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**URBAN RE-DESIGN FOR THE ANCIENT FRONTLINE OF THE  
DOCKLANDS OF RIO DE JANEIRO, BRASIL:  
SUPPORT FOR FUTURE DEVELOPMENT OF THE CENTRAL AREA**

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## **URBAN RE-DESIGN FOR THE ANCIENT FRONTLINE OF THE DOCKLANDS OF RIO DE JANEIRO, BRASIL: SUPPORT FOR FUTURE DEVELOPMENT OF THE CENTRAL AREA**

### **1. Introduction**

Like other colonial cities in South America, Rio de Janeiro's history was related to the aspect of a maritime city, conditioned, economically, to naval and railway transportation. Urban life developed along the bayside and, presently, the city is undergoing a full revitalization program for the docklands historical frontline and its surroundings.

The study area stands between the ancient docks, close to the historical center, and the new ones, in the north direction, limited by the Central Railway Station and the Guanabara Bay, and it is enclosed by traditional residential neighborhoods.

The urban fabric still maintains its original frontline delimitation, testifying the docklands evolution, defined in three moments: the origin, back in the XIXth century, characterized by a series of beaches, wetlands, small bays; the maritime commerce growth and the increase of storage structures, in the beginning of the XXth century, and, more recently, in the middle of the XXth century, the role of an industrial complex.

Recently, the Mayor of Rio de Janeiro developed a Revitalization Plan for the Docklands (Porto do Rio), which includes a new circulation system and a special zoning code to protect both urban and architectural historical asset and to provide a new mix of land uses, with economical, cultural and residential activities.

Among its goals, the program has the continuity of the ancient coastal delimitation, with special landscape design effects planned to preserve, in the future, a special trace of the past. Other important aspect is the urbanistic requalification of other residential areas, located in the hillside in the central area of the city, with particular morphological profile, defined by their land partition and building types.

In this context, we developed two urban re-qualification projects, with regards to restoration and redesign strategies, which are also presented in this paper.

### **2. Historical aspects**

The urbanization process of the docklands of the city of Rio de Janeiro, which includes the districts of Saúde, Gamboa and Santo Cristo, began in the XVIIIth century, with the initial occupation of the hillside, caused by the construction of religious and military structures and the proximity to the sea.

The presence of monasteries, churches and fortifications followed the principles of occupation of hilly areas: territory defence and better sanitary conditions found in the highlands. Later, in the XIX century, these hilly areas have testified the population densification brought by the docks activities and job opportunities.

The peculiar frontline shape, the occurrence of wetlands and the rocky soil contributed to the isolation of this districts until the beginning of the XIX century. The slave and salt commerce contributed to enhance the docks and trade business, attracting residents to this sector. By that moment, in the middle of the XIX century, the old properties, which once belonged to military, religious or farm owners went through an intense land parcelling process, which followed the



**Figures 2: Aerial photo of the Santo Cristo district**



### **3. Urban morphology peculiarities**

We can see distinct morphological trends when we compare the older innerland sites and the ones obtained through several landfill works. The land parcelling process as well as the specific occupation parameters ended up shaping different spatial relations.

In the hillside, as well as in the flat and low sectors, close to the old coastal line, we observe the presence of the typical portuguese colonial urban lot, narrow and deep, with dimensions of 5x50m in average. Up in the hills, the streets are narrow and the houses define their alignment. The lot partition system has not considered vehicle circulation, and the spatial interaction between the houses and the streets generate the public open spaces. There are houses from different ages

but the whole set of buildings is uniform as are the dimensions and volumetric relations. The same dependence between the houses and the public spaces is preserved in all its character.

This uniformity of peculiar spatial relations give the place a strong identification with the past, allowing, at the same time, for change inside the lots, where new constructions are built, in the back, what gives room for small alleys and row houses. These housing units are frequently put for rent, preserving the same ambiance seen in the original occupation, back in the middle of the XIX century.

In the lower sector, we can find diverse types of lots, constructions and streets, according to the land use. There are huge railway facilities, which correspond to the empty spaces, and the old warehouses set aside to the docks, which close the views to the bay, besides other diverse morphological relations. The storage and trading activities conditioned the forms of lot occupation and construction.

**Figure 3: Railway facilities, warehouses, tunnel, elevated avenue**



Some remnants from the railway-docks circulation system are found in the area, like the tracks crossing the streets, existing tunnels and the storage facilities .

Nowadays, the vehicle circulation is the most important system and the spatial interactions have dramatically changed with the construction of the Perimetral Avenue. For the drivers, the view of the bay is positive, for the pedestrians, however, the avenue is a visual and perceptible barrier, modifying the original relation between the built environment and the ocean and the land.

#### **4. The Rio de Janeiro Docklands Revitalization Plan**

The revitalization of the docklands and surroundings is part of the downtown rehabilitation strategy. If, by one hand, it is against the real estate market, which has invested massively in the expansion areas and residential suburbs, by the other hand, it is coherent with international trends, seen in other metropolitan areas, which are focusing on recuperation of old docks and central districts. These trends help promote “new uses, a pluralistic social fabric, public spaces, a territorial base for the civil consciousness”, as described by the Secretary of Urbanism, Mr. Alfredo Sirkis. (BORELLI, Ana, 2001).

In the Plan, as proposed by the Mayor of Rio, the common sense about the whole implementation effort is the understanding that it is a long range and strategic process. The principles, listed below, were defined after the analysis of other experiences around the world:

- Restoration of the old sectors, as the new ones uses are introduced
- Support the local economy
- Promote the diversity of uses

- Estimulate the public participation and mutual cooperation

According to these principles, the Planning Department (IPP) developed the Rio de Janeiro Docklands Revitalization Plan, which includes, besides the new circulation system, the zoning code with historical preservation premisses as well as with the intention of bringing occupation density, with new residential, economical and cultural activities.

The balance between social development and environmental preservation is a central question for the planning and construction works and must be related to the bay water recuperation efforts, being implemented by the state government, and to the drainage system revision plan, elaborated by the Drainage Municipal Foundation.

## 5. The projects

### 5.1. Morro do Livramento Project

Figure 4: perspectives



Our project was based on eight urban design patterns, as applied to the different types of streets, and on seven special public spaces design, with particular landscape treatment.

The concept was defined by the choice of enhancing the local urban ambiance, as well as the historical aspects, and of having a discrete and respectful intervention. Nevertheless, the conditions of comfort, safety and accessibility, the need for infrastructure and the renewal potentials were also considered.

The circulation system has a main structure in ring, formed by the streets and slopes located at the top of the hill (Ruas do Monte, Ladeiras do Faria and Barroso) combines flat and hilly parts and the entrances in the bottom part. This acknowledge was important in the patterns definition and

application. In this aspect we introduced a traffic-calming system, with horizontal and vertical elements, as we decided to emphasize the pedestrian traffic and provide a common character to the whole area.

The construction materials choice was based on the local landscape characteristics. In this way we indicated the portuguese stones mosaic, for sidewalks paving, and granite mosaic, for the streets paving. In the slopy streets, we proposed a combined concrete and granite stones paving, providing more safety for vehicles and pedestrians.

## 5.2. Ruas Santo Cristo and Pedro Alves Project

This study area, located in the lower lands sector, refers to the old coastal line design as defined by the alignments of Pedro Alves and Santo Cristo streets, which make the contour around the Pinto and Providencia hills, and point out the original aspect of the old Alferes Bay. Special care was taken, by one hand, with the emphasis on that contour, enhanced by special lightning and landscape effects, and, by the other hand, with the improvement of infrastructure systems, mainly drainage and sewage disposals coming from the hills.

The land parcelling system is concerned to land use diversity. Along the Pedro Alves and Santo Cristo streets, there are lots with larger dimensions (15x30m/30x30m), and in the other streets, the lots are smaller (4x20m e 5x30m), testifying the different historical occupation periods: the original occupation of the ocean front line, back in the middle of the XIX century, and the blocks which were parcelled on the landfill sector, in the beginning of the XX century. The building types observed are mainly low-rise constructions, with one store, two stores houses and many warehouses.

The conceptual framework for the project had emphasized on the complementation and transition characteristics of this study area, as considered the new circulation system proposed by the Docklands Revitalization Plan, including structural streets, urban train circulation system and a set of tunnels.

**Figure 5: Map of the Ruas Santo Cristo and Pedro Alves study area**



We also analysed the historical and architectural preservation efforts, along with existing and proposed uses, which combine residential, commercial and industrial activities. The social aspects had received the same concern, such as the local residents characteristics, having a special reference to the proximity of the Providence Community, the first slum area in Rio de Janeiro, with its origin back in the end of the XIX century.

In this project, similarly as in Morro do Livramento, we formulated seven urban design patterns and the definition of four special public spaces design, which will receive specific landscape treatment. Besides, we established ten circulation connections, which will integrate the study area with other projects being developed in the surroundings, with special concern to the coastal line continuity.

We respected the functional aspects of the study area and struggle to combine the new trends in terms of circulation, urban design and constructions with historical character and urban ambiance. In this direction, we proposed, in the remodelling project for the Mor Aguiar Square, a Memory Panel, where an artistic glass mosaic will be placed with the image of the old maritime landscape view, before the landfill works, in which the original bay with the islands and small beaches will be seen. Located close to the antique train station, the square design will have historical references and the new recreational uses for the local residents, can be considered the symbol of the project.

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