

Città di Segrate

CONCORSO INTERNAZIONALE DI PROGETTAZIONE

Restarting community spaces Urban regeneration of Segrate city center

International competition for the redesign of common areas in the centre of Segrate



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	www.segraterestartingcommunityspaces.concorrimi.it	

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CHAPTER 1

GENERAL OBJECTIVES OF THE COMPETITION

The Municipal Administration is launching the process of regeneration of a vast public area within the Segrate Centro neighbourhood by announcing this design competition. As described in Chapter 3 below, the scope of the competition falls within one of the main hubs in the city's complex grid.

The City of Segrate, which was founded by incorporating ancient rural settlements into a single administrative municipality, has grown while maintaining a poly-centric organization that today suffers from such critical issues and diseconomies of scale that call for the immediate implementation of urban policies to improve the efficiency and functioning of the urban system. Specifically, the "re-orientation" operation should be based on the municipal ecological network (MEN) as defined in the Service Plan. A primary element of said MEN is the project called "Centroparco", that is, the large central park around which the entire system of buildings and public areas will be developed.

The areas covered by this competition – all very close to the "Centroparco", discharging primary public functions and used by a large number of businesses – are deeply involved in the process of municipal reorganisation to conform to the concept of a strong urban polarity at one of the main hubs connecting the built city and the eastern edge of the new large park.



Fig. 1. Project area and main urban polarities.

This competition, therefore, seeks to create a new urban centre marked by the coexistence of service areas and common areas.

The fulcrum on which this project rests is the creation of a school complex featuring high design qualities. Not only architectural and engineering qualities, but also the quality of the educational approach adopted when designing the teaching and socializing areas.

In addition to the school building, the project open space should be given a sense of unity by reorganising the roads, city squares and green areas so that the entire project area is given a new character.

This is why it was considered essential to specify that the design of the outdoor spaces must also facilitate the growth of businesses which are already active locally, structuring the spaces so they can be used as a city market.

From a purely architectural-landscape point of view, the project should focus on the rebalancing of built volumes and open spaces and, wherever possible, the bridging of the project front-stage elements with the perspective scenery.

The area covered by this competition is characterised by strong fragmentation of the urban landscape which, despite the presence of major architectural elements, compromises its overall quality.

In short, project designers should therefore operate on a dual level:

- A macro-scale level when dealing with urban planning and functional organisation of open spaces. In fact, as better described below, in addition to the new primary school, the project should include space for residential buildings that will be sold to real estate developers, not only to finance the construction of the new school and public spaces, but also to complete the urban reorganisation sought by this competition.

For the purposes of this competition, the project should be limited to developing a volumetric plan and no architectural details are required.

- A more detailed level when dealing with the main object of this competition, that is, the new school and outdoor areas where the project qualities should be illustrated at their best: while complying with the national technical specifications, the project should seek to introduce concepts of space and use that are consistent with, if not higher than, the current standards.

We expect to be in a position to offer school areas to the Segrate residents that conform to the recent recommendations issued by the Ministry of Education, University and Research, especially those concerning the flexibility of space and use during both school hours and after-school activities.

Additional quality objectives are:

- The possibility of also using the school structure during after-school hours for cultural activities, sports (amateur level) and, In general, any activity that brings people together;
- Maximising energy efficiency in the new school, which must meet NZEB (Nearly Zero Energy Building) requirements;
- Controlling the summer micro-climate and thermal well-being;
- Designing according to BIM processes that facilitate the gradual implementation of legal requirements and a strategy oriented towards the future management/scheduled maintenance of the buildings.

In conclusion, the project designer is asked to transform a portion of the city in order to create an aggregative centre to serve a catchment area that is much larger than the current one.

CHAPTER 2

OVERVIEW

2.1 THE URBAN CONTEXT

The project area is located in a nearly barycentric position with respect to the extent of the municipal territory and is set between the historic core of the Segrate Centro neighbourhood and the Centroparco project.

To the east of the project area is in fact one of the oldest town cores, established back in the sixth century with the first settlement of Pieve di Santo Stefano di Segrate.



Fig. 2. Excerpt of the Teresian Cadastre, 1721.

Segrate is part of the so-called "low irrigated plain", that is, part of the territory where the abundance of water has favoured the use of land for agriculture. In fact, until the early twentieth century Segrate had a typically agrarian landscape criss-crossed by a dense network of fountains, brooks and rows of trees. Clear evidence of the past is still present in the project area, including the Cascina Redaelli plexus, the Segrate Mill and the "Funtanun" (a fountain located on the site of an ancient spring).

As a result of the economic boom of the second half of the last century, the entire area underwent rapid and uncontrolled development. Today the urban fabric is fragmented and the landscape consists of a series of very diverse building types. Over time, the main public services have been

established in the neighbourhood.



Fig. 3. Location of the project area within the municipal territory.

The centre of Segrate has been the subject of urban redevelopment for years, the most visible signs of which are the new City Hall, the new "Giuseppe Verdi" Civic Centre, the pedestrianisation of Via Roma and the redevelopment of Via XXV Aprile.

From an architectural point of view, the element that stands out most within the project area is the "Giuseppe Verdi" Civic Centre. Built in 1966 as the City Hall based on a design by architects Canella, Achilli, Brigidini and Lazzari, it is an important milestone in the history of contemporary architecture. Recently converted, it is today a place offering cultural events and leisure activities, entirely available to residents. In addition to hosting the main city library, it offers areas dedicated to children, young people, families and the elderly. It hosts a music school and a 200-seat auditorium. The building overlooks the square designed by Aldo Rossi.



Fig. 4. The fountain designed by Aldo Rossi at Piazza San Francesco (www.are.na).

To the west, the project area skirts the Centroparco. The Centroparco is an environmental recovery project spanning an area of about 900,000 square metres destined to become the new city's green centre. It includes a body of water created by a union of quarries in an advanced phase of discontinuation. Until today only a small part of the planned works have been carried out. However inhabitants can already enjoy a playground, a refreshment area, a fitness trail, a bicycle-pedestrian lane of about 2.5 km that circles most of the quarries.

Recently, the Municipal Administration published a new Centroparco master plan in which all the elements existing in the park have been fixed.

This document updates the studies that preceded it and will serve as a guide for future operations following the TRP1 Implementation Plan (approved by City Council Resolution no. 109/2012), complying with the requirements of the new GTP.

The Government Territorial Plan (GTP) recognises the great potential for supporting the urban collective when life is focused on expanding the existing greenery, prioritising pedestrian and cycling mobility, and introducing various aggregative, educational and recreational activities, public equipment and timely services. The TRP1 Implementation Plan also provides for the inclusion of residential, tertiary and some productive functions.

The Centroparco master plan can be viewed on the City of Segrate website, at: http://www.comune.segrate.mi.it/informa/news/2019/masterplan_nuovo_centroparco_ottobre201 9.html



Fig. 5. The Centroparco Master Plan 2019, designed by AG&P company.

The Centroparco is also the main hub in the Municipal Ecological Network. The Centroparco is where the main green trails coming from existing city parks (Parco Alhambra, Parco Europa and the Idroscalo area) converge with the large parks required by the GTP (Parco Agricolo and Parco Natura). When all the parks are connected, there will be a single large system that will make Segrate a 'garden city'.

2.2 ONGOING PROJECTS IN THIS URBAN CONTEXT

The Centroparco spreads with the built fabric through urban parks, green spaces along streets and squares, and bicycle lanes. This wide network facilitates access to the Centroparco and from farther city neighbourhoods to the Centroparco. For this reason, all the offices of the associations operating in municipal territory will be transferred to the new park as well as many sports facilities that are currently located in various parts of the city (some also within the project area).

This project will not be the only one affecting the way the city will be organised. Specifically, the construction of the multi-purpose Westfield Centre will mean that construction of the "Segrate Porta Est" hub can no longer be deferred; this is the link between all the city's existing public transport infrastructures through the Milan-Venice railway line and the Linate Airport.

To complete the metropolitan hub project, the Lombardy Region, together with the Metropolitan City of Milan and the municipalities of Milan, Segrate and Pioltello (together with private companies such as SEA S.p.A. and Westfield Milan S.p.A. taking part in this project) have already signed agreements that provide for the extension of the M4 metro line from the Linate Airport to the new Segrate Porta railway station to be built along the Milan-Venice line near the Westfield Centre.

Segrate will then be located in one of the main infrastructure hubs in Lombardy, enjoying the unquestionable benefits offered by its position.

Finally, with the construction of the new Cassanese Bis (also linked to the construction of the Westfield Centre), use of the old Cassanese route could be gradually downgraded. This road, which today brutally cuts the territory in two, will be revisited in order to re-establish the connections between the neighbourhoods to its north and south.



Fig. 6. Excerpt from the GTP Document DdP10_Sintesi specifications.

CHAPTER 3

SCOPE OF THE PROJECT AREA

The scope of this competition is specified in Plate 3.1 marking the perimeters of the project area, attached to this call for tenders. The project area must include a technically-economically feasible plan for the school complex as well as for improving the public green outdoor areas. No specifications are dictated for carrying out the development operations, which are at the project designers' discretion.



Fig. 7. Aerial view of the urban context of the project area.

The elementary school project plan should precisely mark the outdoor areas functionally connected to the new buildings and the larger ones strategically connected to both the new school complex and the surrounding green areas, respecting the area boundaries. The project should also include a design of pathways and public spaces, with the aim of drawing an overall picture of a project that interacts and integrates with the city.

The project area spans approximately 67,400 square metres and is bordered to the north by Via Lambro, to the east by the municipal pool and public areas surrounding the "G. Verdi" Civic Centre, to the south by City Hall, and to the west by a residential neighbourhood and the 25 Aprile Day Care.

As already mentioned, the project area is to host a new elementary school and a new city market. The inclusion of these two elements must be developed in conjunction with the design of the green areas and bicycle-pedestrian lanes throughout the area covered by this competition, so as to offer an overall design that is organically linked to the existing context.

To this end, the project designer should specify, at its complete discretion, the location, shape and

extension of the areas reserved for the construction of new residential (and/or tertiary-business) volumes that the municipal administration will assign to real estate developers to obtain the financing of the works specified by the winning tender.

The volumetric dimensions to be assigned to private entities must be between a minimum of 8,000 square metres and a maximum of 10,000 square metres of gross floor area (GFA).

Competitors are therefore free to determine the housing density of residential areas and the ratios that these volumes will have with respect to existing buildings and the volumes of the new elementary school.

While regarding the school complex, the market areas (whose design is not a direct part of this competition), the degree of design detail required relates to the technical-economic feasibility of same; regarding the overall volumetric plan, competitors can describe their design ideas in the way they deem most appropriate.



Fig. 8. Project area boundaries.

3.1 CURRENT SITUATION

Within the project area boundaries there are currently a number of structures for sports-related activities that will be discontinued because they are no longer suitable for use. Specifically, these include the XXV Aprile Sports Hall, 'bocce' lanes, two football pitches and related facilities, areas destined to become public gardens, roads and car parks.

However, the project plan is not required to deal with the demolition of said structures, which will be demolished directly by the Administration prior to the commencement of operations.

For this reason, it should be noted that the area can be considered free of built elements, except for the Verdi Civic Centre (the former City Hall) and the facing square with the Aldo Rossi fountain.

The plan should also cover the maintenance of the small hill in the north-western part of the project area (which may be enlarged in size).



Fig. 9. Excerpt of Plate 3.3 Current Situation (attached to this call for tenders).

3.2 ACCESSIBILITY

The project area can be reached by public transportation from Via Roma, Via Lambro (line 923) and Via San Rocco (lines 923 and 924). The Segrate railway station is 1.5 km away and is connected by line 923. The nearest road is Provincial Road 103 Cassanese (currently being downgraded). The project area can be easily reached by car through Via XXV Aprile, Via I Maggio and Via Lambro.

The area is connected to the system of bike lanes through the bike lanes along Via I Maggio, Via XXV Aprile and Via Roma.

The area can already be considered completely pedestrian.



Fig. 10. Accessibility diagram.

3.3 DESIGN RESTRICTIONS AND INPUTS

3.3.1 Restrictions

Design restrictions include:

- The recently restored Giuseppe Verdi Civic Centre cannot be modified. For this reason, the location of its access roads must also be respected;



Fig. 11. The G. Verdi Civic Centre, formerly the City Hall.

- Aldo Rossi's Monument to the Partisans, consisting of a fountain and its square, cannot be modified as it is a Segrate symbol;



Fig. 12. Monument to the Partisans in Piazza San Francesco (in direction of Via XXV Aprile).

- The "Adduttore A Idroscalo" irrigation canal which, not being owned by the city, cannot be moved. The irrigation canal, being part of a water grid, cannot be drained and the possibility of maintaining it must be assured by leaving free a 4.00 metre wide safe margin around it (free of artificial objects). If the project plan will require it, the canal could be crossed using new pathways.



Fig. 13. "Adduttore A Idroscalo" irrigation canal.

- The small hill in the sports field, being a landfill, cannot be encroached on. If the project plan will require it, materials could be added to give it the desired shape.



Fig. 14. View of the small hill within the project area.

- Several fine trees cannot be touched.

- A drainage restriction dictates that rainwater in the project area must not be drained underground.

- An airport-vicinity restriction dictates that the maximum height of buildings shall not exceed the height limits specified in the graph below.



Fig. 15. Areas affected by an airport-vicinity restriction concerning building heights, Navigation Code.

3.3.2 Design inputs

a) Volumetric plan and outdoor spaces

Regarding the level of definition of volumetric plans and outdoor spaces, competitors are asked to consider the following aspects:

- Existing and planned public services must be designed to ensure maximum usability and continuity through bicycle-pedestrian lanes which may never be less than 4.00 metres wide;

- The volumetric plan must facilitate the integration of the Centroparco with the neighbourhood along the East-West road;

- The volumetric plan must facilitate the bicycle-pedestrian lanes along the North-South road;

- The roads and the green area located to the north of the G. Verdi Civic Center will have to be rethought following an overall logic that seeks to reorganise all outdoor spaces;

- Regarding the green areas, the new plan should keep and safeguard existing trees as specified in the 3.3 - Current Situation report;

- Use tree and shrub species that are already present in the urban landscape, easy to maintain and suitable for public spaces. With regard to trees with tall trunks, the plan should follow the specifications provided by the Urban Greenery Regulation attached to this call for tenders;

- Urban furniture (seats, benches, waste-baskets, bollards, railings, etc.) should not deviate excessively from the design of products already in use in the local territory and must be made of durable, vandal-resistant and easy to maintain materials;

- Pavement materials should be such that are easily restored following a partial demolition for repairing underlying utilities.

(b) The planned market area

- The new city market may be set in one or more areas linked to each other by pedestrian lanes, or set along a single line following pedestrian lanes. It is essential that the areas intended for the market meet the requirements of current regulations and in particular those concerning the size of parking spaces, the availability of utilities and services (electricity, water, waste collection points, public bathrooms, etc.).

c) The new school complex

The changes that have taken place during the transition from an industrial society to a knowledge society are reflected also in the field of school education, which today requires a new approach regarding methods, tools and use of space.

The importance of technology in communication processes now affects the educational processes, and consequently calls for paying special attention to designing school environments and equipment that can be easily adapted to constantly changing educational programmes and needs. The role of school buildings is therefore fundamental today. Consequently, attitudes and design solutions that provide adequate degrees of flexibility in school spaces are welcomed, along with a stress on structural and constructive modularity that allows the reconfiguration of rooms according to educational activities.

In addition, since time spent being involved in school and non-school activities is a considerable part of a student's day, the project plan must focus on the quality of school spaces. Schools should make both students and teachers feel comfortable, in order to encourage attitudes of cooperation and ties that foster individual involvement and active participation in the school community.

Without prejudice to national technical legislation which, although dated, guarantees essential minimum performance thresholds, design solutions should take into consideration the results of recent studies on learning methods and potential in relation to school spaces.

Most noteworthy among these studies is the "1+4 Educational Spaces for the New Millennium" model, developed by the National Institute of Documentation, Innovation and Educational Research – where "1" stands for the multi-purpose learning environment of the "class group" (evolved from the traditional classroom and now conceived as a flexible space in coordination with other school rooms and open to the world) and where "4" stands for complementary "school spaces" beyond

those used for teaching, such as, for example, the public gathering area, informal space, individual area and the area for exploration.

In summary, the project plan should consider the specifications stipulated in the Guidelines for School Building included in the Inter-Ministerial Decree of 11 April 2013 and comply with the goals and objectives set forth by the Ministry of Education, University and Research in "Contest for Ideas for the Creation of 'Innovative Schools', 2016, namely:

- Conceiving the building as an educational tool for developing technical and sensory skills;
- Conceiving and planning spaces for improving individual and group well-being;
- Offering areas for teachers' professional collaboration and individual work;
- Ensuring permeability and flexibility of spaces;
- Relating to the local context also in terms of teaching;

- Opening the school to the surrounding territory to ensure that the school be a place serving the entire community;

- Offering green/open spaces that are open to all;

- Ensuring environmental, energy and economic sustainability, that is, rapid construction, recyclability of components and materials, high energy efficiency, use of renewable energy, and easy maintenance;

From a purely technological point of view, the project plan should outline the basic design approaches for the construction of a high-performance building and consequently provide for the use of advanced but, most importantly, effective technologies (not everything that is new is necessarily better) that, in addition to being fully compliant with current regulations concerning earthquake resistance, noise and energy consumption, follow the latest developments and trends in the various fields.

In order to protect the safety of users, accessibility to the school complex must be controlled and regulated; therefore, if the project plan will require it, the open school areas must be fenced off.

CHAPTER 4

PROJECT FUNCTIONS AND REQUIREMENTS

As stated in Chapter 3, the building complex that will host the future school must be designed following the specifications stipulated in the School Building Guidelines of 2013, that is, pursuing the objective of "making schools interactive" following contemporary teaching trends. Consequently, the plan should seek to offer ample space for horizontal and vertical links, where corridors and common areas may be used both as meeting places and as places for carrying out multiple educational activities.

The dimensions of corridors and common areas should therefore be well thought out to provide the expected result which, in terms of construction, should focus on acoustic well-being, micro-climate quality, energy saving and safety.

Consequently, beyond the overall space composition, great care must be taken when choosing construction materials, since the project's success will depend on their quality.

4.1 MORPHOLOGY OF THE BUILDING COMPLEX

Notwithstanding the need to combine the plan for the new school complex with the overall design of the volumetric plan as required for the project – and consequently notwithstanding the need to verify the architectural relationships of the new school, new residential volumes required for this project, new design of the open spaces and the entire project with the surrounding buildings – no limits are set on the design itself (the school complex may be a single building or divided into several buildings) besides the following:

- Spaces assigned for educational activities must be contained within the first two building floors above ground; any upper floors above the second may be used for additional activities for non-students (e.g., teachers' offices, archives, storage rooms, service rooms, etc.);

- Due to groundwater level fluctuations an underground floor is not required (car parks for teachers and employees will be located near existing roads or on street level or in garages located above ground);

4.2 RECOGNISABILITY, IDENTITY AND INTERACTION WITH THE URBAN CONTEXT

The school complex must have an identity and a look, then, that makes it stand out in its neighbourhood and must be clearly visible from the approaching roads, since as mentioned earlier the area must be accessible to pedestrians and cyclists only, and the school complex (after school hours) will be used for recreational and social activities open to all residents.

The complex must be easily identifiable in all its parts, as must be its access roads coming from the surrounding areas, so as to facilitate the orientation and movement of the school population and of residents in general. For this reason, designers should pay particular attention to the study of

external pathways, and to the points where the school links with the surrounding public spaces. Specifically, designers should plan a school main entrance and secondary easily identifiable independent entrances to the gym and multi-purpose hall.

Once inside the building, all functions must be clearly "legible" and intuitive, especially for the children who use it, reducing the number of signs to a minimum.

Architectural designs must support the functions that will be carried out in the building, avoiding such shapes that might constitute "psychological barriers" for entering and using the school; rather, they should be designed to encourage meeting people, exchanging ideas, learning and creativity. The designer is therefore invited to think of the building in relation to the time it will be used, and perceive it as a living complex open "7 days a week", even if partially at times, overcoming the historical concept of the school as a physically isolated and self-referential block, representing a disrupting structure in the urban fabric.

The new openness towards the city must clearly be balanced by a need to protect the safety of students, providing open spaces that are adequately protected by fences (preferably green) and pathways and entrances to the building controlled by a reception or guard station.

4.3 CONTINUITY AND PERCEPTION OF OUTDOOR AND INDOOR SPACES

Some of the most interesting pedagogical guidelines deal with the horizontal sharing of educational experiences and with the physical transparency of school rooms; it should also be noted that outdoor spaces are increasingly becoming an educational element in the path of student growth. Going further along this line of thinking, the subject of the internal/external relations, and more generally relations with the urban context, is not a closed relationship but one based on dialogue, even visual, between the various parts of the school complex and also between it and the territory surrounding it.

The Segrate schools benefit from the availability of large outdoor spaces, and the trend is to gradually strengthen the ties between the enclosed school space and the surrounding area. These ties may benefit from a careful use of glass walls and artificial (possibly of trees) backgrounds.

The designer must pay particular attention to the characteristics of continuity and integration among the building internal spaces, directly related external spaces, and urban public spaces. The "internal/external" relationship can be translated into a series of very precise architectural choices; for example, by accentuating the transparency or permeability of some parts to allow the "remote viewing" of greenery and partial viewing of internal spaces and activities, structuring these spaces without interruption between inside and outside, through uniform use of materials for pedestrian lanes – coming from the outside – could lead to entering the building complex. "Hybrid spaces" can be created as well, to be used partly inside and partly outside.

Greenery, which must be a fundamental ingredient to be used by the designer, may serve as an element of integration and continuity between the building and the surrounding urban context, and can also encroach on the built areas (using also greenhouses, winter gardens) or be "incorporated" through the use of innovative technology (e.g. green roofs).

The designer must pay particular attention to aspects related to "green building", the new way to construct buildings. Consideration should be given to issues relating to energy efficiency, energy resources saving, the use of renewable energy resources, ecology and the reduction of

environmental pollution. The goal – now consolidated globally – is to significantly reduce, or eliminate altogether, the negative impact of the building on the environment and on users. Passive building strategies, as well as environmental energy assessment and improvement protocols, may be included.

Another aspect that is fundamental in a building plan of this type is without a doubt that of natural lighting: when properly controlled, sunlight can indeed be a great resource for providing visual comfort to users, but when ignored it can become an element of discomfort for teachers and students (blinding, glaring, overheating, cooling of school space). In order to optimise user comfort and reduce operation costs related to electric power consumption, designers must pay the utmost attention to the phenomenon of direct solar radiation hitting the building transparent parts, offering the best solutions for refracting sunlight or for controlling the actual light.

4.4 ORGANISATION OF SPACES AND PATHWAYS

The complex internal organisation and distribution of activities must in any case comply with the requirements of the Ministerial Decree of 18 December 1975 although, as already mentioned several times, the building design should follow the specifications stipulated in the School Building Guidelines of 2013.

The dimensions of the new Primary School should be suitable to contain 5 sections, hence 25 classrooms big enough to accommodate 25 students each with the possibility of adding 5 seats in cases of emergency. In addition to classrooms, 5 other rooms of the same size should be included for offering courses and activities that are open to city residents.

All in all, the school should accommodate a maximum of 750 students, counting 30 students per classroom. In addition to the number of students, there should be room for 80 teachers and about 20 auxiliary employees (dining room personnel, cleaners, collaborators).

The school must have a dining hall (without a kitchen but with enough space for food preparation/warming) that is large enough to provide dining services (with two or more self-service lines) in two shifts.

Given the number of users and the required space, the dining hall must have a noise abatement system in order to ensure a comfortable acoustic environment.

The linking spaces (corridors and hallways) must be designed to be optionally used for educational or advanced learning activities to be carried out in small groups.

Laboratories for artistic and scientific activities and for the study of foreign languages, religion and music should be included as well – in addition to the rooms described above.

The building complex must contain a multi-purpose hall with a 400-seat capacity. The internal organisation of this hall must allow for the possibility of performing small theatre shows and recitals. The hall could also be used as a film theatre and, whenever necessary, be separated from the rest of the complex and made accessible to the public through a dedicated external entrance. The public entrance should include separate bathrooms and cloakrooms.

Given the planned non-school use, the complex must include a B2-type gym (Ministerial Decree of 18 December 1975), with space for spectators and for regulation court (basketball and volleyball). In particular, the gym must be accessible directly from the classrooms and must have bathrooms and locker rooms for each sex. Since this complex will be used also for extracurricular sports activities, it must contain regulation sports courts fit for official championships recognised by CONI (Italian National Olympic Committee; up to level A2 for volleyball and up to level 2 for basketball), in which official competitions of national sports federations and associated sports disciplines can take place (CONI standards for sports facilities, Resolution no. 1379 of 25 June 2008). Since the size of a basketball court (which is larger than that of volleyball) is 28.00 x 15.00 metres, and due to the need to ensure adequate court margins and space for spectators' stands, the minimum dimensions of the "sports arena" should be 40.00 metres long by 31.00 metres wide by 8.00 metres high (clear height). To avoid mixing internal and external users, separate bathrooms and locker room should be included for use by two teams, in addition to those for use by students, as well as a bathroom/locker room for referees and a medical room (with bathroom). The gym, with separate entrances from outside the school, should have a maximum capacity of 400 persons, who will sit on court-side stands and have access to dedicated bathrooms.

PRIMARY SCHOOL CAPACITY			
No. of classrooms	25 (+5)		
Minimum number of students per classroom	25		
Maximum number of students per classroom	30		
Maximum total number of students	750		
Number of teachers	80		
Number of auxiliary employees	20		
Maximum assumed crowds	1,800		
Notes	Adequate escape routes should be provided for all school rooms in accordance with current regulations.		
PRIMARY SCHOOL MINIMUM STANDARDS (Ministerial Decree of 18 December 1975)			
Gross floor area sq.m./student (indicative) 6.68 sq.m.			
Net floor area - total area index sq.m./student	5.21/5.58 sq.m.		
Number of floors above ground for educational activities	2 (ground floor and first floor)		

4.5 PROJECT DIMENSIONS: REQUIRED DATA AND FUNCTIONS

PROJECT FUNCTIONS AND REQUIREMENTS			
Туре	Requirements		
Classrooms	30 (25 +5)		
Music Lab	1, with soundproofing		
Art and science labs	2, equipped with washbasins		
Foreign languages teaching lab	2		
Locker rooms and bathrooms	As per regulations (divided by students, teachers, auxiliary employees)		
Dining room divided into: Dining area Clearing and sorting Dish-washing Pantry Locker rooms and bathrooms for dining service staff	1, capacity 50% of total students, self-service, soundproofing		
Management and control room	1 (porter, info desk, fire extinguishing station located in the immediate vicinity of the school entrance)		
Administrative office as an extension of the secretary office	2		
Multi-purpose hall	1, minimum capacity 400 persons (room designed to accommodate the school faculty board, with architectural requirements to allow use by city residents. The systems must be disconnected and access from the outside must be independent)		
Archive	1 (sized for storing most recent documents for at least two years. Provide for storing older archives on premises)		
Teacher's lounge	1, capacity 80 teachers		
Parents-teacher conference room	1		
Infirmary	1, includes a waiting area and additional service areas, in accordance with regulations (integrated with the main gym)		
Locker rooms for auxiliary employees	1 divided per sex		
School Library	1		

Gym	1, B2 type (with regulation courts for non-competitive activities and spectators' stands. The systems must be disconnected and access from the outside must be independent)		
Stands	1, capacity 400 seats		
Groups (F/M) of lockers rooms for students/players	4 (each with 1 bathroom for the disabled)		
Groups (F/M) of locker rooms for teachers/referees	2 (each with 1 bathroom for the disabled)		
Gym medical room	1, with bathroom and waiting area, in accordance with regulations		
Equipment storage room	1		
Green areas for outdoor sports activities	Equipped according to current regulations, fenced off, 1 sports field		
Waste station	Number and dimensions according to current regulations		
Electric transformer cabinet	1, according to regulations		
Janitor quarters	1, according to regulations		

A high degree of flexibility should be maintained in the complex, so that spaces can be assigned for different uses, i.e. used for temporary functions that are different from traditional school activities. Indeed, it should be ensured that areas such as the gym, the multi-purpose hall and the library could be used independently by other city residents, even after school hours.

For the same reason, systems must be separate and connectable according to their intended use (school, dining room, gym, multi-purpose hall, library, etc.), in order to ensure independent operation, according to the following operating hours:

	Teaching areas	Heating and cooling Regular activation: Mon-Fri, 7am to 4pm
SCHOOL	Administrative areas Heating and cooling Regular activation: Mon-Fri, 7am to 4pm	
	Dining hall	Heating and cooling Regular activation: Mon-Fri, 10am to 3pm
GYM		Winter heating only Regular activation: Mon-Fri, 7am to 4pm Open for extracurricular activities: Mon-Fri from 6pm to midnight; Sat-Sun from 9am to midnight

LIBRARY	Heating and cooling Regular activation: Mon-Fri, 7am to 4pm Open for extracurricular activities: Mon-Fri from 5pm to 8pm; Sat-Sun from 10am to 8pm
MULTI-PURPOSE HALL	Heating and cooling Regular activation: Mon-Fri, 7am to 4pm Open for extracurricular activities: Mon-Fri from 5pm to 8pm; Sat-Sun from 10am to 8pm

4.6 MATERIALS, FINISHING AND FURNITURE

The materials must be highly efficient but at the same time simple, durable and functional. For example, in choosing the glass panes, both functional and aesthetic properties as well as the technological implications for indoor climate control (system and energy costs) should be carefully assessed, along with operation and maintenance costs.

Designers should present the project plan listing the specific materials they intend to use for the various parts of the building complex, with particular attention to the technologies chosen, taking into account construction times, durability, environmental sustainability and maintenance. In this context the level of ease of cleaning and maintaining the building, both internally and externally, should be considered, along with the need to discourage any act of vandalism.

Inside the rooms, the finishing materials should strongly affect the school quality and atmosphere:

- The surface colour and characteristics, rough or smooth, hard or soft, opaque or glossy;
- The way in which they absorb or reflect light, absorb or reverberate noise, or the sound they make when touched, hit or stepped on;
- The way they age, their resistance to abrasion and use.

These and other properties of the selected materials form the basis of the perceived experience of the inner space and deeply involve the sensory perception of people who use the building.

The new school complex, through a careful choice of materials, lights and colours, must therefore be designed with the aim of reinforcing the perception of safety in the building and its surrounding areas.

Designers are therefore called upon to select the most suitable materials for the various building rooms, assessing both their aesthetic and functional qualities, considering all their intrinsic characteristics (e.g., sound absorption) and the best way in which they could be used.

Although the choice and costs of furniture are not required in this competition, designers are nevertheless required to consider this issue when designing the school spaces, providing for the possibility of including standard or custom-made furniture, which must be flexible to allow changing the organisation of rooms according to the different educational and methodological needs. When selecting materials, furniture and finishing, special attention must also be paid to fire prevention, as related to each intended use. In addition to all the issues discussed above, designers must also keep in mind the current regulations regarding Minimum Environmental Criteria (MEC).

4.7 SYSTEMS ARCHITECTURE IN THE BUILDING COMPLEX

The architectural design of building systems and components can constitute, assuming full compliance with current regulations concerning functional and operational safety, an added value for its construction.

The main design criteria for the systems serving the new Primary School are:

• <u>Power supply and connection to systems network</u>: buildings must have more than one power supply sources, with separate meters, for each type of use (school, dining room, gym, etc.). Power supply networks must be set up following the instructions provided by the public electric power providers. Since the building requires medium-voltage electric power supply, a power input-output cabinet will be required. It must be architecturally integrated with the building plan (it cannot be built underground) although it could be accessed directly from public side.

• <u>Electric power and lighting systems</u>: the rooms must be classified, in accordance with current regulations, in order to rate their level of protection against direct and indirect contact, as required by technical regulations. Electrical systems must be designed preferably following a star schema "per area" architecture, where "per area" stands for rooms and spaces having the same intended use or function. In view of the growing popularity of electric mobility among the public, the project plan should include the possibility of setting up charging stations for electric bicycles;

• <u>Systems powered by renewable energy sources</u>: as stipulated by current regulations, the complex must have energy production plants powered by renewable sources;

• <u>Automation at the service of the building</u>: the project plan must include automatic systems for opening the external gates, with anti-crushing safety systems and visual inspection, either directly or through a video system set at the guard or porter booth;

• <u>Radio and television systems plus antennas</u>: the project plan must include the installation of reception devices for DVB and SAT television channels; the multi-purpose hall must have a projection system and a control booth;

• <u>Electronic systems:</u> electronic systems, such as fieldbuses and control systems, should be open systems using standard protocols. The complex must have both fixed LAN networks and WI-FI coverage. Also required is the installation of a perimeter protection system and indoor volumetric protection against intruders;

• <u>Summer and winter air conditioning systems</u>: the complex design must comply with current regulations concerning the control over building energy consumption. The solution should seek in particular to adopt systems that, under environmental conditions that resemble the building indoor spaces, provide the greatest possible energy savings. Proof of the validity of the design solution must be demonstrated by following the calculation methods specified by current regulations. It is recommended to choose a geothermal heat pump type of system, given the local shallow aquifer, in order to easily manage air conditioning during both winter and summer;

• <u>Room ventilation and aeration systems</u>: systems of this type must be designed based on the same criteria used for heating and cooling systems;

• <u>Fire protection systems</u>: the complex must have fire protection systems in accordance with current regulations. The design of the fire protection water system, if required by current fire protection regulations, must be looped;

• <u>Aspects of building systems maintenance</u>: the rooms and spaces hosting system components must meet access requirements, for maintenance purposes, in accordance with the specifications of Legislative Decree 81/2008.

4.8 Environmental sustainability

Designers are required to pursue a design approach oriented towards environmental sustainability throughout the entire process, from the design phase to the execution of the works and to the subsequent management and maintenance, throughout the expected life cycle.

In this context, the sustainability of the construction process is closely linked to a flexible and integrated design, developed by using adequate IT systems such as BIM (Building Information Modelling) which can accompany the design, construction, management and maintenance phases while providing project coordination and construction data continuity.

The designer must develop a plan proposal that explores aspects related to "green building", such as a sustainable way to construct the complex.

Consideration should be given to issues relating to saving energy resources, use of renewable energy resources, ecology and the reduction of environmental pollution, with the aim of significantly reducing, or eliminating altogether, the negative impact the building might have on the environment and on the individual, harmonising it as much as possible with the urban context in which it is inserted. The proposed plans must focus on meeting the requirements for obtaining a LEED certification, to be adhered to in the subsequent design phases, the tender procedure and the construction work.

The project plan should provide serious solutions to the following issues:

- Energy consumption: the new school will be configured as an NZEB building Nearly Zero Energy Building – and therefore the plan should be based on a wide use of renewable sources, seeking a highly efficient building envelope and the type of solutions regarding the school body that offer answers to external factors (exposure, ventilation, etc.).
- Bioclimatic design: study of typological solutions and performance of technological systems that provide the best answers to the environmental and climatic characteristics of the site, and that facilitate achieving conditions of well-being inside buildings.
- Building automation design: building automation must be user-friendly and not based on control centres that can only be used and programmed by technicians, but easily managed by persons responsible for the daily run of the complex.
- Indoor air quality: indoor air quality should be one of the factors to pay the utmost attention to.
- Rainwater management: the plan must comply with regional regulations concerning hydraulic invariance.

CHAPTER 5

FINANCIAL LIMITS AND COST ESTIMATE

Within the amounts shown below, the categories of this competition are listed in the following tables, which specify the classification of the works and how they correspond to:

- Classification pursuant to Presidential Decree 207/2010;
- Classification pursuant to Italian Law 143/1949 and subsequent amendments;
- Classification pursuant to Justice Ministerial Decree 17/06/2016.

The estimate of costs for the construction of the new elementary school and the surrounding outdoor areas, as well as for fixing the public areas that are part of the scope of this competition is €15,300,000.00 (VAT included). The part assigned to the works is €10,050,000.00 (excluding VAT), excluding external security charges in the amount of €227,500.00, design work and construction supervision work.

Works amount	Classification Presidential Decree 207/2010	Classification Law 143/1949	Classification Justice Ministerial Decree 17/06/2016
€ 4,550,000.00	OG1	IC	E.08
€ 800,000.00	OG1	IG	S.03
€ 150,000.00	OS3	IIIA	IA.01
€ 1,100,000.00	OS4	IIIC	IA.03
€ 450,000.00	OS28	IIIB	IA.02
€3,000,000.00	OS24	ID	E.20
€ 227,500.00	External security costs	IC	E.08

CHAPTER 6

APPLICALBE REGULATIONS

The following is an indicative list of the main technical and procedural regulations to be complied with during the design of the project plan that is the subject of this competition. Competitors are required however to comply with all the Italian technical regulations that are applicable to this project in general and to the nature and specific design choices made.

Schools

• Ministerial Decree of 18 December 1975 concerning "Updated technical regulations relating to school buildings, including those relating to educational activities, construction and urban planning, which must be complied with in executing school building works";

• Guidelines issued by MIUR (Ministry of Education, University and Research) on 11 April 2013 concerning the "Technical standards containing the minimum and maximum requirements of urban planning and construction, also with reference to technologies in the field of energy efficiency and saving and production from renewable energy sources, and teaching essential to ensure adequate and homogeneous design guidelines throughout the country".

<u>Gyms</u>

• CONI (Italian National Olympic Committee) regulations (Resolution no. 149 of 6 May 2008 and subsequent amendments) concerning indoor gyms as defined in point A - "Sports Competition Facilities";

Construction procedures

• Legislative Decree no. 50 - 18.04.2016 - Public Contracts Code and subsequent amendments;

• Presidential Decree no. 207 - 05.10.2010 and subsequent amendments, for its parts that are still applicable;

• Presidential Decree no. 380 - 06.06.2001 and subsequent amendments, Consolidation Act concerning construction provisions and regulations;

• Ministerial Decree of 17.06.2016 – Approval of fee tables that commensurate with the quality of design performance, adopted pursuant to Article 24, paragraph 8, of Legislative Decree no. 50 of 2016.

Safety at the workplace

• Legislative Decree No. 81 of 09/04/2008 - "Implementation of Article 1 of Law no. 123 of 3 August 2007 concerning the protection of workers' health and safety at the workplace" and subsequent amendments and additions, of which Legislative Decree no. 106 of 03/08/2009; Law no. 136 of 13/08/2010; Legislative Decree no. 50/2016.

Local regulations

- City of Segrate Building Regulations;
- City of Segrate Hygiene Regulations;
- City of Segrate Urban Greenery Regulations.

Green roofs

- Requirement Sheet no. 6 in Annex B of the Building Regulations;
- UNI 11235-2015 standard.

Hydraulic Invariance

• Regional Regulation no. 7 – 23.11.2017 - Regulation establishing criteria and methods for compliance with the principle of hydraulic and hydrological invariance pursuant to Article 58a of Regional Law no. 12 of 11 March 2005 (Law for the Government of the Territory)

Building structures

- Technical Building Regulations of 2018 and subsequent amendments;
- 02.02.2009 Ministerial Circular no. 617;
- Ministerial Decree 17.01.2018 "Update of Technical Building Regulations";
- 22.12.2005 Lombardy Regional Resolution no. 8/1566 Implementation of Consolidated Text no. 380 of 06.06.2001 "Structural and Seismic Adjustment";
- Regional Law no. 12 11.03.2005 "Prevention of Geological, Hydrogeological and Seismic Risks" and subsequent amendments, of which Regional Law no. 5 of 10/03/2009, for the applicable parts;
- Law no. 1086 of 05.11.1971 "Technical standards for governing reinforced, normal and precompressed, concrete works and metal structures".

Acoustics

- Lombardy Regional Law no. 13 of 10.08.2001 Lombardy Regional Regulations on noise pollution;
- Prime Ministerial Decree of 05.12.1997 Building passive noise requirements;
- Law no. 447 of 26.10.1995 and subsequent amendments Framework law concerning noise pollution;
- Prime Ministerial Decree 01.03.1991 Maximum exposure limits in residential housing and outdoors.

Energy saving

• 12/01/2017 no. 176 DECREE OF THE ORGANIZING OFFICE MANAGER - «Update of the regulations governing building energy efficiency and related energy efficiency certificates, replacing the regulations approved by decrees no. 6480/2015 and no. 224/2016»;

• Lombardy Regional Council Resolution VIII/5018 of 22.12.2008 - Regulations concerning building energy certification, implementing Legislative Decree 192/2005 and Articles 9 and 25 of Lombardy Regional Law 24/2006;

• Legislative Decree No. 311 of 29.12.2006 - Corrective and supplementary provisions to Legislative Decree no. 192 of 19.08.2005 (Implementation of Directive 2002/91/EC concerning the energy performance of buildings);

• Lombardy Regional Law no. 24 - 11.12.2006 - Rules for the prevention and reduction of emissions into the atmosphere for protecting health and the environment;

• Presidential Decree no. 412 of 26.08.1993 - Regulations governing design, installation, operation and maintenance of heating systems in buildings, aiming to reduce energy consumption, pursuant to article 4, paragraph 4, of Law no. 10 of 9/1/1991;

• Law no. 10 of 09.01.1991 and subsequent amendments - Standards for implementing the National Energy Plan concerning national energy use, energy savings and the development of renewable energy sources.

Minimum environmental criteria (MEC)

• Decree of 11 January 2017 - Adoption of minimum environmental criteria for interior furnishing, construction and textile products;

• Decree of 5 February 2015 - Minimum environmental criteria for the purchase of urban furniture;

• Decree of 13 December 2013 - Minimum environmental criteria for awarding a contract for providing management service of public green areas; for purchasing soil improvers, ornamental plants and irrigation systems; and for providing electrical and electronic office equipment.

• Ministerial Decree of 11 October 2017 - Minimum environmental criteria for awarding a contract for the design and construction of new buildings, renovation and maintenance of public buildings.

Infrastructure and transport

- Legislative Decree no. 285 of 30 April 1992 and subsequent amendments
- Legislative Decree no. 495 of 16 December 1992 and subsequent amendments
- Ministerial Decree of 5.11.2001 Infrastructure and transport
- Ministerial Decree of 22.04.2004 Infrastructure and transport
- Ministerial Decree of 19.04.2006 Infrastructure and transport

Removal of architectural barriers

• Presidential Decree no. 503 - 24.07.1996 - Regulations governing the elimination of architectural barriers in public buildings, spaces and services;

• Ministerial Decree Public Works no. 236 of 14.06.1989 - Technical requirements for ensuring accessibility, adaptability and visibility of private buildings and subsidised public housing, for the purpose of overcoming and eliminating architectural barriers;

- Lombardy Regional Law no. 6 of 20.02.1989 Regulations concerning the removal of architectural barriers and technical specifications for the implementation;
- Law no. 13 of 9 January 1989 Provisions for overcoming and eliminating architectural barriers in private buildings;

Safety and fire prevention

• Decree of 12 April 2019 - Amendment of Decree of 3 August 2015, approving technical fire prevention regulations, pursuant to Article 15 of Legislative Decree no. 139 of 8 March 2006;

• Ministerial Decree of 21.03.2018 – "Application of fire regulations to buildings and premises used for schools of any type, order and grade, as well as to buildings and premises used for day care" in the Official Gazette no. 74 or 29.03.2018;

• Presidential Decree No. 151 of 01.08.2011 - Regulations simplifying the governing of the proceedings related to fire prevention, pursuant to Art. 49, paragraph 4-c of Legislative Decree no. 78 of 31 May 2010, converted, with amendments, by Law no. 122 of 30 July 2010.

• Ministerial Decree of 07.08.2012 - Interior Ministry Decree - "Provisions concerning the procedures for submitting applications related to fire prevention and documentation to be attached, pursuant to Article 2, paragraph 7 of Presidential Decree no. 151 of 1 August 2011";

- Ministerial Decree of 3.8 2015 Technical fire prevention regulations, pursuant to Art. 15 of Legislative Decree no. 139 of 8 March 2006;
- Interior Ministry Decree of 19.08.1996 Technical fire prevention regulations concerning the design, construction and operation of entertainment and public shows venues;
- Ministerial Decree of 06.03.2001 Amendments and supplements to Ministerial Decree of 19.8 1996
- Interior Ministry Circular no. 1 of 23.01.1997 Clarifications and application guidelines regarding Ministerial Decree of 19.8.1996
- Ministerial Decree of 18.3.1996 Safety rules for the construction and operation of sports facilities;
- Ministerial Decree of 26.8.1992 Fire prevention regulations for school buildings;
- Ministerial Decree of 22.2 2006 Technical fire prevention regulations for the design, construction and operation of buildings and/or rooms that are to serve as offices;
- Ministerial Decree of 15.9 2005 Technical fire prevention regulations for lift shafts located in places that are subject to fire prevention controls;

• Technical Safety and Prevention Centre Note, Protocol no. 1324 of 07.02.2012 - Guide for the installation of solar systems;

- Note, Protocol no. 6334 of 04.05.2012 Clarifications for Technical Safety and Prevention Centre Note, Protocol no. 1324 of 07.02.2012 Guide for the installation of solar systems;
- Ministerial Decree of 20.12.2012 Technical fire prevention regulations for fire protection systems installed in places that are subject to fire prevention controls;

• Interior Ministry Decree 03.11.2004 - Provisions concerning the installation and maintenance of devices for opening of doors installed along escape routes, in cases of fire;

- Decree of 06.12.2011 Amendment to Decree of 3 November 2004 concerning the installation and maintenance of devices for opening doors installed along escape routes, in cases of fire;
- Ministerial Decree of 30.11.1983 Fire prevention terms and conditions, general definitions and graphic symbols.
- Circular no. 4 of 1.4.2002 Guidelines for the assessment of fire safety in workplaces where disabled persons are present;
- Ministerial Decree of 09.03.2007 Fire resistance performance in buildings where activities that are subject to national fire fighters' control are held, and Circular Letter P414-4122 of 28-3-2008 with clarifications;
- Interior Ministry Decree of 16.02.2007 Fire resistance rating of building products and construction elements;
- Ministerial Decree of 10.03.2005 as amended by Ministerial Decree 25.10.2007 Rating according to reaction to fire of building products, to be used for the construction, which must meet fire safety requirements;
- Ministerial Decree of 15.03.2005 Reaction-to-fire requirements from construction products used in building types that must meet special technical fire prevention requirements based on the European rating system;
- Ministerial Decree of 9.5 2007 Guidelines for implementing an engineering approach to fire safety; Circular Letter, Protocol no. 4921 of 17 July 2007 (First Application Guidelines); Circular Letter, Technical Safety and Prevention Centre Protocol no. DCPST/427 of 31 March 2008 (Issuing guidelines for the approval of projects and data collection forms prepared by the Observatory);
- Ministerial Decree of 10.03.1998 General fire safety criteria for emergency management at the workplace;
- Legislative Decree no. 81 of 9.4.2008 Coord. Consolidation Act concerning health protection and safety at the workplace, coordinated with the amendments passed by Legislative Decree no. 106 of 3 August 2009 and subsequent proceedings;
- Legislative Decree no. 758 of 19.12.1994 Amendments to regulations concerning labourrelated penalties; Circular Protocol no. 14005 of 26/10/2011 (Fire prevention and detection regarding fire safety at the workplace); Circular no. 3 MI.SA. (96) 3 Protocol No. P108/4101 subs. 72/C.1. (18) of 23/1/1996 (Role and obligations of the National Fire Fighters);
- Ministerial Decree no. 261 of 22.2.1996 Regulations concerning the fire safety services performed by fire fighters in entertainment and public shows venues", as well as various provisions concerning fire safety services;
- Circular Letter 13061 of 06.10.2011 Regulations governing the proceedings related to fire prevention, pursuant to Article 49, paragraph 4-c of Legislative Decree no. 78 of 31 May 2010, converted, with amendments, by Law no. 122 of 30 July 2010. First application guidelines.
- Interior Ministry Decree of 07.01.2005 Technical and procedural standards for the classification and approval of portable fire extinguishers.
- Interior Ministry Circular P741/4101 of 07.06.2001 Online delivery of clarifications concerning building types where fire prevention systems are required.
- UNI EN 1992-1-2 Standard Designing concrete structures Part 1-2 General Rules Structural fire prevention design;

- UNI VVF10779 UNI EN 12845 HYDRANTS NETWORK
- Vertical rules for individual building types where fire prevention control is required.

<u>Estimates</u>

- Regional Public Works 2019 Price List LOMBARDY REGION Vol. 1.1, 1.2, 2.1, 2.2, and the TECHNICAL SPECIFICATIONS volume
- Measurement and Evaluation Standards contained as an integral part of Vols. 1.1, 1.2, 2.1 and 2.2 of the above Regional Price List
- In addition:
- Legislative Decree no. 17 of 27.01.2010 Implementation of Directive 2006/42/EC, concerning machinery, amending Directive 95/16/EC concerning lifts;
- Presidential Decree no. 459 of 24.07.1996 "Machinery Directive", limited to articles that were not abrogated by Legislative Decree no. 17/2010;
- Ministerial Decree of 01.04.2004 The environment and territory protection Use of environmentally-active materials;
- Legislative Decree no. 152 of 03.04.2006 Consolidated Law concerning the Environment;

• Ministerial Decree no. 37 of 22.01.2008 - Regulations concerning the implementation of Article 11-m, paragraph 13, sub-paragraph a of Law no. 248 of 2 December 2005, reorganising the provisions related to the installation of systems in buildings, and subsequent amendments;

• Presidential Decree no. 462 of 22 October 2001 - Regulations simplifying the procedure for reporting hazardous installations and lightening surge protection devices, earthing devices and electric systems;

- CEI 81-10/2 (EN 62305-2) Standard Lightning Risk Assessment;
- UNI 8612 Standard Standards for motorised gates for various buildings;
- UNI 8725 Standard Standards for residential building lifts;
- UNI 9801 Standard Standards for lifts designed for the disabled;
- CEI 648-11/17 Standards for electrical systems;
- ISO 9001 Standard Quality systems certification standards;
- UNI standard specifications for specific services or materials involved in this project.

The project plan shall be completed upon winning the approvals required by law. Including, but not limited to, from the Health Protection Agency, Fire Fighters, National Olympic Committee, Superintendency, etc.