins.

For example, the Owner had signed a Built-to-Suit arrangement with the future Cultural Centre's tenant in which the Owner agrees to construct a building according to the tenant's exact specifications, and then to lease the property to the tenant. Thus, the works cost estimate served as a basis to negotiate the lease amount.

The works cost estimate was based on the plans available at the time, its accuracy depends on the level of details of the plans, the level of details of the specifications, etc.

When the work cost estimate was performed, the levels of details of the project were for:

- the Cultural Centre: almost detailed design;
- the Palace Hotel: schematic design with a global idea of the envelop rendering, the level of finishing (luxurious),
- the Retail Centre: schematic design with a global idea of the envelop rendering,
- the Tower: envelop/volume
- the Parking Lot: schematic design

To determine the cost, the quantity surveyor proposed methods, materials and time to perform the works.

Then, he used a cost data base of similar works, applying an index to convert historical costs to current costs, and to be as close as possible to the market in Brazil, he engaged consultations with local contractors.

The Work Breakdown Structure used for the Cost Estimate was a breakdown per Specific Area and per type of work.

- **Specific Areas**
 - the Cultural Centre;
 - the Palace Hotel;
 - the Retail Centre;
 - the Tower;
 - the Parking Lot;
 - External Areas.
- **Type of Work**

- Demolition, Repairing and Earthwork ;
- Special Foundations;
- Framework;
- Shell;
- Core;
- Mechanic, Electricity and Plumbing;
- Furniture, Fittings & Equipment;
- Operating Supplies & Equipment;
- External Works.

The QS – Quantity Surveyor (member of the financial advisor team) presented his results by two different manners. On the first one, the prices for the work were those for expendables, equipments, materials and labours only, called the **flat costs**. On the second one, the work expenses (equipments and non productive labours), the global contractor’s overheads (study expenses, operating costs and head office overheads) and the global contractor’s profit were included, giving the **selling prices**.

In general, the QS attached to the works cost estimate a time-schedule. For the Matarazzo project, he optimistically forecasted three years and a half of works.

Then, the fees of every stakeholder were updated in order to have the total work cost estimate of the project. This is a part of the Project Manager’s scope as he is the one who knows who are and who will be the hired stakeholders during the total duration of the development (for example, now we have “administration consultants” who intervene only at an early stage of the project, as they help the project to get the legal authorisations), as well as who work on what and at which level (for example, the design director has not the same implication for the retail Centre design and for the Palace Hotel design, indeed for the first one (Retail Centre) he manages only the design of the communal areas since the operators have their own architects whereas for the second one he will define everything until the artistic specifications such as the colour of the linen, or the number of books laying on the shelves).

To estimate stakeholders’ fees, a percentage of the retail prices were used, even if some of them will have another way of payment such as cost plus fee or lump sum.

From this point, the Owner gets an idea of budget required by the project he intends to develop, and the time it will take.

If the owner realizes that his budget is overrun or that the time schedule is too long, then the QS may propose solutions, such as reducing some surfaces, removing or suppressing some areas, choosing another level of quality for the fittings, etc.

5. Analysis

5.1. *Respect of the local culture and local way of proceeding*

The land owner is a French Investor, to develop his project in Brazil, he intends to respect the local culture and the way of proceeding not to be seen as a triumphant settler. Moreover, as the local organs are a bit different from those in France, the Project Manager has listened the kind advices given by the architect about the people that would be wise to hire.

Problem is that in Brazil, nothing is clearly said. Indeed, the mission of some stakeholders hired as the Owner's consultant was to give the Owner advices about what is feasible, how to make something feasible, how to present it to the local authorities to get the approvals, etc. but the only answers they gave were "Maybe Yes, Maybe Not", as if they are kind of afraid to be involved. Consequently, as those stakeholders did not bring the project, either for some issues the Owner takes his own directives thinking "let's see what will happened" or other issues remained on hold until the Project Manager assistant (hired later and who works there) made some researches and finally found out.

Another problem is that "nothing" is written – there is no code of construction in Brazil, barely a *Código de Obras e Edificações* (Brazilian Building Code) which distinguishes the types of construction – *Obra Nova* (New construction)/ *Reforma* (Refurbishment)/ *Reconstrução* (Reconstruction)/ *Regularização* (Regularisation)/ *Pequena Reforma* (Small Refurbishment)/ *Mudança de Uso* (Change of Land Use)/ *Projeto Modificativo* (Modification Project) – and therefore the building permit that will be required according to a number of factors. They do not write anything either. Indeed, after a technical meeting, they do not write any report about what have been said, what actions have to be taken, who should lead those actions and when, etc. As if tacit agreements were enough. But it cannot work this way as almost all the direction team (the Owner, the Project Manager and the Design Director) is located in France and the Technical team (architects, engineers and consultants) is based in Brazil. Problems of communication started to appear between France and Brazil. Henceforth, the project Manager assistant tries to introduce reports after each technical, administrative or tenant meetings.

5.2. *Impact of the Design Director Involvement and Cultural Centre Lease*

The Artistic Director was hired almost at the same time than the Architect but it had really been involved in the Conception barely three months later (around end of March 2011) which had a huge impact on the project development, on the role of the architecture team, etc., especially on the development of the Cultural Centre.

Moreover, at the same time, the accent was put on the Cultural Centre due to the memorandum of understanding which was about to be signed with the future tenant.

Therefore, the architecture team has focused on the development of the Cultural Centre. And forgetting the other items of their mission, such as validate the administrative, technical

and commercial feasibility of the project. They worked more than expected on its drawings, which have reached almost the “detailed design” level of conception.

The project is so large, that is hard to keep an eye on everything. Indeed, the project is led by some major issues (building permit application, lease signature, legal approvals, etc.) which keep the attention of every stakeholders and which eclipse minor points. Problem is that minor points stay on hold and then become major points, and the situation may go like this indefinitely. This problem was partly due to the lack of members in the direction team present in Brazil to keep everyone on the right track and to have an eye on everyone’s mission.

5.3. Architect Negotiations

Realizing that his team was working crazy hours, the architect asked for regularization, but he forgot that he had not fully completed his mission.

This situation appeared due to a socio-cultural difference: Brazilians do not like conflict. After the intervention of the Design Director on the project, the Architect had forecast that his team will work “crazy hours” to implement all the changes in the plans but he did not try to re-negotiate his contract at that time. Instead, he waited for three months, coming with a detailed spreadsheet of the hours every members of his team had worked on the project since the modifications.

From this point, negotiations between the architect and the owner started and have lasted no less than two entire months, putting the project on hold.

The Project Manager realized that he cannot dismiss the architect, the deadline for the building permit application was already far behind schedule (at first planned for July 2011, it is now planned for December 2011) and it would have taken too much time to re-start everything with another architect. Moreover, the Project Manager heard that the architect team has already started working on it. So preliminary drafts of the required documents were lying somewhere but were not available.

Meanwhile, the Architect realized that he cannot lose the project, in terms of reputation it won’t have been wise and it is an *at least* four-year project which ensures work all along this period.

They finally agreed on a proposal which is realistic in terms of time of budget. Indeed, the project manager succeeded to reduce the fees the architect was asking for with the scope of mission the project manager wanted.

This could have been avoided if, the architect had come directly to re-negotiate his contract with his team working in parallel or at least freezing the project for two or three weeks during the negotiations, not going so far in the development of the project and then asking for a financial compensation.

5.4. Turning Point

The architect negotiations and the preparation of all the legal documents have marked a turning point in the development of the project. The Supervision team has assessed the

situation in terms of time-schedule and works performed until then and he considered that the mission of some stakeholders had been completely finished, thus their contract end there, that the mission of some had been partially completed or are considered as irrelevant thus they are dismissed.

For those who have fully completed their scope, they have been allowed to make new proposals to continue working on the Matarazzo project, problem was they asked fees which were way too high and not at all realistic, that is true that the project is huge, but they should complied with a socio-economic reality.

Moreover, after six months working in Brazil, the French leading team starts to know and understand the local mentalities, the local way of proceeding and the Project Manager assistant made some researched about similar projects (in particular retrofit project) developed or being developed in São Paulo to know what are feasible, what kind of project local authorities accept, who are the people who have worked on those projects. That way, the field of vision of the Supervision team became larger.

5.5. Organisation - Work Breakdown Structure

From this turning point, the Project Manager starts to forecast that will be the organisation of the project for the next steps of the development (after the building permit application), in particular within the architect team and the contractors.

Indeed, due to the size of the project, two options are possible:

-the first one: there is one lead architect for the whole project who organizes himself his team (either he his able to work on the project with his own team only or he sub-contracts other architecture firms per every specific area or for some missions). Therefore the Project Manager manages only one contract, and there is only one person representing the whole architecture team at every meeting;

-the second one: there is an architect per specific areas, meaning that there is a contract per architecture firm and one representative of each firm at every meeting; multiplying the number of stakeholders.

The first solution is largely favourite, so that the numbers of representatives for the whole project is reduced, limiting also the numbers of contracts to manage. It enables also to centralize the information, so that by having a limited numbers of representatives, the external stakeholders know to whom they should address their works, their requests, etc.

But this solution also have its share of drawbacks cause, once the representative have gathered the information, he should diffuse it properly to the appropriate stakeholder by being totally transparent, neither retaining the information nor omitting any aspects which means a total openness and a complete trust. Plus, for being the lead architect, the tendered may ask for additional fees for management.

The questioning are almost the same for the execution phase. Again, there are four options to deal with the works company.

Either there is one global contractor which bids on the whole project, being responsible for every specific areas and for the management of the technical trades, or there is a global



contractor per specific areas, which is still responsible for the technical trades, or an invitation to tender per trades for the whole project, or an invitation to tender per trades and per specific areas.

Again, the favourite option is the one with ONE representative for the whole project, for the same reason than above, even if it implies the same disadvantages.

Such a large project involves inevitably large amount of fees for management and a certain trust!

6. Conclusions, Recommendations and Opening

The following chapter presents the conclusions of the analysis of the procedure of development of the Matarazzo; further recommendations on how to develop a large real estate project in São Paulo, Brazil when you are not from there; and some opening for future Master of Science thesis.

6.1 Conclusions

6.1.1. Important Shareholders

This subsection presents the shareholders which have been particularly important during the development of the **Matarazzo Project**:

- Federal and Municipal Institutions,
- Design Director and Architect,
- Future tenants.

6.1.2. Steps of the Procedure

During my internship, the **Matarazzo Project** went through different steps which led the decision proceeding, the documents to be prepared, etc. Those steps are listed below in a chronological order:

- Definition of the Master Plan,
- Future Tenant Negotiations,
- Architect Negotiations,
- Work Cost Estimate,
- Building Permit Submission / Legal Approval Applications.

6.1.3. Issues

Several problems occurred during the time I was completing my degree project and which are important to mention when analysing the procedure of development of the **Matarazzo Project**. Those issues were due to:

- Cultural differences,
- Different way of proceeding,
- Lack of focus,
- Stakeholders' negotiations.

6.2. Recommendations

When developing similar projects – large real estate projects with historical, cultural and architectural values – in Brazil or in any countries that are different from the one of the developers, it might be important to make researches about the cultural values, the procedure of development, the local institutions involved in the process of development and the subsequent required documents of the host country / municipality before starting the project in order to avoid wasting both time and money – which are key factors of success.

Moreover, if the main decision makers are not located where the project is developed, it is crucial to have someone trust worthy, devoted and used to local process on the site in order to keep every one on the right track, making researches if needed, etc. as the Project Manager Assistant is actually doing for the **Matarazzo Project**.

6.3. Opening

It would be interesting to continue the analysis of the procedure of development of the **Matarazzo Project** – as it is such a complex project – in order to know what going to happen next, where the project will be led; how the project will look finally, if the expected deadlines will be respected; what future problems will be, with which stakeholders and what will be the ultimate solution, etc.

Another interesting subject for a future thesis might be to compare the procedure of development of a similar project (large real estate project involving landmarks) somewhere else in Brazil, or even in another country in order to compare:

- Who are the important shareholders,
- What are the important documents,
- If the crucial steps appeared in the same order,
- If similar problem are faced,
- Etc.

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Annexes

Annexe 1 – Matarazzo Photographs

Annexe 2 – Organization Chart 1

Annexe 3 – Organization Chart 2

Annexe 4 – Program

Annexe 5 – Master Plan

Annexe 6 – Mood Board