

**Rehabilitation strategies used in the architecture competition for a
basic school and kindergarten in Lisbon**

Madalena Nobre de Oliveira Gouveia Roque

EXTENDED ABSTRACT

Thesis to obtain the Master Degree in
Architecture

Supervisors: Professora Doutora Maria Alexandra de Lacerda Nave Alegre
Professor Doutor João Guilherme Appleton

**October
2022**

INTRODUCTION

The dissertation aims to analyse the proposals for the SRU rehabilitation contest of Estrela's Kindergarten and Elementary School 72.

The choice of this theme was primarily due to the high interest in the theme of rehabilitation and the growing importance that it has in the field of architecture, which should contribute to the preservation of buildings, to the conservation of their cultural values, taking into account the context in which they integrate. The rehabilitation of the infrastructures of already consolidated cities must also guarantee the increase of their performance levels and consequently the adaptation to current and future needs.

The Municipality of Lisbon is currently focusing on increasing the school network and improving the conditions of existing schools in order to adapt the supply network to demand, following the guidelines of the Lisbon Educational Charter (March 2008). For this purpose, the Escola Nova and B.a.Bá programs were created, and the Urban Rehabilitation Society (SRU) was in charge of various interventions under these programmes, creating open competitions to find the most appropriate solution.

In this case, in addition to the Specifications and the Preliminary Program, there was an architectural feasibility study (annex 1), to which all competitors had access and which they tried to respond in the best way, integrating programmatic needs and proposing solutions that would integrate other dimensions such as the quality of the space, the architectural image, the relationship with the surroundings or even environmental sustainability.

The various proposals in response to the contest in question constitute varied solutions for the requalification of the school complex, and the subject of this thesis is its analysis and comparison, based on the evaluation criteria that SRU used for the election of the first classified, as well as other parameters that facilitate the reading of the projects.

SCHOOL BUILDING

This chapter is divided in two parts. Firstly, it describes the Estrela's Kindergarten and Elementary School location and characteristics since it's early constructions on the site until the current buildings built. Secondly, it's described the main problems associated with the school that led it to close and be included in the rehabilitation program this dissertation focuses on.

Estrela's Elementary School and Kindergarten 72 is located on Rua da Bela Vista à Lapa, in a privileged location in the historic center of Lisbon. It is part of a consolidated block in a trapezoidal shape in Estrela, sharing its location with important urban moments, such as the Basilica da Estrela to the West, the Jardim da Estrela to the North and the Assembly of the Republic, former Convent of São Bento, to the East.

The first evidence of any relevant construction on the land appears in 1878/79, as a single-family residence, later expanded to the back. The 19th century house, with domestic architecture, partially synthesizes the construction of the Lapa neighborhood in Lisbon and has the usual characteristics of that time: high ceilings, flag doors, molded stucco on the ceiling and relatively large compartments that allow a cellular organization of space.

The second moment concerns the building built in the 1950s, after a first adaptation of the 19th century house to an elementary school. The new building is included in the Plano dos Centenários - a construction program carried out by the Estado Novo started in 1944 - in order to respond to the rural exodus, since the school reach at the time was not able to respond to the demands of the demographic increase, therefore the main objective was to develop primary schools in series. The building designed by the architect Alberto Braga de Sousa, is included in the second phase of this plan. It appears with a "T" plant implanted inside the lot, creating, in a way, a "world" that is only revealed inside the enclosure, since its recessed insertion makes its existence imperceptible from the street. The new building includes classrooms of adequate dimensions, with fast and efficient circulation between spaces and with a correct orientation that

would allow hygienic, well-lit and ventilated spaces, as the plan in which it was integrated dictated. With profoundly modern characteristics due to its internal functionality, organized into three floors, the school equipment originally assumed the separation by gender, including distinct playgrounds and cafeterias, legislated by the Plano dos Centenários, and assumed a traditionalist external appearance, common at that time.

Subsequent to this construction, the building dedicated to the gym was also built, presenting a perpendicular implantation to the previous one.

Today, the 19th century building is organized differently from the original, but still has plenty of evidence of its former form and function. It has a single core of vertical accesses, identical to other models of the time, with an elliptical wooden spiral staircase that accesses all floors of the building. Its walls have thicknesses of varying dimensions, as is usual in buildings of this period, and its compartments have regular proportions. As mentioned before, on the first floor there is a direct access from the street, which corresponded to the main entrance of the house. The ground floor, intended for the cafeteria, was adapted from the old stables of the original residence, noting the structural arches that frame the space that still remain. On this floor, the building has a direct connection to the patio.

The building from the 1950s appears to have remained unchanged since its construction, except for occasional alterations introduced to respond to the needs arising from the evolution of time and education. It has a volumetry composed of two bodies, one longitudinal with an east-west orientation and another transversal body oriented from north to south. This last body is mainly intended for the sanitary installations and the access nucleus of the building and, currently, it also includes an elevator. On the lowest floor, the transversal core extends to the south to accommodate more school programs and regularize the shape of the outdoor playground. The remaining floors of the building are organized in a regular way, accommodating the classrooms along the longitudinal body, distributed through a corridor on the back facade of this building.

Until the current year, the buildings were subject of rehabilitation and maintenance actions, carried out by the Parents' Association and the Parish Council, carrying out occasional interventions of painting and repairing certain floors, but without significant changes in their structure and appearance.

The phased constructions of the different volumes generated a school complex that does not take advantage of its compactness. The construction of the bodies by the different altimetric platforms of the land presents problems of circulation and communication between spaces, heightened for people with reduced mobility, and the outdoor spaces seem simply remnants of the implantation of the buildings, forming an incomplete and disjointed system. From the point of view of the exterior image, the 19th century building has preserved its facade and character, contrary to what the rest of the complex and its interiors reveal, with a clear degradation.

The oldest building (Building A), adapted to the Primary School, was the subject of alterations and additions before the adaptation to this new function. However, despite the physical continuities being guaranteed inside, the conflicting design of the roofs generates problems of infiltration due to the expansion made to the back. It is also verified that the building does not allow accessibility for people with reduced mobility, since the only ways of accessing its interior are by stairs and its compartmentalization leaves little space for a fluid and adequate circulation a school.

The Plano dos Centenário's building (Building B), despite being functionally adequate for pedagogical needs, has some structural deficiencies, specifically in the roof, since it includes materials with asbestos in its constitution, which can release particles harmful to the health of users. The façade of this volume also requires some treatment and reinforcement, given that one outdoor recreation area was closed off due to part of the cladding having fallen.

The building dedicated to the gymnasium (Building G) is the one that causes the greatest problems in the school complex. It has a disorderly layout compared to other existing buildings, occupying a large area that could be used for outdoor recreation, leaving a limited and

unprofitable remaining space for students' recreational activities. The roof of this volume, as well as its outer covering, also contain materials with asbestos, with the risk of releasing harmful particles, particularly as it is exposed to the impact of sports activities. For these reasons, this space was completely closed and students were left with even less space for physical activities.

The remaining outdoor space is limited and the roofs are of poor quality and potentially dangerous, making it impossible to take full advantage of the playground, essential in a school.

SRU COMPETITION

In this chapter, the first part aims to explain how the process of this rehabilitation competition works, the elements that each competitor had to deliver in order to participate and what was evaluated during the process of choosing the winner. On a second part the aim is to explain the goals that were expected to be achieved within each proposal.

The “Programa Escola Nova” promoted by the Lisbon City Council through the SRU was launched to ensure, through the architectural, energy and environmental requalification of spaces, an inclusive and qualified schooling, based on the Educational Charter. The Estrela’s Kindergarten and Elementary School was included in this program.

The Preliminary Program was launched on September 2020, setting out the scope of the intervention, exposing the current characterization of the school building and the problems associated with it, as well as the constraints associated with the execution of the project. This document also concludes by establishing the objectives that must be met, and also presents a feasibility study of a merely illustrative nature. It ends with a list of spaces and areas to be included in the project and the maximum cost estimate that the project can reach.

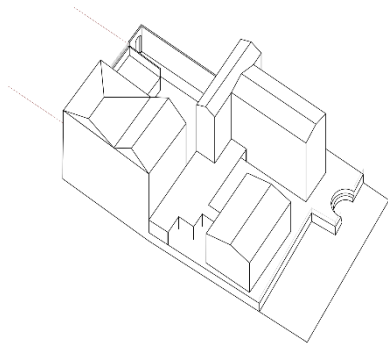
The alterations referred to in the Preliminary Program are distributed at the level of interior and exterior spaces. Regarding the interior spaces, the main objectives are: to create a school with 8 classrooms for basic education, with a capacity for 208 students and to create 3 activity rooms and respective complementary spaces for the kindergarten, capable of welcoming 75 students. It is also necessary to create a new UAMM room and other support spaces with adequate conditions, equipment and accessibility. Administrative and other complementary spaces that allow quality education are also important to create, as well as reformulate the circulations and halls in order to be suitable for users with any mobility limitations and create a concierge that controls all accesses for control and security. of school users. It is also necessary to update the complementary spaces for common use, such as the kitchen, the cafeteria, the library, the CAF room, the multipurpose room and the gym, in order to guarantee the quality of the areas. In terms of outdoor spaces, ample covered and uncovered playgrounds, educational gardens or raised flower beds and areas for sports activities are required. It is considered important that the kindergarten playground has its own equipment and characterization, although there may be a common use with elementary school students, at different times (Preliminary Program, SRU).

Each proposal must also consider some general objectives analyzed by the SRU jury in the classification, particularly: integration into the surroundings; architectural identity and innovation; the suitability of the functional program and finally, the rationalization of constructive solutions and attention to sustainability.

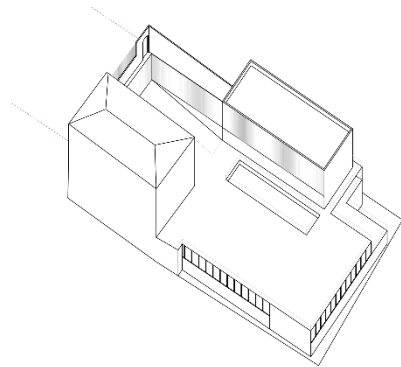
The competitors have a deadline to submit the required pieces: an A3 notebook that includes the written pieces, namely, the descriptive and justification accompanied by spatial organization schemes; the area tables that express the proposed areas for the spaces, taking into account the program, and finally, the cost estimate of the project. The second and last item to be delivered is an A3 notebook for the drawings with the presentation of a minimum of elements: implantation plan and two urban profiles (longitudinal and transversal) at 1/500 scale, translating the impact of the solution on the surroundings; and plans, sections and elevations, at 1/200 scale, that show the form and characteristics of the proposal.

On November 2020 the Preliminary Report was issued announcing the winner, and since there wasn't any objection, the Final Report was issued in the same month.

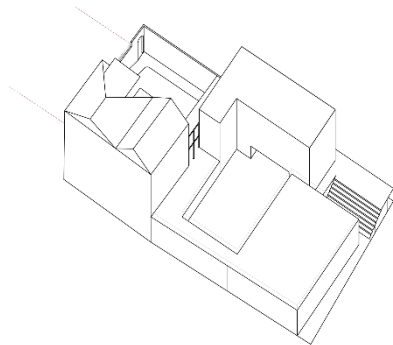
PROPOSALS



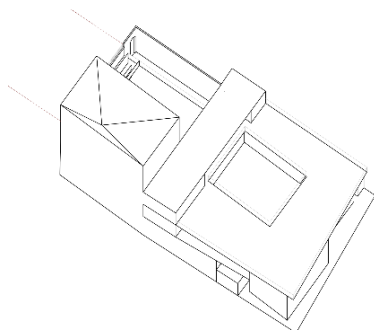
Original Volumetry



1st Proposal Volumetry



2nd Proposal Volumetry



3rd Proposal Volumetry

This chapter explains each proposal with some parameters as basis and enhanced with diagrams in order to explain each proposal better and enable a later comparison between them. Only fourteen from the seventeen competitors gave permission for this analysis. In this abstract, each proposal will be summarized by the volumetry parameter and diagram.

1st Classification: Consórcio GBB:

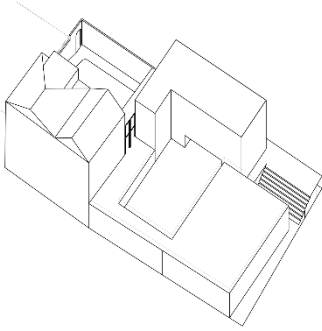
The volumetry of Building A is altered through the reformulation of the roof. Building B presents volumetric changes, proposing the demolition of the transversal body and subsequent expansion to the back of the building. Building G is demolished. The original volume of the set is altered in particular through the new facade of Building B and the creation of a platform that takes advantage of one of the topographic levels, in order to increase the recreational space on its roof and take advantage of the underground area for complementary spaces, but without impact on the surrounding urban fabric. On the -2 floor, there is a new volume dedicated to the gym that impacts the upper level given its double height, and on the -1 floor there is also the multipurpose room. Another built volume is the CAF room. The complementary space is located under the access ramps to Building A, adjacent to the urban front wall.

2nd Classification: Consórcio Appleton Domingos/ BFJ:

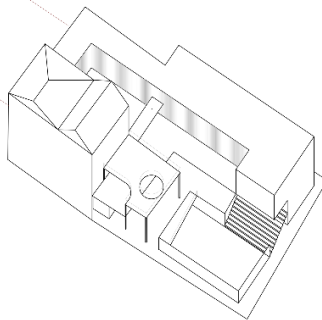
The volume of Building A remains unchanged. In the case of Building B, there are volumetric changes, proposing to expand part of the longitudinal body. Building G is completely demolished. The original volume of the set is altered by the creation of a platform that regularizes the patio on the intermediate level, starting from one of the topographic levels, in order to increase the recreational space at this level and take advantage of the underground area for complementary spaces, but without impacting the surrounding urban fabric. On the -2 floor, there is a new volume dedicated to the gym that impact the upper level given its double height.

3rd Classification: Consórcio BAU:

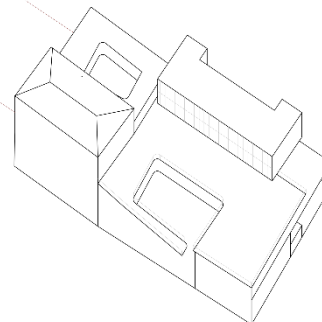
The volume of Building A remains unchanged, with the exception of the small expansion on the top floor as a result of the reconstruction of the roof. Buildings B and G are completely demolished. The original volume of the set is altered by the new Building B, which completely redesigns the lot and the school complex as a whole.



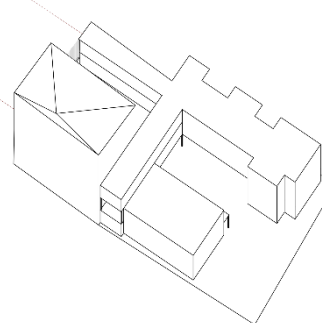
4th Proposal Volumetry



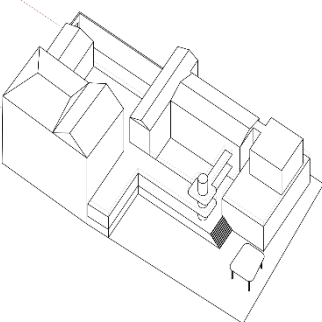
5th Proposal Volumetry



6th Proposal Volumetry



7th Proposal Volumetry



8th Proposal Volumetry

4th Classification: Ricardo Carvalho Arquitectos

The proposal intends to preserve the volumetry of Building A with a small expansion on the top floor, taking into account the reformulation of the roof. It is also intended to maintain the exterior character of Building B, but proposing some volumetric changes with the demolition of the existing body on the back and its new expansion in the same place as the building. Building G is completely demolished. The original volume of the set is mostly altered by the method in which the space is used at the level of the ground floor of Building A, with the creation of an outdoor sports facility at the rear edge of the lot and the platform that unifies it with the complex. The new volume dedicated to the spas does not affect the complex's image, as it is buried on the top floor. Another striking change in the complex are the galleries formed in the first courtyard that formalize the space and unite the two buildings.

5th Classification: Focus Group

The proposal intends to maintain the original volumetry of Building A. Building B is substantially rebuilt and expanded, resulting in a great volumetric impact. Building G is completely demolished. The original volume of the set is altered by the new impact of Building B and by the new volume of access built from the gate, where the entrance hall is located. The way in which the outdoor spaces develop and relate is also altered, differentiating itself from the original. An expansion is also carried out in Building B on the -2 floor to house the changing rooms, but without impacting the general volumetry as it is buried.

6th Classification: MVCC Arquitectos

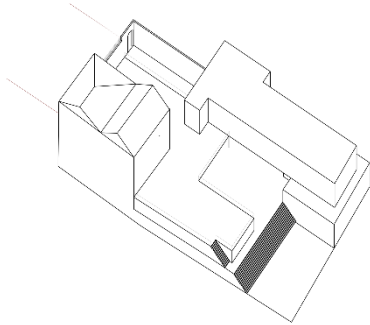
The proposal intends to maintain the volumetry of Building A, but it is inevitably altered by the remodeling of the roof. In relation to Building B, it is proposed that part of the transversal volume of this one be demolished and its whole later expanded in order to achieve a symmetrical shape. Building G is completely demolished. The original volume of the set is altered by the new shape of Building B, as well as by the new platforms and paths between levels that are proposed. A concierge is proposed in the body adjoining the wall and a new volume on the -2 floor to house the changing rooms, but without impacting the general volumetry as it is buried.

7th Classification: José Simões Neves:

The proposal intends to maintain a large part of the volumetry of Building A, inevitably altered by the new roof. Regarding Building B, it is proposed that it be extended to the east and west limits of the lot, as well as that the transversal body is also extended to Building A. The new Building G is rebuilt as a continuation of Building A, but at the lowest topographical level. The original volume of the set is altered by the reformulation of the three buildings and the relationship they have with each other and with the topography, and instead of taking advantage of the three topographic levels, the proposal only adapts to two of them.

8th Classification: Silva Dias Arquitectos

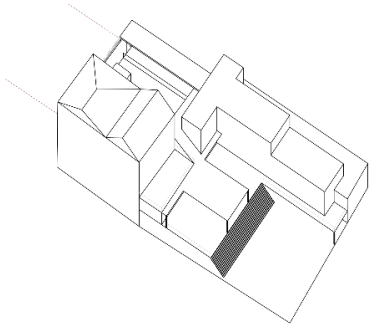
Regarding Building A, the proposal intends to maintain a large part of its volume, despite this being inevitably altered by the new roof. As for Building B, it is proposed to be preserved, while Building G is completely demolished. The original volumetry is altered by the construction of two new volumes, the first one adjacent to the school wall and the second in the continuation of Building B. The school complex is connected by a longitudinal axis formed by a platform that culminates in a core of vertical accesses, thus distinguishing itself from the original image of the school complex.



10th Proposal Volumetry

10th Classification: Pardal Monteiro Arquitectos

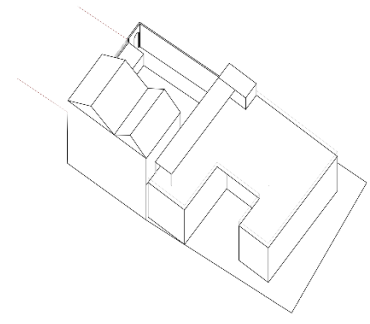
In relation to Building A, the proposal intends to preserve its volume. Regarding Building B and Building G, total demolition is proposed. In this way, new volumes are proposed to respond to all the needs of the program. It is intended to build a new volume with the same location as Building B, but whose volumetry extends to the limits of the lot. It is also proposed to build a volume dedicated to complementary spaces in the continuation of Building A, which is connected underground with both buildings. The original volume of the ensemble is therefore altered by these new proposed buildings.



11th Proposal Volumetry

11th Classification: Miguel Viseu Coelho Arquitectos

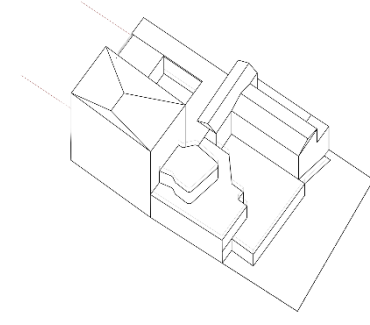
Regarding Building A, the proposal intends to preserve the original volumetry. It is proposed the complete demolition of Building G and the relocation of its program in Building B, for this, the east part of the building is demolished for the construction of the new volume and the remaining Building B is maintained and reformulated. It is also proposed a volume attached to the urban front wall that serves as a concierge, also housing other complementary spaces and that makes the connection between Buildings A and B. The volumetry of the school complex is then altered by this reformulation of the existing volumes, freeing outer space and taking advantage of the original topographical features.



12th Proposal Volumetry

12th Classification: AT 93

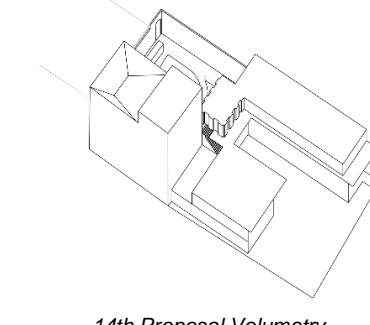
Regarding Building A, the proposal consists of completely demolishing its interior and subsequently expanding the volume by altering the roof. Buildings B and G are completely demolished. It is proposed the creation of a new volume whose implantation appears on the last topographical level and its coverage coincides with the ground floor of Building A, providing a large and continuous outdoor area for recreation. There is also a proposal for a new volume attached to the wall and directly related to Building A.



13th Proposal Volumetry

13th Classification: João Lúcio Lopes Arquitectos

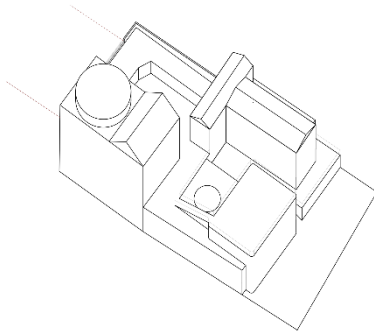
The proposal intends to expand Building A, creating another floor due to the new reformulation of the roof, it is also proposed to create an organic volume at the back of this building, whose roof also serves as a playground. Regarding Building B, it is intended to reorganize it to suit the function, expanding it on the -1 floor and up to the -2 floor. Building G is completely demolished and a new building is proposed that adopts the function of the gymnasium in the continuation of Building A, with its roof being used as an outdoor space. The volume of the complex is altered by the new shape of the building and the new organic geometries.



14th Proposal Volumetry

14th Classification: CCG Arquitectos

The proposal is based on the maintenance of Building A and the demolition of Buildings B and G. It is proposed the construction of two new volumes, implanted in the lowest level of the land, the first one that replaces Building B, in the same location of the lot and with a similar geometry and a second, which replaces Building G and takes the same direction as Building A, connecting directly to the new Building B underground. Adjacent to the new Building B, and in connection with it, a volume responsible for the vertical connection of the complex is proposed.



15th Proposal Volumetry

15th Classification: DNSJ. Arq, Ida

The proposal intends to keep Buildings A and B, expanding them, and rebuilding Building G with the same layout. The volumetry of Building B is a little modified, with an expansion made to the back, however, the volumetry of Building A is extremely altered by the new volume built on its top floor, since it adopts a completely different shape from the original. The shape of the new Building G presents some changes in relation to the pre-existing one due to the new rounded edges of the volume and the fact that its roof can now be used for recreational purposes. It is also proposed to build a distributing volume from the school gate, establishing connections between the buildings. The volumetry of the complex is then altered by the forms that the new volumes adopt.

CONCLUSION

To sum up and taking into account the aims of SRU for this competition, it is possible to draw some conclusions regarding the different strategies proposed for the rehabilitation of Estrela's Kindergarten and Elementary School 72, and regarding the decisions of the jury, taking as a point of analysis their evaluation parameters: integration into the surroundings, architectural identity and innovation, suitability of the Preliminary Program and rationalization of constructive and sustainability solutions.

In terms of integration into the surroundings and, with special emphasis on the urban front, the winning solution chose to replace the original railing with a slatted system, also used inside the complex, despite corresponding to a change in the image of the urban front, it corresponds to a fence so you will always have the possibility of reversing. The proposal also chose to create a single cover in Building A, expanding the useful area of the top floor given the increase in its ceiling height. Such action has had an urban impact as Building A increases one floor. However, it maintains the altimetric relationship with the gate, and does not exceed the height of neighboring buildings.

In addition to the winning proposal, others also opted to increase the area of the top floor, through the reformulation of the roof with the aim of correcting the anomalies arising from its shape and eventually gaining a useful area. However, other solutions proposed the maintenance of the original urban front, despite having corrected some geometric issues of the roof design and, thus, keeping the school's architectural identity unchanged from the surroundings. We also analyzed some proposals that modified the urban front by creating a new volume between the gate and the building, interrupting the railing of the wall and affecting the image of the school complex in relation to the street, namely by making a tripartite urban facade that characterized by a balance between two spaces (house and gate) and an empty space (wall and railing) on a compact front.

Regarding the issues of architectural identity and innovation, we can analyze the proposals based on their implantation, volumetry and the treatment given to the facades of the buildings.

In terms of implantation, the first classified demolished Building G and kept both Building A and Building B, the latter being the subject of expansions. It is important to note that the bidder mentions the possibility of demolition and reconstruction of Building B if it is not structurally safe and the cost of its reinforcement is not justified. This reservation regarding the cost of Building B (which is not mentioned in relation to Building A) immediately demonstrates a difference in the way in which the competitor values the different constructions.

All proposals maintain the implementation of Building A and several preserve Building B, with different extensions. However, others choose to demolish this last building, choosing to build a new one with the same location or in another location. Regarding Building G, despite its

demolition being consensual, there are solutions that propose the construction of gyms in a new location.

Regarding the volumetric organization adopted, the winning proposal proposes the creation of sub-buried volumes to house programmatic spaces. They are said to be sub-buried due to the fact that they are covered by a platform, also new, which creates a continuous plane from the ground floor of the 19th century building to the back limit of the lot, allowing for the use of topographical differences, occupying them below the new roof. on terrace.

Other proposals adopt this strategy, opting to formalize a patio on the middle level of the complex and creating a greater diversity of recreational spaces at the same level. Different competitors chose to preserve the pre-existing spatial organization of the school, with three visible levels and with the new volumetry in sight, sometimes adopting a contrasting image from the original. There were also solutions that only used the highest and lowest topographic level of the land, reorganizing the volumes on these two levels.

Regarding the treatment of the masonry facades, the proposals, including the winner, preserved the architectural identity of Building A, except for certain cases that proposed a volume attached to it or galleries around it. However, the original organization of the facade was maintained. In the case of the new replacement volumes of Building G, the image is congruent with the rest of the proposal, except in one case where the building stands out for contrasting with the pre-existing ones.

It is in Building B that the most diverse strategies regarding its external image take place. The first classified chose to hide the original facade through a system of slats, extending to the gate and connecting with Building A, which makes the facade of this the main focus of the complex. These slats are also present in the new railing proposed for the urban front.

The winning proposal was not the only one to adopt this method of hiding the original facade. The remaining solutions chose to maintain the integrity of the pre-existence, or to create a completely new facade, often associated with a new building. There were also cases that kept the original facade, despite creating a language that contrasted with the new expansions made.

Regarding the suitability of the Preliminary Program, that is, its compliance, the winning proposal was able to meet all objectives. With the exception of one competitor, all solutions opted for the same distribution of the functional program in the school complex, placing the program dedicated to Kindergarten in Building A and the program for Basic Education in Building B. The exception solution proposed that both programs to function in Building B and that Building A would host the exceptional spaces, or outside the classroom rule, essentially administrative and complementary spaces.

The Preliminary Program also addresses the issue of outdoor spaces and their relationship with volumetry. The winning proposal stands out for being the one whose creation of a uniform platform for the quotas is capable of expanding the outdoor recreation area at that level on a larger scale. There is also care to ensure that the covered playground is not overlooked, using the lower floor of this platform for this purpose. This concern for having a similar area of free and sheltered recreation is something that is noticed to be valued in the classification given by the SRU, since the solutions that least recognize this concern are those that are classified the worst.

Similar to the first classified, other proposals shared the same strategy, expanding the highest topographic level of the complex to extend the area available for recreation, and some solutions also chose to formalize a patio on the middle floor through the shape of its platform. There were also competitors who proposed a use of the exterior space similar to the original, distributed over the three topographical levels, with a reduced covered area. In other cases, it was preferred to use only two levels to organize outdoor recreational spaces. It is important to note that most participants took into account the different use of outdoor spaces depending on the program they served and the buildings to which they were attached.

The rationalization of constructive and sustainability solutions was achieved by the first classified through the shading of the facades that the slat system allowed, since it is a passive method of controlling temperature and sun exposure, promoting environmental sustainability,

despite having a high cost. associated. Other measures were taken for this purpose, namely the installation of solar panels on the roof of Building B, a strategy that was shared by all the other competitors.

REFERENCES

PUBLICATIONS AND DISSERTATIONS

Appleton, João. 2011. Reabilitação de Edifícios Antigos. Patologias e Tecnologias de Intervenção. Lisboa: Edições Orion;

BEJA, Filomena; Serra, Júlia; MACHAS, Estella; SALDANHA, Isabel. 1990. Muitos anos de escolas, ensino primário – 1941, Volume I Ministério da Educação. Lisboa: Direção Geral de Administração Escolar;

DUDEK, Mark. 2007. A Design Manual: School and Kindergartens. Berlim: Birkhauser;

HERTZBERGER, Herman. 2008. Space and Learning. Rotterdam: 010 Publishers;

Lopes, Flávio. 2020. Arquitectura contemporânea e cidade antiga. Lisboa: Caleidoscópio;

MATTIE, De Jong. 1994. Architectural Competitions: 1792-Today. Colónia: Benedikt Taschen Verlag GmbH

Ordem dos Arquitectos. 2014. Apresentação do Regime Excepcional de Reabilitação Urbana;

Parque Escolar, EPE, 2011. Parque Escolar. 2007-2011. Intervenção em 106 escolas. Lisboa: Parque Escolar, EPE;

Scottish Government. 2007. Building Excellence: Exploring the Implications of the Curriculum for Excellence for School Buildings. Edinburgh: Scottish Government;

Castel-Branco, Maria Teresa, Estratégias comuns de reabilitação de edifícios habitacionais correntes: 6 casos de estudo premiados pelo PNRU e pelo PNTP, Tese de Mestrado em Arquitetura, Lisboa, Instituto Superior Técnico da Universidade de Lisboa, 2021

Silva, Marta Maria Magalhães, Arquitetura Escolar: Análise comparativa de operações de reabilitação contemporâneas na região de Lausanne (Vaud, Suíça), Tese de Mestrado em Arquitetura, Lisboa, Instituto Superior Técnico da Universidade de Lisboa, 2016

SRU DOCUMENTS

Preliminary Program, September 2020

Funcional Program, September 2020

Specifications, September 2020

Invite, September 2020

Preliminary Report, November 2020

Final Report, November 2020

Competition Documents:

01 | Consórcio GBB (Drawn Pieces + Written Pieces)

02| Consórcio Appleton Domingos / BFJ (Drawn Pieces + Written Pieces)

- 03| Consórcio BAU (Drawn Pieces + Written Pieces)
- 04| Ricardo Carvalho Arquitectos (Drawn Pieces + Written Pieces)
- 05| Focus Group (Drawn Pieces + Written Pieces)
- 06| MVCC Arquitectos (Drawn Pieces + Written Pieces)
- 07| José Simões Neves (Drawn Pieces + Written Pieces)
- 08| Silva Dias Arquitectos (Drawn Pieces + Written Pieces)
- 10| Pardal Monteiro Arquitectos (Drawn Pieces + Written Pieces)
- 11| Miguel Viseu Coelho Arquitectos (Drawn Pieces + Written Pieces)
- 12| AT93 (Drawn Pieces + Written Pieces)
- 13| João Lúcio Lopes Arquitectos (Drawn Pieces + Written Pieces)
- 14| CCG Arquitectos (Drawn Pieces + Written Pieces)
- 15| DNSJ. Arq, Ida (Drawn Pieces + Written Pieces)

WEBSITES

Historical Plans:

Lisboa Interativa:

<<https://websig.cm-lisboa.pt/MuniSIG/visualizador/index.html?viewer=LxInterativa.LXi>>;

School Description:

Escola Primária nº 52 de Lisboa:

<http://www.monumentos.gov.pt/Site/APP_PagesUser/SIPA.aspx?id=35620>;

Plano dos Centenários:

<http://www.monumentos.gov.pt/site/app_pagesuser/SIPAINventories.aspx?id=6c5c4080-5710-458c-8b83-5ae0892cf89d>;

Concurso SRU:

Programa Escola Nova: <<https://www.lisboa.pt/cidade/educacao/estrategia>>

Specifications: <<https://dre.pt/dre/lexionario/termo/caderno-encargos>>