

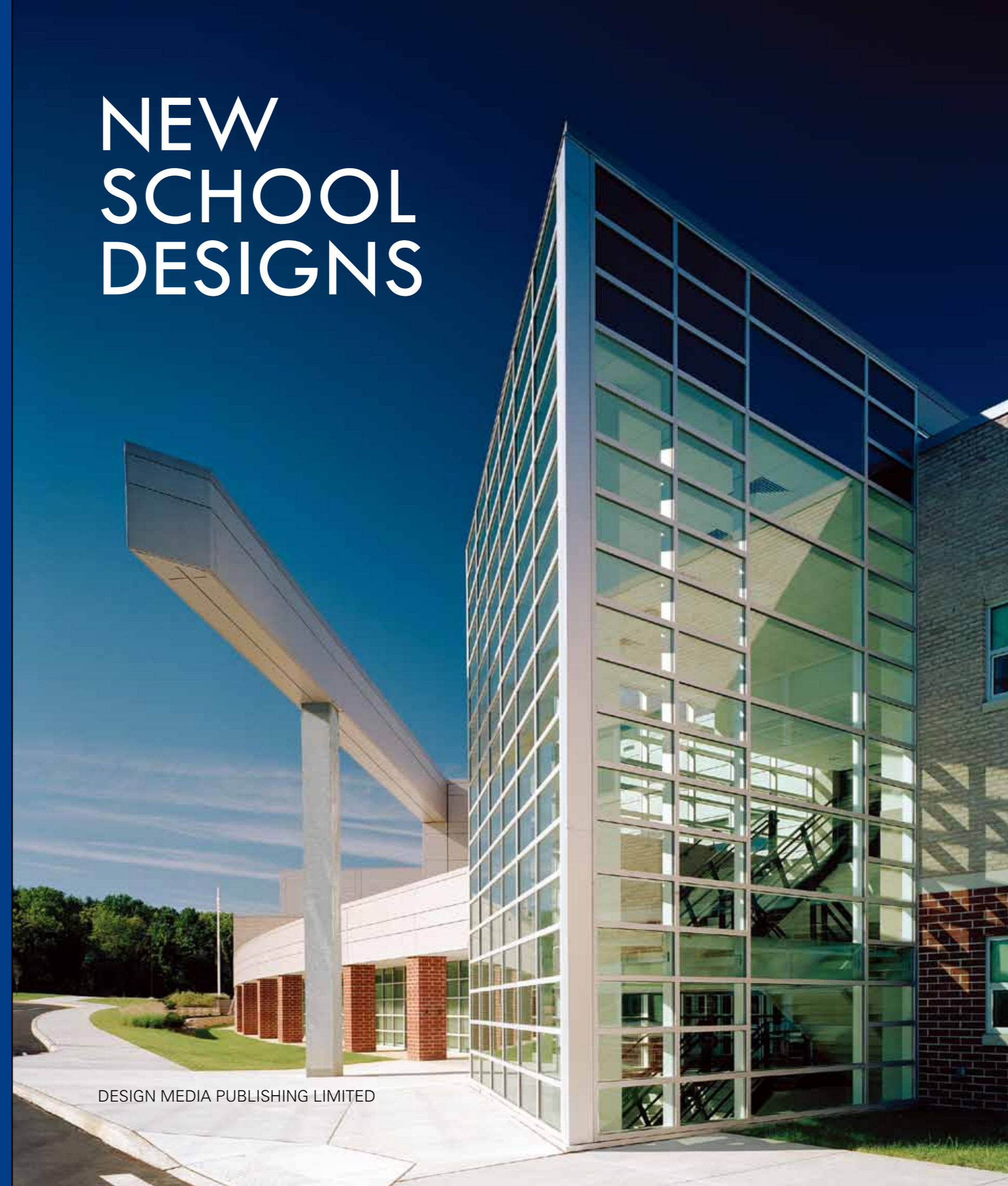


The school designs (new construction, refurbishment, renovation or expansion) are crucial and concerned with natural environment, urbanisation and urban life, which bring new and more missions and responsibilities to school designs. Schools must be the organic part of the urban life, no longer to be a closed, even isolated place to their neighbours in a city. Modern school designs present three characters: quality-control is always first, sustainability is in; schools are the new centre of community residents' life. We selected 42 school designs by world architects and interior designers, including primary and secondary schools and professional training schools. Let's enjoy these wonderful works.

NEW SCHOOL DESIGNS

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NEW SCHOOL DESIGNS

Sustainable Growing of Schools for the Future

Lovely playground, square and boring classrooms and poker-face teachers may be the main images flowing through our heads when we recall our schooling time. What we thought about is how to be the first one running to the playground and start break games. As for the school design quality, that is not the first attention for us, even not for our parents.

However, the school is the organisation where children are trained for the future. Most people grow up with the accompanying of the school, which is the initially public space for people to communicate with and may influence the whole life of a person and the development of a time. That child playing with his/her classmates is possible to be a leader, an artist or an architect in the future. Various professional training schools are set up to meet the demand of social development such as culinary schools, dance schools and language training schools, and become a main part of school design projects besides elementary and secondary schools. Therefore, the school designs (new construction, refurbishment, renovation or expansion) are crucial and concerned with natural environment, urbanisation and urban life, which bring new and more missions and responsibilities to school designs. Schools must be the organic part of the urban life, no longer to be a closed, even isolated place to their neighbours in a city. Modern school designs present three characters: quality-control is always first, sustainability is in; schools are the new centre of community residents' life.

Quality-control is always first

Quality reigns has been built up gradually with the development of the society, and unquestionably, it has become the key norm of school designs.

1. Space design quality-control under limited conditions

The social development brings the increase of population and urban expansion. A residential zone's development often accompany with the growth in school-age population, so new challenges for school administrators and architects are not simply new building space available to meet the demand of school-age children, but also look high and low for available spaces and improve facilities in an existing school to keep up with the competition for students. Effective and high-quality space design is the determinant element of school quality.

Designed by N+B Architectes, the restructuring and extension of the High School Paul Valéry (page 184 in the book) in Menton, France is "characterised by a strong duality". The exiguity of the available spaces for the extension, associated with a strict urbanistic regulations for the siting of the new buildings. This work on the relief admits a minimum of reorganisation of the programme to install the various buildings and organise spaces. Finally, "a microcosm offering a variety of landscapes" was created.



New construction projects will provide architects more opportunities to realise their ideas, comparing with renovation and expansion projects. However, how to foresee and prepare for future development with premise of realising economical and sufficient utilization of space, for instance, the growth in future school-age population is one of challenges for architects. Gray Puksand designed a primary school "around a series of culturally significant nature reserves", and created an innovative, spacious and flexible learning spaces "that would enable the facility to adapt to the changing needs of the school community as it grew with the development of the surrounding community".

2. Extra function value of space designs

Schools are the place where talents start their comprehensive education, and examination points are no longer the measure or decision factors of talents. More and more educators pay their attentions to inspire students' abilities of understanding, self-study and creativity, in order to train the student to get ready for unpredictable challenges. Therefore, traditional school facilities, such as classrooms, teacher offices and water closets cannot meet the requirement of new education system, and more functional spaces and facilities are required to improve the spaces' functional value for ability training, in addition to traditional knowledge education. To establish good relationship between the students and nature, society, other persons and the future and obtain the ability of understanding, appreciating and creating will be happened in new and high-design-quality schools.



Architects Martin Lejarraga from Spain transformed Our Lady of the Rosary Public School (for more information, please see page 110) as a kind of jack-in-the-box, to collect fantasies and imagination, knowledge, dreams and colours.



The corridor in Lynnwood High School (page 240 in this book, designed by Bassetti Architects) is also the gallery of the school.



Doors and floors in Munkegård School (page 76), designed by Dorte Mandrup Arkitekter, reproduced Arne Jacobsen's wallpaper. These designs provide spaces of arts and imaginations to all the students.

Sustainable future

Sustainability is the most in trend in the 21st century, and it involves all the aspects of school design. Sustainability has become another norm of school design, including materials selection, daylighting, energy conservation and overall building flexibility, in order to realise “longer service life, but lower maintenance expenses and times” for serving generation to generation. That is the basic aim and architectural principle for all countries to insist and pursuit.

The first consideration of sustainable school design is daylighting and eco-materials. Good lighting effect and air quality are the basic element that ensures students and teachers staying in the space for a longer time to carry on learning activities. A healthy and comfortable learning space is what those parents and the whole society supervise and pay more attention to.

Clarke Hopkins Clarke integrated sustainable education concept and methods to designed Eltham Primary School in Australia. They created a “healthy habitable spaces and minimise environmental impact” – “provide shading to the building during summer and enable light and warmth to enter the building during winter. All timber and composite timber products were re-used timber, recycled timber or plantation/regrowth timber with Forest Stewardship Council (FSC) or PFC certification” (more information are available in page 70). Aspen Middle School in Colorado, USA, designed by Studio B Architecture is also a sustainable school. Wherever possible, sustainable materials are incorporated into the design. Those sustainable strategies have resulted in the most energy efficient building on the school campus. The Aspen Middle School received LEED Gold Certification in October 2008 from the US Green Building Council and is the first in the State of Colorado. Let's return to Australia. NOWarchitecture completed Yackandandah Primary School in 2011, and the architects extend the application of eco and sustainable concept from materials, design methods to students' education. This design “considers its environmental benefit and impact. Its efficient structure minimises the use of raw materials, while integrated water storage, passive cooling, natural light and ventilation reduce energy consumption and contribute to student awareness of their environment”.

Another reason of promoting sustainability is cost. The most acceptable way of lower cost is renovating, and the users of the building would be willing to stay in a familiar space, but not a new structure needing them to get used to gradually. The public's supervision to public project budget also make renovation project, especially a school project being with the least argument. Ross Barney Architects reorganised an old building of 1900s into a new school for 646 students. In crowded Philadelphia, its outstanding sustainable features won LEED Gold for the school (see more information in page 20). It's definitely yes that new structures also have excellent sustainable design. C+S ASSOCIATI design a completed new primary school in Italy (page 34). Series strategies including a green roof, geothermal heating, natural ventilation chimneys, building automation system and the like make the project correspond to “Class A+ of Italian law with a building cost of 1,030 Euros per square metre including furniture”.



Ponzano Primary School's green roof (more information are available in page 34)

Community's centre – school's another value for the society

Modern but busy urban life makes people gradually isolate with other persons, and become sensitive and nerve. School as the necessary public building in a residential zone – community, has gradually open its gate to its neighbours and become a new place where the community residents gather for social life. More surprising to all of us, the safe problem that some people worried about after opened the school facilities to the public has not appeared. On the contrast, reasonable time arrangement and space design enhance the safety of school campus in nights and vacations. School facilities, such as gym, cafe, and auditorium become the place where local residents and parents gather to communicate with each other after work. That is also a new and direct feedback of public schools to the public and society.

Designed by Div.A Arkitekter, Hundstund School & Community Centre (page 134) in Norway is the first school that serves a hot lunch in Norway. The school café on is also open to the local community in the evenings several days a week, so there is the favourite place of working parents who in Norway have to bring and pick up children from the nursery school. The sports the “school's outdoor areas including areas for skateboards, basketball, volleyball etc. are open all week for the use of everyone”. Lynnwood High School, designed by Bassetti Architects has a school centre – “Agora”, “it's where students, staff and community gather to socialise with friends, eat lunch, admire fresh bouquets from the Floral Shop or smell appetisers baking in the Food Lab” (page 240). The school Principal thought that the students can all see each other and be together in this open place, so the school environment is excellent with fewer problems.



Lynnwood High School, details are available in page 240

School designs has not been a simple project, which just divide classrooms, offices and water closets. Archites are in a new eco time - a time of sustainability and nature and humanity returning. Most countries pay more attentions to students' ability training and future sustainability. The interaction of human and nature, human and society, human with each other will definite the development of the future. School rojects should also improve its social value - feedback to the society and to be the sample of future's sustainable development.

We selected 42 school designs by world architects and interior designers, including primary and secondary schools and professional training schools. Let us invite you to enjoy these wonderful works.

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De Schatkamer – Primary School and Child Care Centre

Designer: Bekkering Adams Architecten **Location:** Zwolle, The Netherlands **Completion date:** 2010
Photos: Digidaan (DD) **Floor area:** 3,200 square metres

The primary school 'De Schatkamer' is located in the district Stadshagen in Zwolle, and is bounded by the Belvederelaan, the Wildwalstraat and a rail track. On the site is a series of magnificent oak trees. The building follows the contours of the land in a kind of bow shape, so that the historic oak trees could be maintained.

The programme consists of a primary school in two layers for approx. 500 pupils. The school is set up according to the educational concept for a new way of learning, called "natural learning". Also located in the building is a children's centre with nursery, kindergarten and after school care on the ground floor.

The school is divided into five units, surrounding a central hall. The big stairs in the central hall can also function as a theatre. Around the hall several special functions are located, such as kitchen, playroom and meeting rooms, so that the space can be used in many ways and is the beating heart of the school. Roof lights and windows ensure that the hall is filled with light. Through the adjacent rooms the surroundings can be seen, and specifically the view to majestic oak trees brings nature into the building.

From the central hall, all units can be reached, and views through the hall ensure a spatial and transparent appearance. The units each have a quiet area with computer workstations and areas for quiet work and a busy area where a workshop space, atelier and kinder-cafe are located. The ambiguous form of the building and the orientation within the building ensures each unit has its own quality and identity, which is further reinforced by differentiation in material and colour.

Every unit has its own colour scheme with bright fresh colours, which gives the space its own character and identity. Specially designed interior elements are incorporated in the building, for sitting, playing and storage. Custom-made low windows make it possible for even the smallest children to have a look through the building, a glance through their learning landscape.



1. Outside view from the side of the Wildwal Street
2. Outside view of the entry side of the building
3. Outside view from the playground side
4. Outside view from the side of the Wildwal Street





- 1. Entry
- 2. Central hall/theatre hall
- 3. Play-hall
- 4. Children's cooking area
- 5. Office
- 6. Classroom, unit room
- 7. Study room
- 8. Children's centre playroom
- 9. Kindergarten
- 10. Sleeping-room



1. Entrance area and schoolyard
 2. View to the playroom connected to the central hall



1



3



2

- 1. View from the interior, the central hall with the theatre stairs
- 2. View from the balcony with the workshop space of one of the units, to the central hall
- 3. View from the balcony of the central hall with see-through to the unit spaces and classrooms
- 4. Children cooking in kitchen connected to the central hall

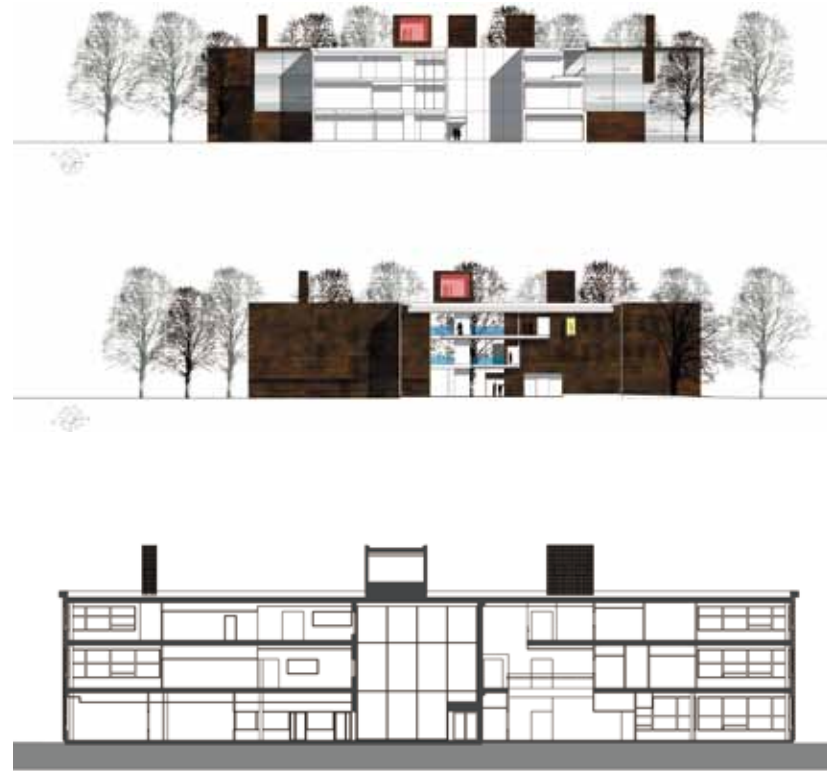


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Joensuu Primary School

Designer: Arkkitehtitoimisto Lahdelma & Mahlamäki Oy / Ilmari Lahdelma (author) **Location:** Joensuu, Finland **Completion date:** 2008 **Photos©:** Jussi Tiainen, Pekka Agarh

The new primary school in Joensuu is an important addition to the series of public buildings located on the central axis of the city. The windmill layout of the building attaches it to this loosely chain of significant buildings. The layout of the school provides easy access from all approaches. The central atrium of the school is visible to four directions and thus well presented in the cityscape. The goal of the internal layout has been spatial clarity. The functions of the buildings are separated by the spatially interesting central atrium. The four different wings of the building have been marked with colours for easy orientation. Each wing consists of a cell. In each cell the functions are gathered around the cell lobby. There is a visual connection between the cell lobby and the central atrium. The main elements of the external architecture of the school are sculptural forms and the use of simple yet high-quality materials. The Joensuu Primary School's façades are mostly made using double skin façade principle. This double skin is planned to be a buffer zone against the cold weather at winter time. The first beams of spring sun are efficiently collected between the skins of the facade by using dark brown steel plate in the inner skin. The outer skin is made of glass. Class rooms are ventilated to this space by ventilation windows. At the same time when one opens the ventilation window in the class room also opens a similar part of outer façade to make ventilation efficient. At late spring time and early months of autumn a large horizontal parts of outer façade are opened to speed up the air circulation between two façades and at the same time lower the temperature between the skins. The main façade materials are oxidised copper and horizontally divided silk-screen printed glass.



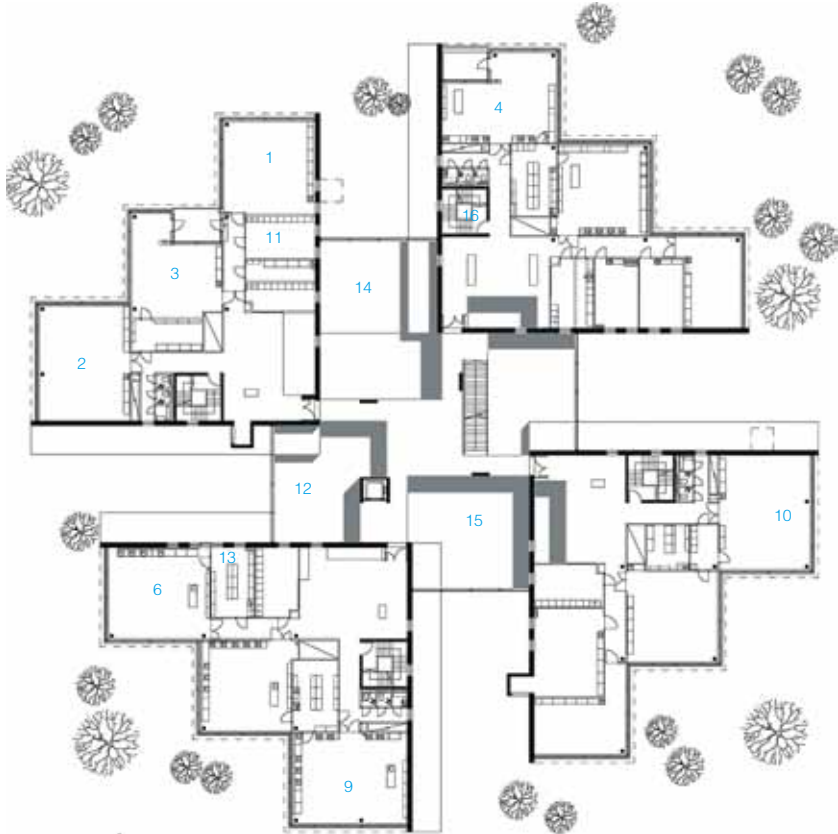
1. Front view in winter
2. North view
3. Front façade





1

1.2. Resting place



- 1. Classroom
- 2. Classroom
- 3. Classroom
- 4. Classroom
- 5. Classroom
- 6. Classroom
- 7. Classroom
- 8. Classroom
- 9. Classroom
- 10. Classroom
- 11. Resting place
- 12. Hall
- 13. Resting room
- 14. Platform
- 15. Platform
- 16. Stairs



2



1



2

- 1. Communication area
- 2. Green-tone classroom, full of vitality
- 3. Interior corridor



3

Commodore John Barry Elementary School

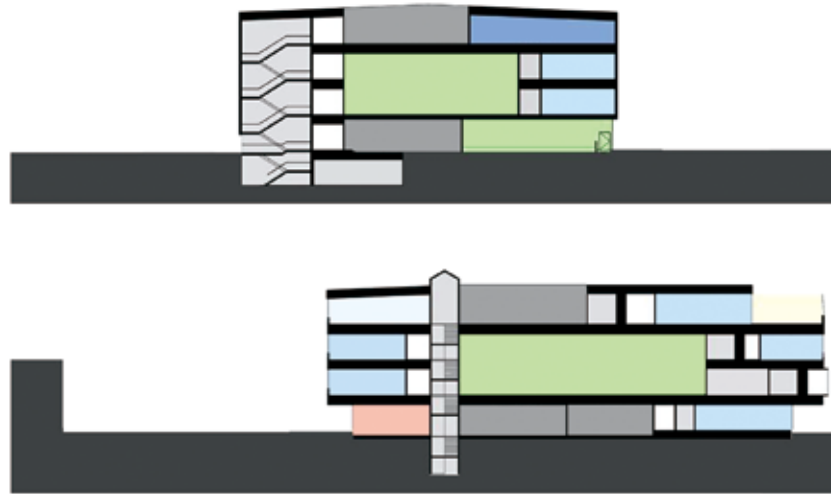
Designer: Ross Barney Architects **Location:** Philadelphia, USA **Completion date:** 2008 **Photos©:** Matt Wargo **Site area:** 3,995 square metres

The new pre-K-8 in West Philadelphia for 646 students was built on site of the original school in a residential neighbourhood of 2-storey brick row houses circa early 1900s. The new school was designed in 8 months and constructed in 16 months. Community involvement throughout the process allowed completion on an abbreviated schedule. The four-storey solution, unusual for elementary education, provided over 40% of the approx. 3,995 square metres site as outdoor play space.

Conceptually, the design comprises three horizontal zones. The base zone: the lobby, cafetorium and administrative offices, creates a public commons for the students and the community. Pre-kindergarten, kindergarten and special needs classrooms are also on grade. The middle zone contains two identical floors with 1-8 grade classrooms around a two-storey Gymnasium creating "small schools within a school" or grade related instructional clusters. A roof level "learning garden" has special spaces for all the students. Art, music, science, computer, vocational classrooms, and the library include outdoor decks for hands-on learning experiences. Glazed brick is used at grade for durability. The metal wall panel system creates a high performance building enclosure while minimising construction time. Wire mesh enclosures give the roof gardens an open and inviting feel.

The school was designed for a LEED Silver rating, but actually received a LEED Gold. Sustainable features include porous paving, grey water capture and reuse, outdoor views for 95% and day light harvest for 90% of occupied spaces. The design challenge for this project was to provide a first rate academic facility on a tight urban site. To maximise outdoor play area and neighbourhood green space, a four-storey school was designed.

The new school has 46 classrooms. Additional instructional spaces for art, science, vocal music, and technical education were included. The building contains a cafetorium with a stage area and warming kitchen, a gymnasium with locker and shower areas and an Instructional media centre, with a computer classroom, conference rooms and a library.



3

1. East elevation of school
2. Main entrance canopy
3. Main entry view
4. South side of school



1



2



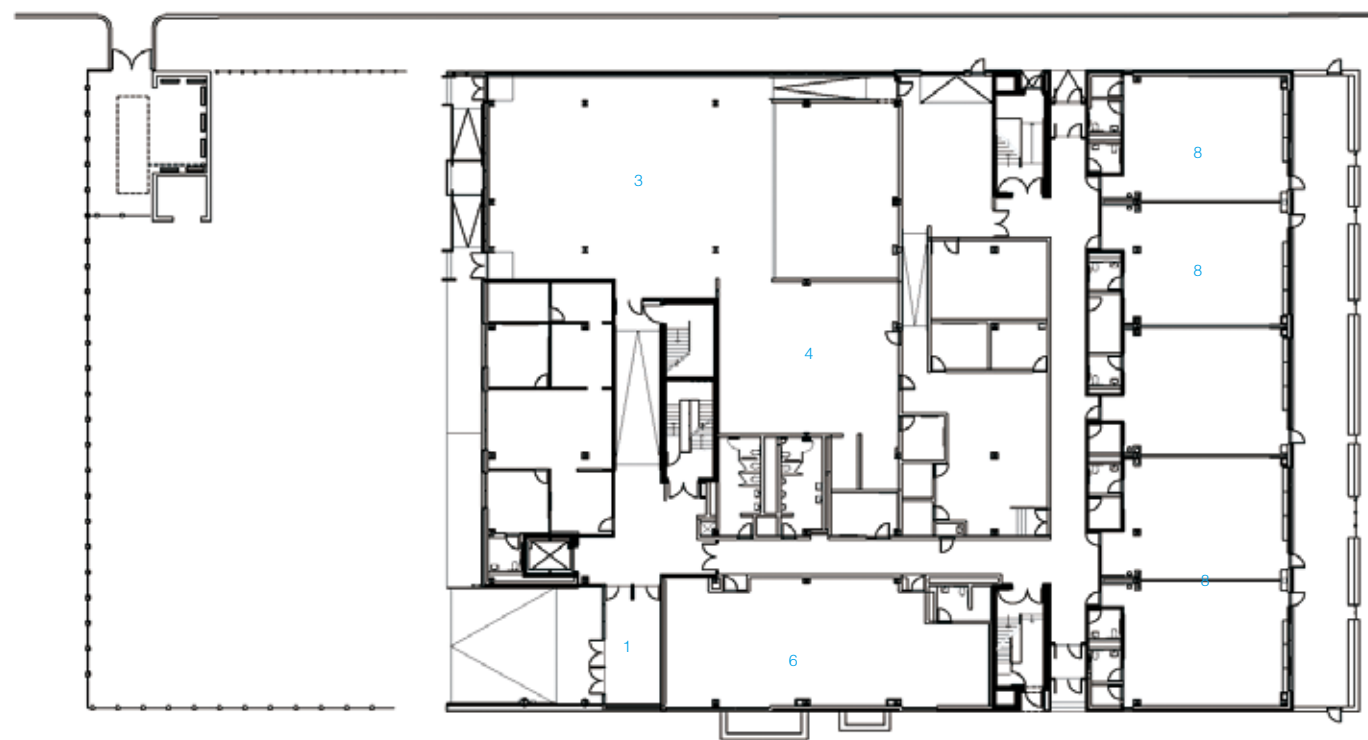
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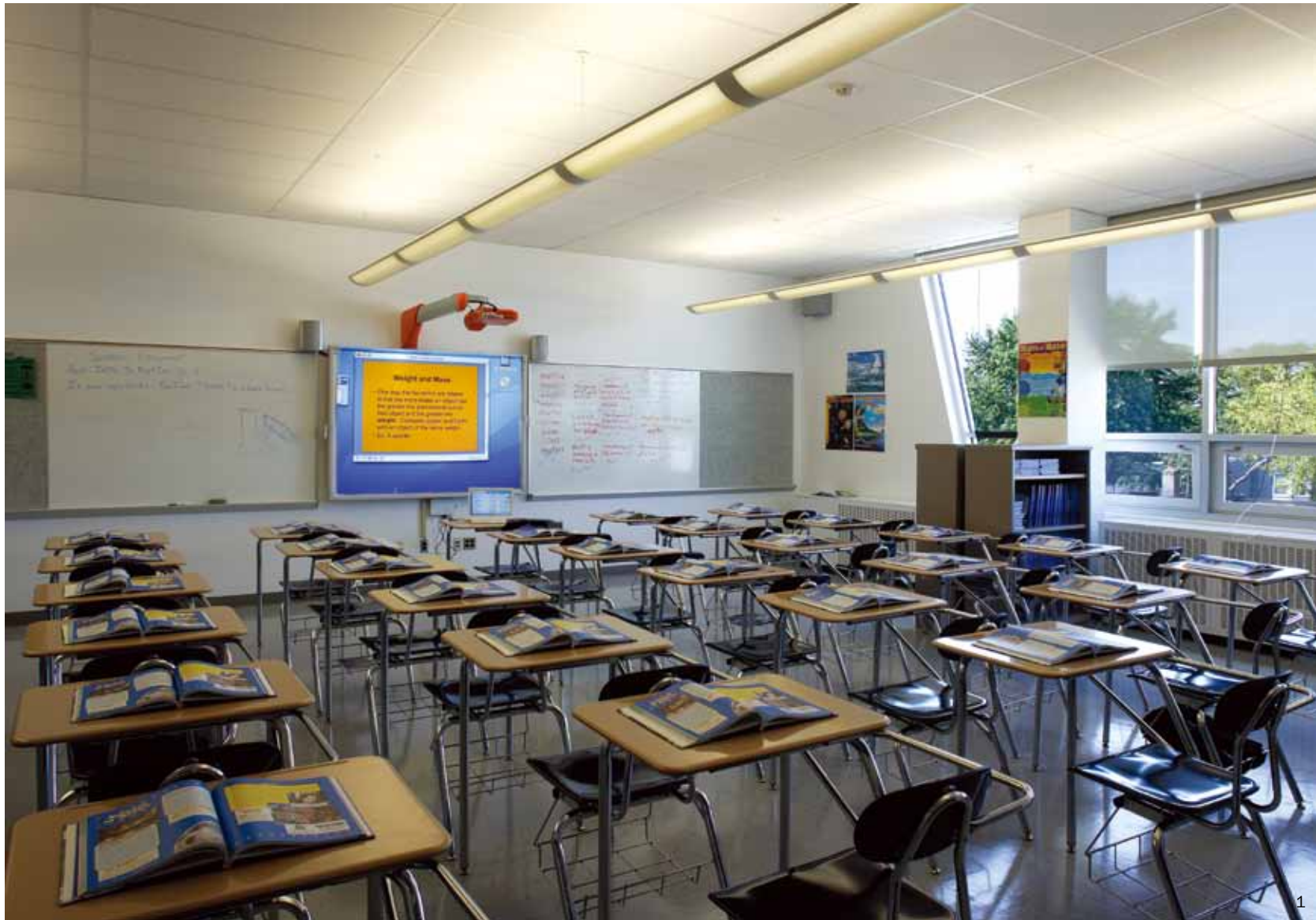


- 1. Vestibule
- 2. Lobby
- 3. Cafeteria
- 4. Kitchen
- 5. Offices
- 6. Multi-function room
- 7. Storage
- 8. Classroom

- 1. South elevation
- 2. Vestibule showing outdoor classroom
- 3. Circulation hallway looking out to neighbourhood



3



1



3



2

- 1. Classroom with views out to neighbourhood
- 2. Cafetorium
- 3. Gymnasium
- 4. Main circulation stair with skylights



4

ISW Hoogeland

Designer: RAU **Location:** The Netherlands **Completion date:** 2009 **Photos©:** Ben Vulkers **Floor area:** 13,300 square metres



The Westland has a number of schools in the region between The Hague and Rotterdam. One of these, ISW Hoogeland, combines schools that used to be at three separate locations. The building's unique Z-shaped floor plan is divided into three main areas but also has other specialised areas. Each main area has two study centres, one with and the other without IT facilities. The centrally located seventh area, intended to encourage creativity, is equipped as an art area.

Despite the division into main areas, there are no physical separations dividing the various groups of pupils. The daily routes taken by pupils in the various groups cross each other at various locations in the building. In addition, the specialised areas such as the labs, multimedia library and the two indoor gymnasiums at the far ends of the building are used by all the pupils. Both gymnasiums are equipped with a partition that can be raised and lowered so that each gymnasium can be used as one large or two smaller areas for sports activities.

For recognisability, each kind of space has its own accent colour, and each study centre has its own colour. The walls of the circulation corridors are covered in panelling having three different backgrounds that were designed in consultation with Buro Braak, a graphic design studio. These are typical scenes of the surrounding Westland overlain with balls and butterflies corresponding to the background colour of the study centre towards which the corridor leads. The shapes on the panels also increase in frequency and colour intensity as they approach a study centre. The grey basic colour of the self-levelling screed used as flooring in the circulation corridors acts as a visual compensation for the coloured walls.

Contrasting colours and materials are also used on the exterior. Sections of the school building's dark brick façades are clad with corten steel. Within just a few weeks after construction was completed, this weather-resistant steel had already taken on its characteristic orange-brown colour. The combination of corten steel and dark brick makes an attractive contrast for the "constructed bridge" clad largely in glass that connects the two wings of the building.

1. Distance overall view of the building and parking area
2. Side façade and outside stairs



1



2



- 1. Auditorium
- 2. Music lab
- 3. Arts and crafts lab
- 4. Document room
- 5. Gymnasium
- 6. Lobby
- 7. Entrance
- 8. Drama
- 9. Lecture hall
- 10. Study centre
- 11. Classroom

1. Overall view of water bank building
 2, 3, 4. Contrasting colours and materials are also used on the exterior; dark brick façades are clad with corten steel





1



3



2

- 1. 2. Reading area in library
- 3. Computer room
- 4. Main entrance of the floor



4



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- 1. Lounge area with rich natural light
- 2. Corridor with colourful wall painting
- 3. Dining room
- 4. Quiet study room



4

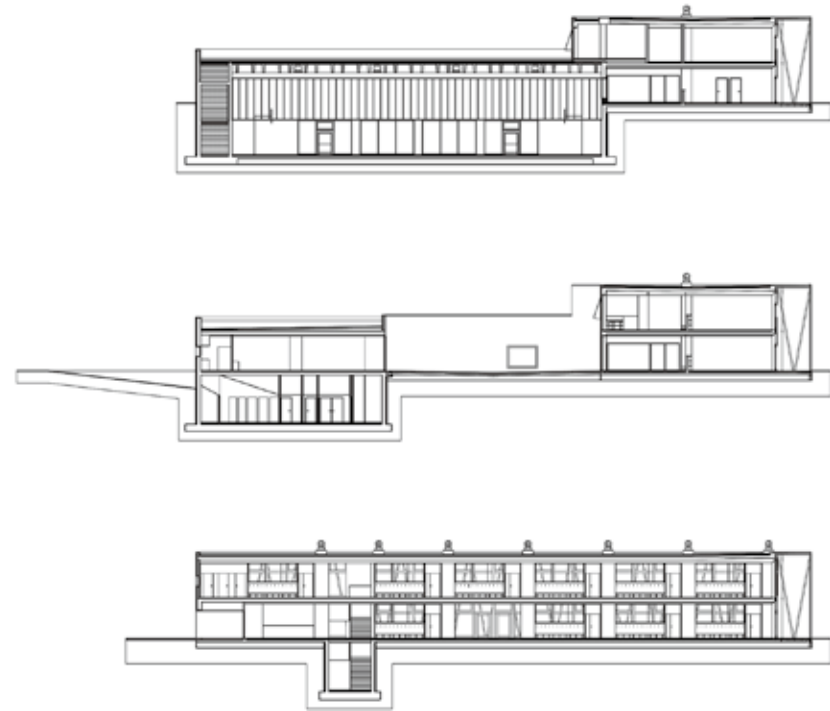
Ponzano Primary School

Designer: C+S ASSOCIATI **Location:** Ponzano Veneto, Italy **Completion date:** 2009 **Photos©:** Alessandra Bello, Carlo Cappai, Pietro Savorelli **Construction area:** 4,102 square metres **Award:** Sde 2009 Prize from the Italian Ministry of Landscape and Environment

The Ponzano Primary School is designed for 375 children aged from 6 to 10. It has 15 classrooms and special classrooms for art, music, computer, language and science, a gymnasium space, a canteen and a library. The Ponzano Primary School is a sustainable building in energetic, social and cost control meaning. Thanks to a judicious orientation, a thick insulation, a green roof and some sophisticated technologies (geothermal heating, photovoltaic panels, natural ventilation chimneys, building automation system) the school consumes only 3.6 kWh/mc/year, corresponding to Class A+ of Italian law with a building cost of 1,030 Euros per square metre including furniture.

Inside the sprawl city of Ponzano in the north Italian Region of Veneto, the Primary School constitutes a new node, a meeting place for the whole community. Part of the building (the gymnasium) is in fact accessible by everybody in the after-school-hours. Collective spaces are very important in the school project. First, in the general outline: all spaces are gathered around a central square, memory of monastic cloisters, which, in the past were the places of knowledge conservation. Then, also in the building's section: all spaces face each other and are reflected by the transparent and coloured walls. This complexity reminds the model of the industrial districts in Veneto where people are incited to learn from each other by exchanging experience.

The threshold space with its red coloured steel columns is a reminder to the typical "barchessas" of the Veneto Region with their arcades opened towards south: all the ground floor classrooms facing south-east and south-west are directly opened to this arcade paved in wood in order to possibly invent special open air classes. At the same time the building is firmly contemporary and converses with the nearby Benetton Factories, their culture of good design and their philosophy of spreading colour democracy all over the world.



1. The courtyard
2. The green roof and the ventilation chimneys
3. The roof terrace outside the art classrooms
4. Detail of the south-west elevation





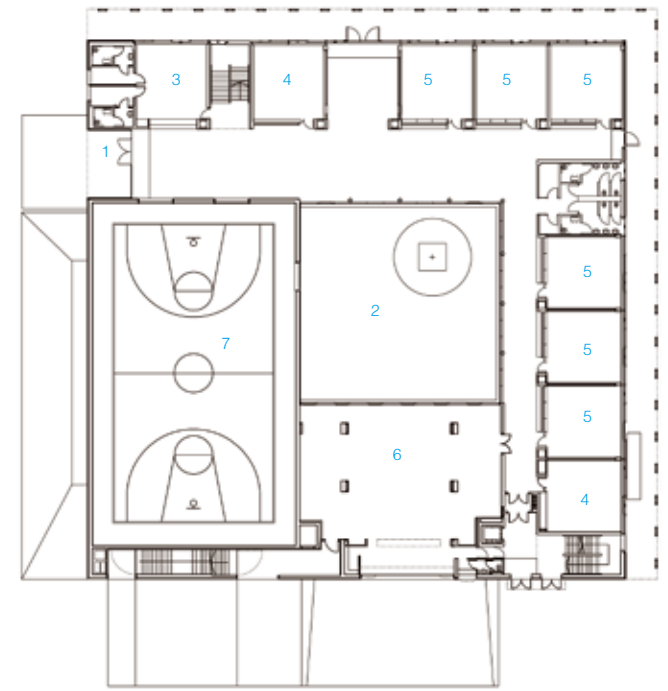
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1. The outside arcade, the wood and glass façade

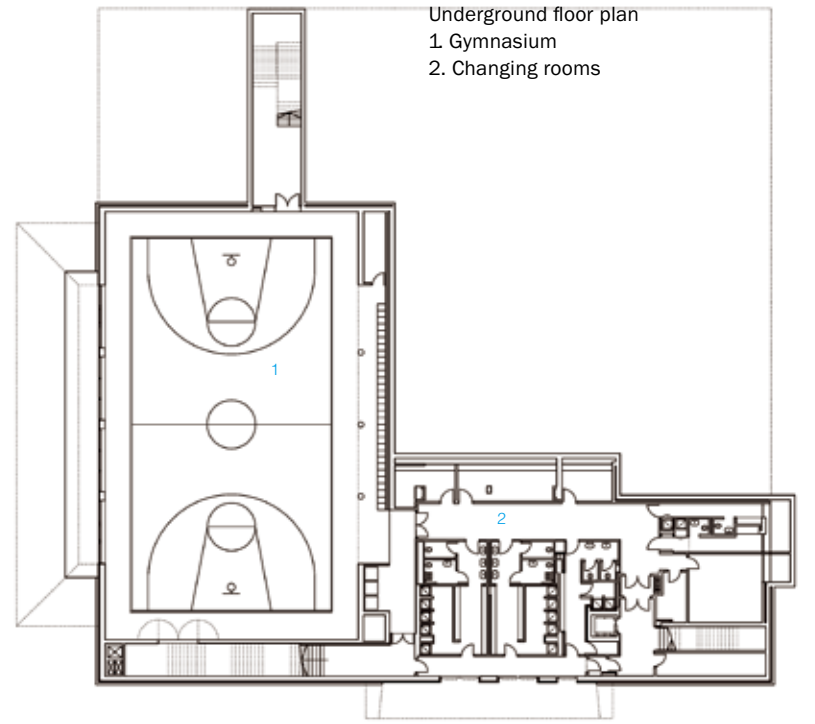


2

2. The entrance and the courtyard during an outdoor class



Ground floor plan
 1. Entrance 5. Classroom
 2. Central courtyard 6. Canteen
 3. Teacher's room 7. Gymnasium
 4. Lab



Underground floor plan
 1. Gymnasium
 2. Changing rooms



1

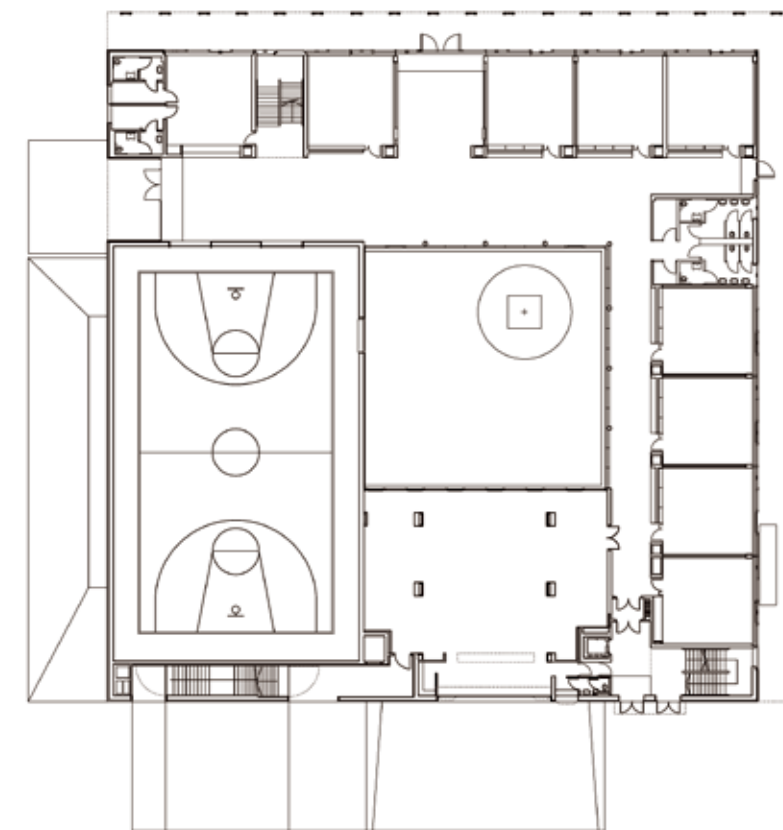


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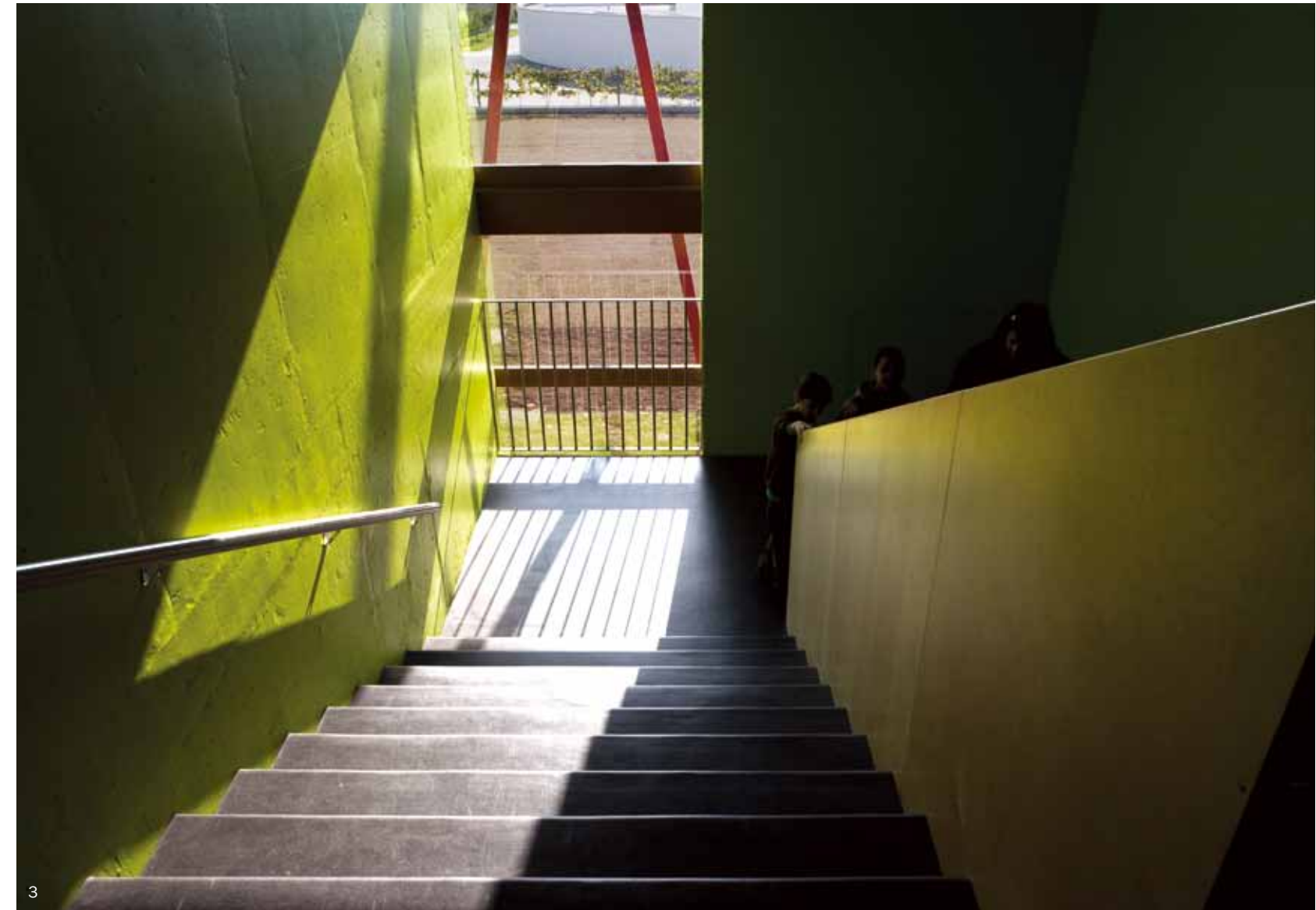
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- 1. Internal view of a classroom
- 2. The library on the first level
- 3. Reading table and chair in the library at the first level





1



3



2

1. The gymnasium
 2. Detail of the glass-made wall between classrooms and corridor



4

Epping Views Primary School

Designer: Gray Puksand **Location:** Melbourne, Australia **Completion date:** 2008 **Photos©:** Peter Clarke
Awards: Winner of the Best School Project above \$3million Category, DEECD 2009 School Design Awards
 Victorian Chapter Award – Public Architecture – New, Australian Institute of Architects, 2009
 Architecture Awards

Epping Views Primary School was designed around a series of culturally significant nature reserves, the individual learning precincts developed around the largest of these reserves.

Innovative, spacious and flexible learning spaces were created, that would enable the facility to adapt to the changing needs of the school community as it grew with the development of the surrounding community. The school was designed with sound environmental principles and orientation of each building, ensuring good cross ventilation and high levels of spatial quality and natural daylight.

The school was designed around a series of culturally significant nature reserves located within a new residential subdivision to the north of Melbourne. The individual learning precincts were developed around the largest of these reserves and positioned onsite to establish pedestrian paths and view lines within and through the buildings to established landscape elements. Dramatic roof forms are in distinct contrast to the smaller scale residential roof elements surrounding the site.

The brief was to adapt to the changing needs of the school community as it grew with the development of the surrounding community. This is particularly evident in the ability of the each of the neighbourhood spaces to accommodate a fluid range of student year levels, including those which are a combination of several years. The scale of the collaborative spaces linking the learning studios and creation of possible sub schools around a central external courtyard ensures the school community can accommodate yearly changes and growth in student enrolments.



2

1. Outside view from the playground
2. Side façade
3. Backyard of the school



1



3



1



2

1, 2, 3. Outdoor covered corridor



- Administration plan
- 1. Entry
 - 2. Meeting room
 - 3. Wardrobe
 - 4. Office
 - 5. Toilet
 - 6. Dining hall/lounge



- Neighbourhood plan
- 1. Entry
 - 2. Study
 - 3. Studio
 - 4. Collaboration
 - 5. Library
 - 6. Wet area
 - 7. Toilets
 - 8. Learning street
 - 9. Courtyard
 - 10. Breakout area
 - 11. Grassed area
 - 12. Seating
 - 13. Seminar
 - 14. Library breakout



3



1



3



2

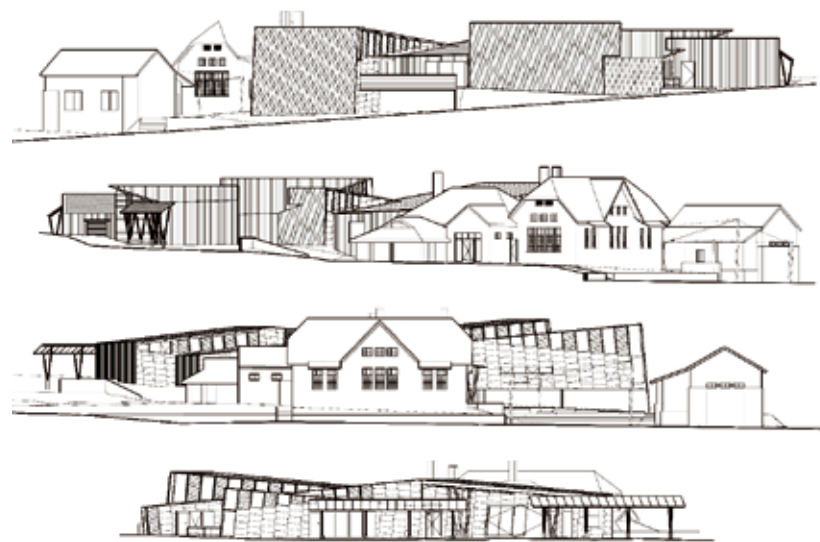
1, 2, 3. Open classroom

- Multipurpose plan
- 1. Entry
- 2. Practice
- 3. Music
- 4. Lobby
- 5. Site store
- 6. Canteen
- 7. Multipurpose space
- 8. Toilets
- 9. PE Store



Yackandandah Primary School

Designer: NOWarchitecture **Location:** Yackandandah, Australia **Completion date:** 2011 **Photos©:** Elisha Morgan **Construction area:** 1,375 square metres **Award:** Winner of the 2011 Educational Facilities Award for Best "Renovation/Modernisation of School / Major Facility", presented by the Council of Education Facilities Planners International (CEFPI) Australasia region



This project has focused on community values, heritage and environment unique to Yackandandah. Its contemporary form draws inspiration from the adjacent mountains and rolling hills, allowing the building to sit comfortably within the historic township.

The new school building is the largest building within Yackandandah central township. To respect this scale, the form of the building is articulated into smaller visual elements to not overpower the historic school building. The new building's roof lines "finger together" to create a rhythmic form which gives a robust external identity and generous internal spaces. Light is brought into the centre by clerestories formed between the opposing roof planes. The high ceiling induces air flow throughout the building, allowing hot air to rise up and exit the perimeter high level windows to improve thermal comfort and air quality.

The structural grid provides a variety of spaces which define the functional and spacial relationships of the Learning Centres and Learning Resource Centre. The sleek metal finishes reduce potential bushfire risk and reduce long term maintenance. Externally, spaces between the buildings create courtyards, shelter and places for outdoor learning. Some are enclosed by landscaping and trees, providing textural variety and a natural quality. The building grows out of its steep site as gardens, earth berms, courtyards and paving provide interactive environments for learning and playing.

The Resource Studio defines the heart of the school. It provides multi-year level support to the Learning Centres and can be used by the community after school hours. This design also considers its environmental benefit and impact. Its efficient structure minimises the use of raw materials, while integrated water storage, passive cooling, natural light and ventilation reduce energy consumption and contribute to student awareness of their environment.

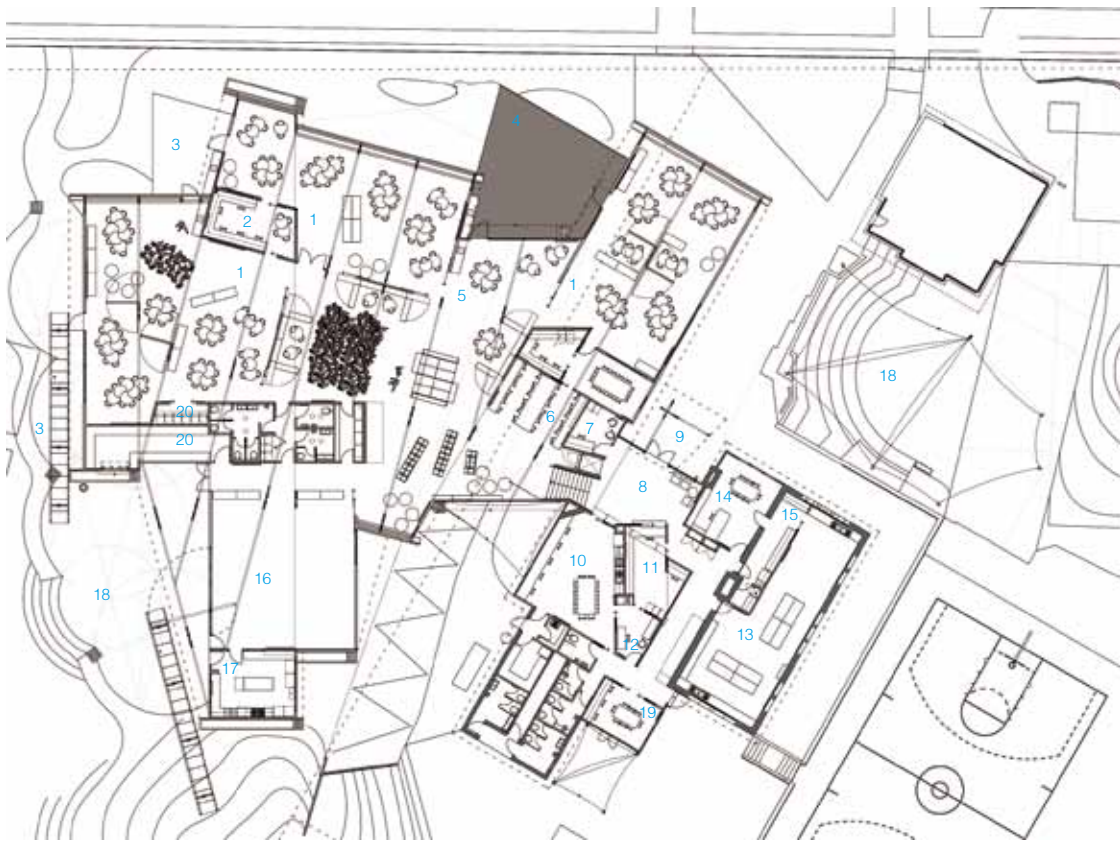


1. Side view of façade
2. Exterior ramp to the school building
3. Overall dusk view of the school





1



- 1. Learning centre
- 2. Staff work
- 3. Outdoor learning area
- 4. Outdoor learning area deck
- 5. Resource/ studio
- 6. I.T. resource
- 7. Associate principal
- 8. Welcome
- 9. Entrance canopy
- 10. Staff lounge
- 11. Reception
- 12. First aid
- 13. Art room
- 14. Principal
- 15. Staff resource
- 16. Multipurpose room
- 17. Canteen
- 18. Community plaza
- 19. Counseling
- 20. Store

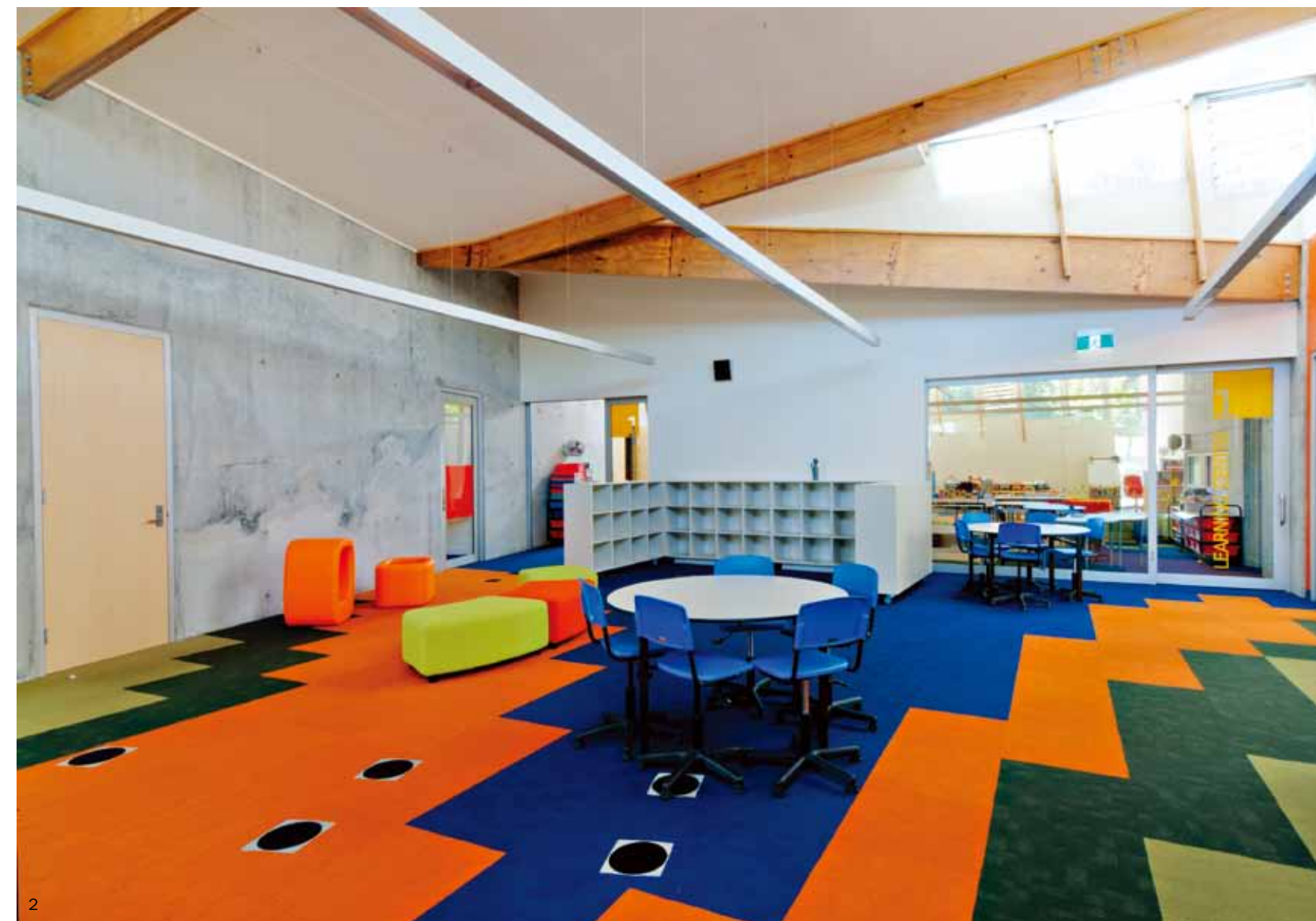
1. Central area
 2. Central area detail



2



1



2

- 1. Open learning area
- 2. Contrasting colour on floor
- 3. Art installation in the corner of learning centre



3

Berwick Chase Primary School

Designer: Clarke Hopkins Clarke **Location:** Victoria, Australia **Completion date:** 2009 **Photos©:** Courtesy of Clarke Hopkins Clarke

Berwick Chase Primary School has been designed for a long term enrolment of 475 primary school students with a peak of 800. The school masterplan has carefully considered the integration of relocatable facilities to make sure all students have equal access and opportunities to use the permanent facilities including specialist areas such as the resource area and art facilities.

The teaching and learning areas of the school have been designed with four learning neighbourhoods consisting of seven learning commons, each able to accommodate up to 75 students. Each neighbourhood is an open, transparent learning environment that provides students with a variety of types of facilities and spaces specific to their educational programmes. The scale and types of spaces are designed to support students through their primary schooling.

There are no corridors in this school as all the circulation has been incorporated into project and break out areas. Teacher workspaces are located throughout the school close to their home bases to ensure that they are always accessible to students and to aid supervision. The open and linked quality of the learning environments provides opportunities for students and teachers to work collaboratively in variously sized groups from one on one through to multi-class activities. These types of environments are intended to foster collaborative and team teaching within a collegiate environment.

There are strong connections between internal and external learning areas through the development of outside learning areas that adjoin each learning common. The learning neighbourhoods open on to the outdoor learning court areas with large sliding doors so that the boundary between the inside and the outside is blurred and both are easily supervised. The outdoor learning areas provide opportunities for the whole class and smaller group activities to be taken outside.

The Games Hall brings together the school's sports facilities, music room, canteen, and store rooms to provide a multi-purpose facility that can be used by the school for a wide variety of activities during the school day and by the community at other times. An operable wall separates the games hall from the music room which is raised up to provide a stage for school performances and assemblies. The external wall of the music room is a café style operable glazed wall which can be opened up to provide a dais for performances to audiences seated in the central plaza area. The independent access to the Games Hall also enables the facilities to be used outside of school hours by community groups and others, such as private dance or martial arts schools. Berwick Chase Primary School has been designed to support the school's evolving pedagogical approaches, to demonstrate the importance that the community places on education and to provide a facility that the whole community can use.



1. Playing in the sandpit
2. View of the Games Hall
3. The school orchard





1



3

辅助他们完成多种类型的教学活动。这样的环境设计目的是培养学生们互助合作的团队精神。户外教学区与各教学组团相连，使室内外紧密相连。室内教学区与户外通过巨大的拉门相连，内与外的界限变得模糊，对教师们的监督指导更为有利。户外教学区为全班和小组户外活动提供了场地。竞技厅集中了学校的运动设施、音乐教室、便利店和储藏室，作为多功能设施中心满足学校日常教学需要以及社区居民课余时间的活动需要。一个可操作的墙体将竞技厅与音乐教室隔开，可以用作学校表演活动的舞台和集中地点。音乐教室的外部墙体仿照餐厅风格的可移动玻璃墙体，必要时可改做大厅中央的讲台，供观看表演的观众围坐。竞技厅有独立的出入通道，这样课余时间周围社区民众和其他团体也可以到这里活动，例如私人舞蹈团队或者军事艺术学校的学生们。贝里克察斯小学的设计满足了学校的教学理念和教学需要，证明了社区团体对教育的重要性，并为整个社区提供可应用的活动设施。



2

- 1 Entry
2. Airlock
3. Foyer
4. Principal
5. General office
6. Secure store
7. Gallery
8. Resources
9. Learning commons
10. Make & create
11. Multi-media
12. Drinking fountain

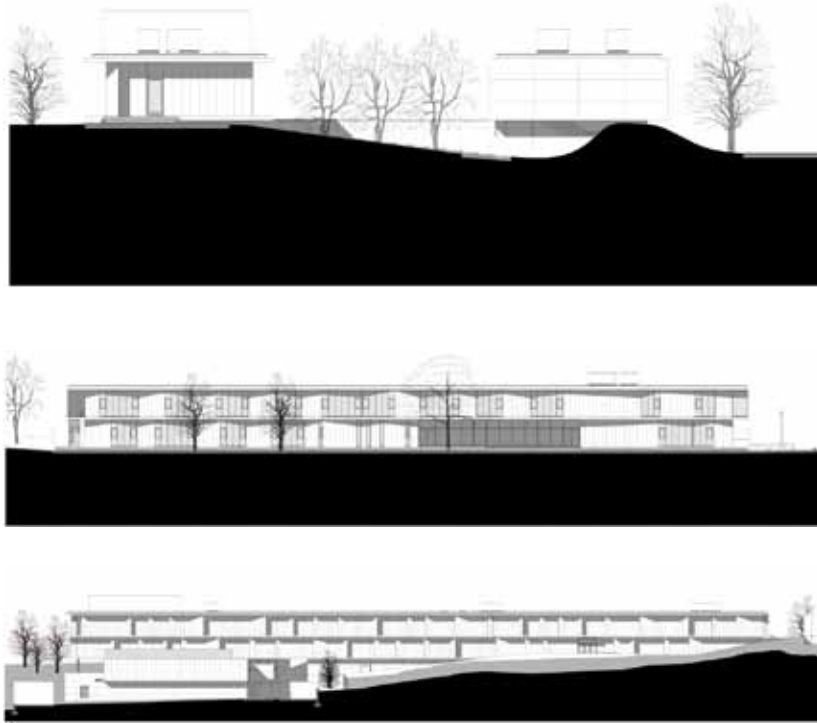


Nossa Senhora Da Conceição School

Designer: Pitágoras Arquitectos **Location:** Guimarães, Portugal **Completion date:** 2008 **Photos©:** Luis Ferreira Alves **Floor area:** 22,000 square metres

The school for primary and pre-school education is situated next to Guimarães' sporting district, surrounded by a large green area. The regular topography and form of the land arranges two platforms separated by a small difference in height. Using the slope which connects the two platforms to the land, architects installed the first unit, where the main access is located, and the body of common services which is practically absorbed by the remaining elements. From this, the sports pavilion was developed for the West side, and on the other side, two parallel units for the south, forming a patio with two classrooms orientated to the east and connected by other spaces or crossing elements.

The building's image is fundamentally characterised by these two parallel units installed in a longitudinal direction of the land, which will essentially be dedicated to the two levels of existing teaching. They will be similar in terms of form, emphasising linearity accentuated by the concrete canopies which surround them. The building was constructed with components of concrete in evidence in support walls, some exterior parameters and shading canopies, varying its sizes according to the orientation of the sun, functioning as separation components and even between the coatings elements used. These components are made of polyurethane plate panels, placed over simple walls in acoustic ceramic blocks, simultaneously solving the thermal insulation issue and the exterior finishing of the building. On the other side they are also used as additional shading components, namely in the façades orientated to the west, defining the image of the building.



2

1. Green landscape surrounds the school
2. Side view of the building
3. Front view



1



3



1

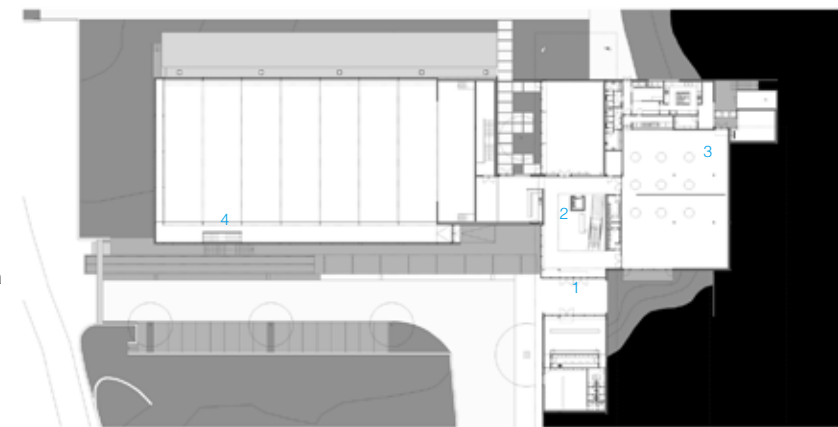
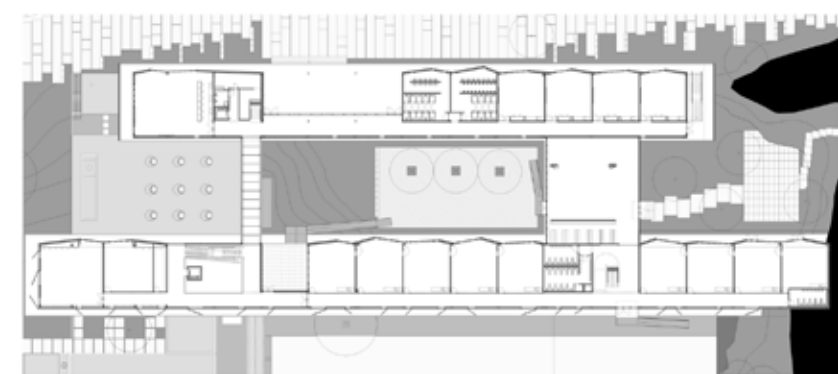


3



2

- 1. Façade detail
- 2. Two parallel units installed in a longitudinal direction of the land
- 3. Glass-walled corridor connecting two units



- 1. Entrance
- 2. Hall
- 3. Game area
- 4. Staircase



1

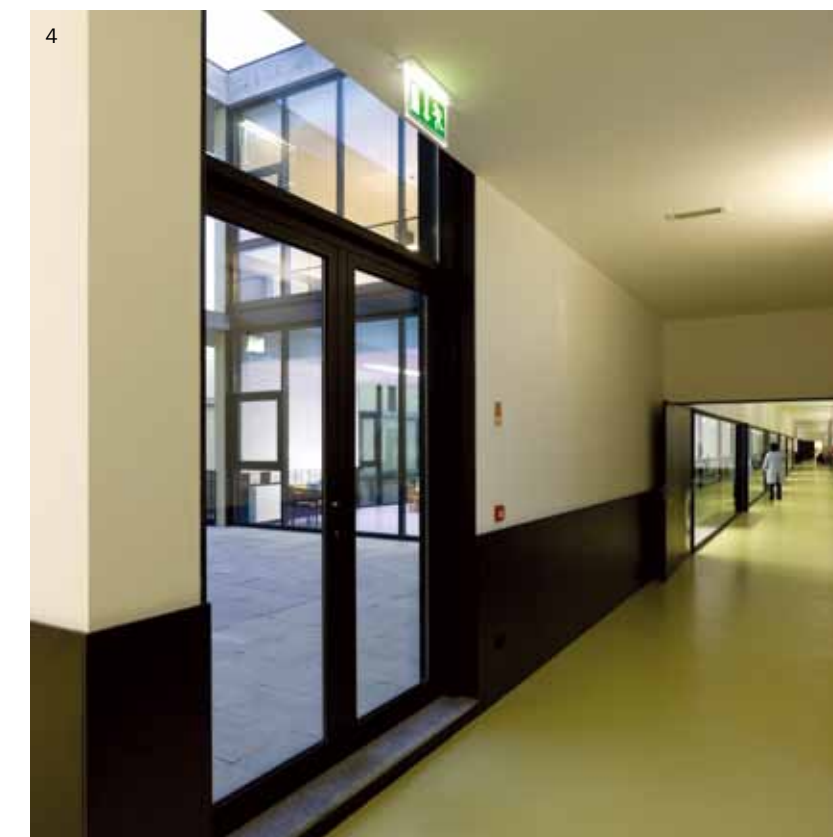


3



2

1. Entrance lobby
 2. Upper floor corridor
 3. The gym interior viewed from upper corridor
 4. Door connecting interior corridor and outside atrium



4

Candoso S. Martinho School Centre

Designer: Pitágoras Arquitectos/Fernando Seara De Sá, Raul Roque Figueiredo, Alexandre Coelho Lima, Manuel Vilhena Roque **Location:** Guimarães, Portugal **Completion date:** 2009 **Photos©:** Luis Ferreira Alves, Arquivo Pitágoras Arquitectos **Construction area:** 1,000 square metres

The land to be used for the Candoso S. Martinho School Centre, around 8,000 square metres in size, is part of the town planning study produced by the passage of the A7 motorway and subsequent reorganisation of the plan for municipal roads in that area.

The land shows visible signs of land works that were carried out there, camouflaging its original topography. As marking components, an age-old cork tree stands out in the high area of the land and a slope filled by medium-sized cork trees and oak trees, which makes the transition between the two platforms which constitute the land.

The building is established on the higher land platform delineating a central patio which develops length-wise in the east-west direction, and which involves the striking elements of the land – slope and cork tree area. The primary school classrooms as well as the pre-school rooms are turned to face south, with the covered playgrounds facing north, protected from strong winds and in completely independent spaces.

With the saving of means one of the objectives to consider, without losing sight of architectonic and constructive quality criteria and durability and conservation criteria, a building with a simple geometry was chosen, in which the proposed programme fits in a linear form and the spaces are sequential and structured in a clear way. In terms of size the intention is that the building is essentially defined by two horizontal levels which contain it, floor slabs and covering slabs. The vertical surfaces, opaque and transparent, are given the habitual role of defining the interior/exterior relationship and the hierarchy of different spaces.



2

1. Overall view of the school
2. Side façade
3. Front façade



1



3



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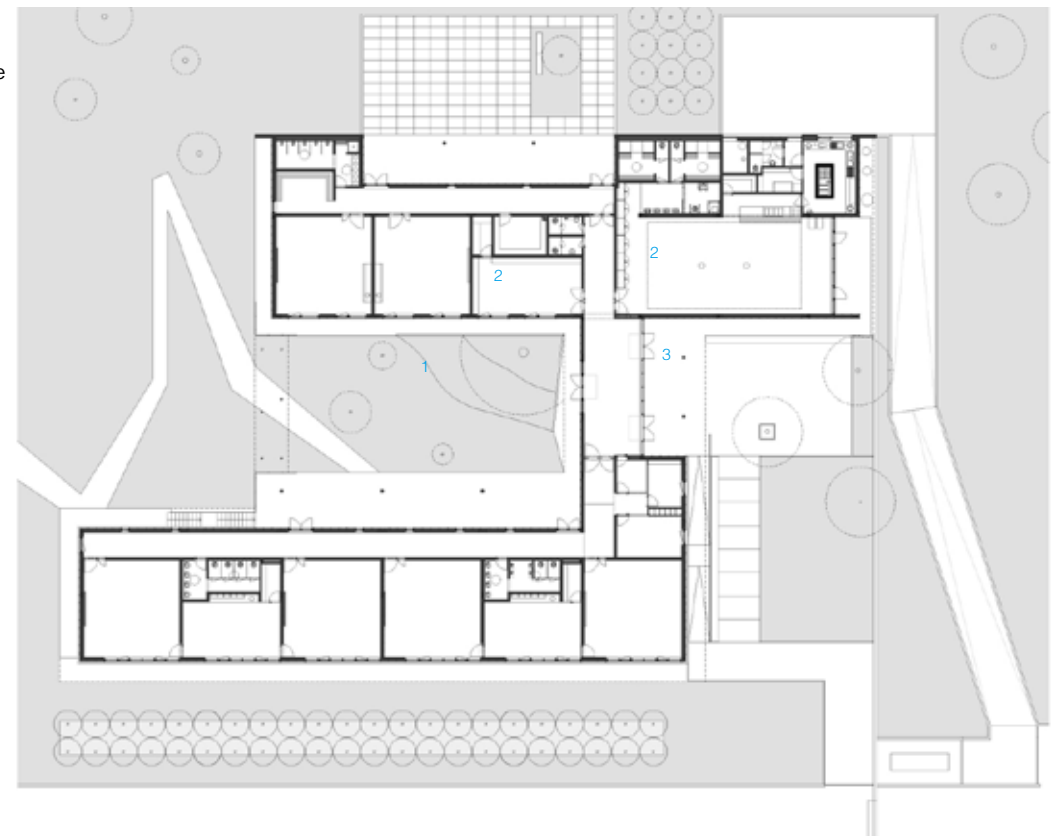


3



2

- 1. Courtyard
- 2. Hall
- 3. Main entrance



- 1. Side façade viewed from courtyard
- 2. Two units connected each other
- 3. An age-old cork tree stands out in the high area of the land



1



2

1, 2. Entrance lobby
3. Cafeteria



3

Eltham Primary School

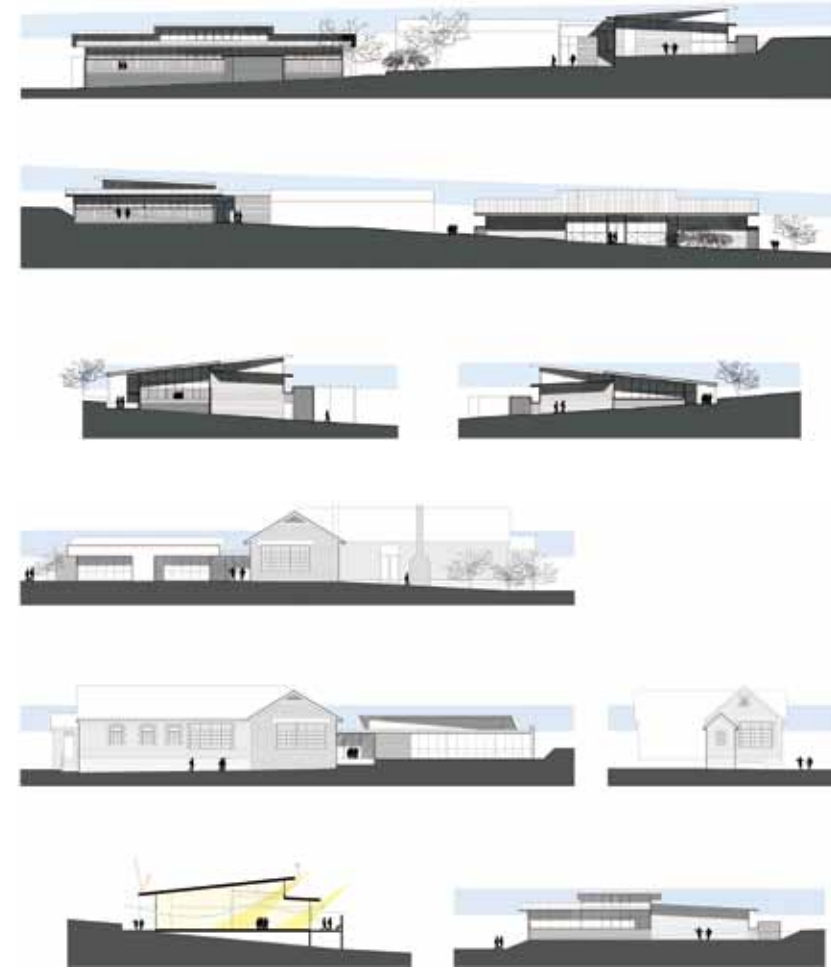
Designer: Clarke Hopkins Clarke **Location:** Eltham, Australia **Completion date:** 2010 **Photos©:** Clarke Hopkins Clarke

Eltham Primary School occupies an important place in community life and a challenging site in the centre of town. The school has been developed over more than 150 years and this project continues its evolution, combining the construction of new facilities and the redevelopment of the 1875 sandstone school building, games hall and library.

The school occupies a steeply sloping site with many established trees and existing buildings at varying levels. It's a beautiful site but one that would not be chosen for the development of a new school. The project was driven by the need to create modern, robust and adaptable learning environments, yet also by the need to respect the integrity of the historic school house and to retain as many surrounding trees as possible. This design has focused on developing active and inclusive learning communities to support the school's evolving methods of curriculum delivery. It was important to develop facilities that support students and provide them with opportunities to develop their independence and skills in research and self guided learning. The new and refurbished areas provide open learning environments that flow from inside to out, where all the available space is used to support the curriculum delivery.

The project provides a variety of types of learning spaces to suit the educational needs of the students who use them. A new learning community specifically designed for students in the junior primary years incorporates spaces for role play, play and activity, while a second learning community specifically designed for students in years 5 and 6 provides facilities to support students in developing a more independent approach to education, research and discovery. The design provides all students with access to performance platforms, large group areas, soft seating areas, messy play/wet areas for art, science and technology, and dispersed IT facilities including computers and interactive whiteboards. Outdoor learning areas have been provided in the form of decks and courts directly accessed from all internal learning areas and the resource centre so that learning can be taken outside. The old library has been transformed into a new resource centre that provides students with access to books, computers, multimedia facilities, a story pit and a new outdoor learning deck. The sandstone school house has been redeveloped and expanded to create a new staff and administration centre.

The ESD initiatives incorporated into the design focus on the improvement of existing facilities, the creation of the healthy habitable spaces and minimising environmental impact. Therefore, the planning of the learning neighbourhoods has considered which activities have the greatest requirement for light and placed these close to windows to reduce the need for artificial lighting, and only low VOC carpets, sealants and adhesives were used. High level windows bring natural light into the centre of the buildings and are incorporated into a night purging system to expel warm stale air. Eaves and overhangs have been used to provide shading to the building during summer and enable light and warmth to enter the building during winter.



1. Dusk view of the new building and original school
2. Courtyard
3. School entry





1



3

1. Outdoor deck and covered walkway
 2. Commerorative mural from the 150th anniversary
 3. Children in class



2

1. Learning deck
 2. Learning court
 3. Performance dais
 4. Science discover
 5. Workshop
 6. Quiet reading
 7. Group work
 8. Projects
 9. Focused learning
 10. Withdrawal
 11. Quiet room
 12. Quiet reading 2
 13. Resource centre
 14. Book stock
 15. Multi-purpose room
 16. Workroom
 17. Entrance





1-4. Children in class



Munkegård School

Designer: Dorte Mandrup Arkitekter **Location:** Dyssegård, Denmark **Completion date:** 2009 **Photos©:** Adam Mørk **Area:** approx. 6,000 square metres

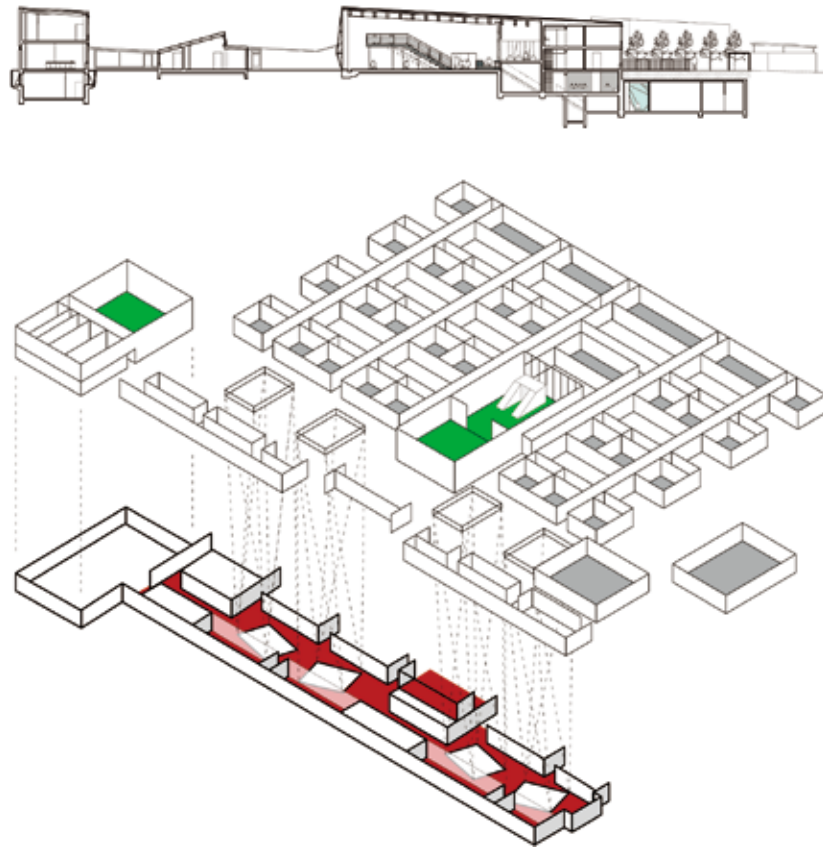
It is a restoration, renovation and extension project served for a school of 450 pupils and 38 teachers. The new construction started from January 2006, and opened on 27 Oct. 2009. The assignment covers the renovation and completion of new access and distribution structures in the building. In addition, architects add new classrooms around 1,500 square metres. This is a project that Realdania (Realdania is a strategic foundation created with the objective of initiating and supporting philanthropic projects that improve the built environment.) supported financially to ensure the quality of the renovation process.

The 5,500 square metres of existing buildings is designed by Arne Jacobsen in 1950. The building was protected in 1995 and appointed to be one of Arne Jacobsen's masterpieces. The task challenge was to accommodate the school's desire to implement interdisciplinary teaching and the ability to differentiate instruction.

The new building is a protected grounds located under an existing schoolyard. Daylight established via 4 large bright courtyards designed as crystal-like openings. The new building contains facilities for subjects primarily functions as the body and health, nature and technology. In addition, the new parterre is planned with a large common area which allows for experimental courses.

The materials used in the delicately designed toilets: doors and floors are imposed on the printed sheet with a reproduction of Arne Jacobsen wallpaper. The motif is processed digitally, so the pattern suited to different compartments target, and was used horizontally and vertically by Dorte Mandrup Architects. Foil printing is done and affixing and finishing with epoxy clear coat. Glass in Courtyard in Parterre is 2-layer energy glass with sunscreen.

Furniture was mostly designed and developed by Dorte Mandrup Arkitekter in collaboration with different manufacturers, such as the cleverly designed stair-library-furniture. They are made of steel and poly-carbonate; shelves are made of beech veneer.



1. School yard night view
2. Night interior
3. Interior night viewed from the school yard





1



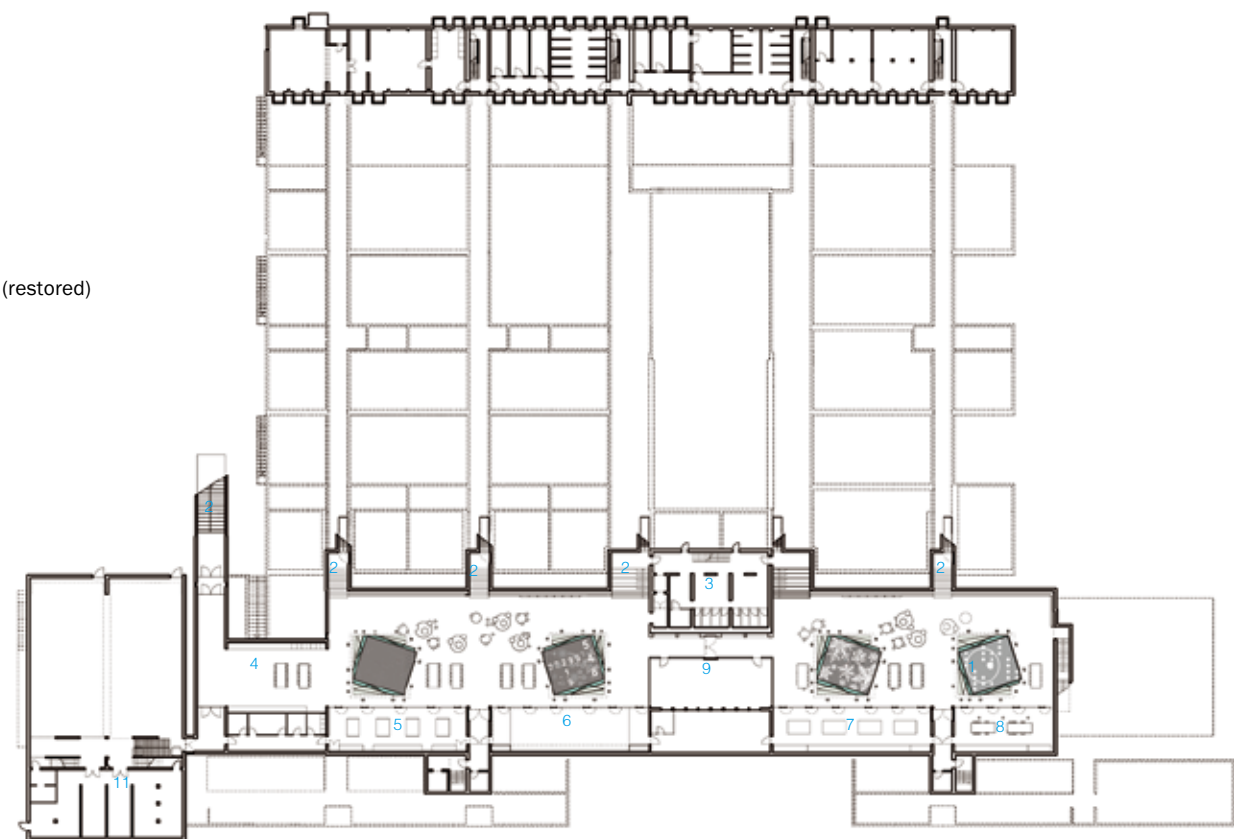
3



2

- 1. Parterre, daylight, courtyard
- 2. Parterre, kitchen
- 3. Parterre, experimentation

- 1. Courtyards
- 2. New established stairs
- 3. New toilets
- 4. Cooking area
- 5. Diet and health
- 6. Body and movements
- 7. Physics and chemistry
- 8. Nature and technology
- 9. Storage
- 10. Gym (restored)
- 11. New changing facilities (restored)





1. Library staircase and furniture



2



1



2



4



3

- 1. Bookshelf in library
- 2. Rotating bookshelves
- 3. PUC, library in the old Aula, library staircase furniture and reception desk
- 4. Toilet wallpaper
- 5. Toilet entrance



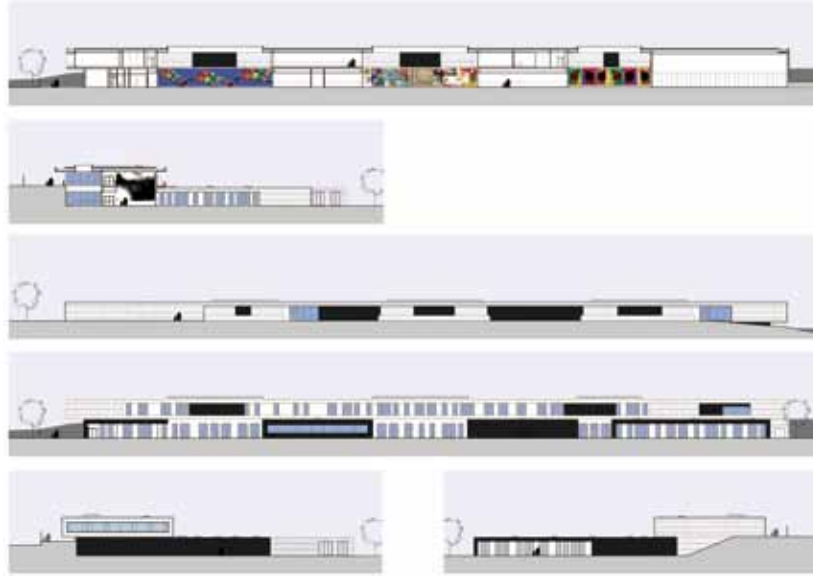
5

School Centre Paredes, Alenquer

Designer: André Espinho **Location:** Alenquer, Portugal **Completion date:** 2006 **Photos©:** FG +SG **Area:** 6,700 square metres **Awards:** The WA Awards 20+10+X; The 7th Cycle in the World Architecture Community, 2010

School Centre Paredes has been designed to accommodate around 600 children, from the ages of three to nine. Within the school, the children are divided by the 1st cycle, kindergarten and ATL (Leisure Activities). The first floor consists of administration areas, service and a reception for parents whilst the ground floor contains a gymnasium and the majority of the school classrooms, with a direct link to the playgrounds (both covered and uncovered).

The School Centre is composed of a white volume resting on four black volumes, thus marking the separation between floors. The majority of the project works around the creation of three patios/playgrounds and the relationship of the building with the slope of the existing ground. Contact with the outside was the key to this project, with the organisation and shape of the interior space allowing all circulations to enjoy a large amount of natural light. By including a number of covered outdoor spaces, the building now provides excellent leisure facilities for children in all seasons. Several wall paintings in the playgrounds and atriums were carried out by artists, like Conceição Espinho and Teresa Magalhães, invited by the designer in an attempt to enrich the interior space.



1. Outside west elevation
2. Outside east elevation
3. Outside south elevation





1



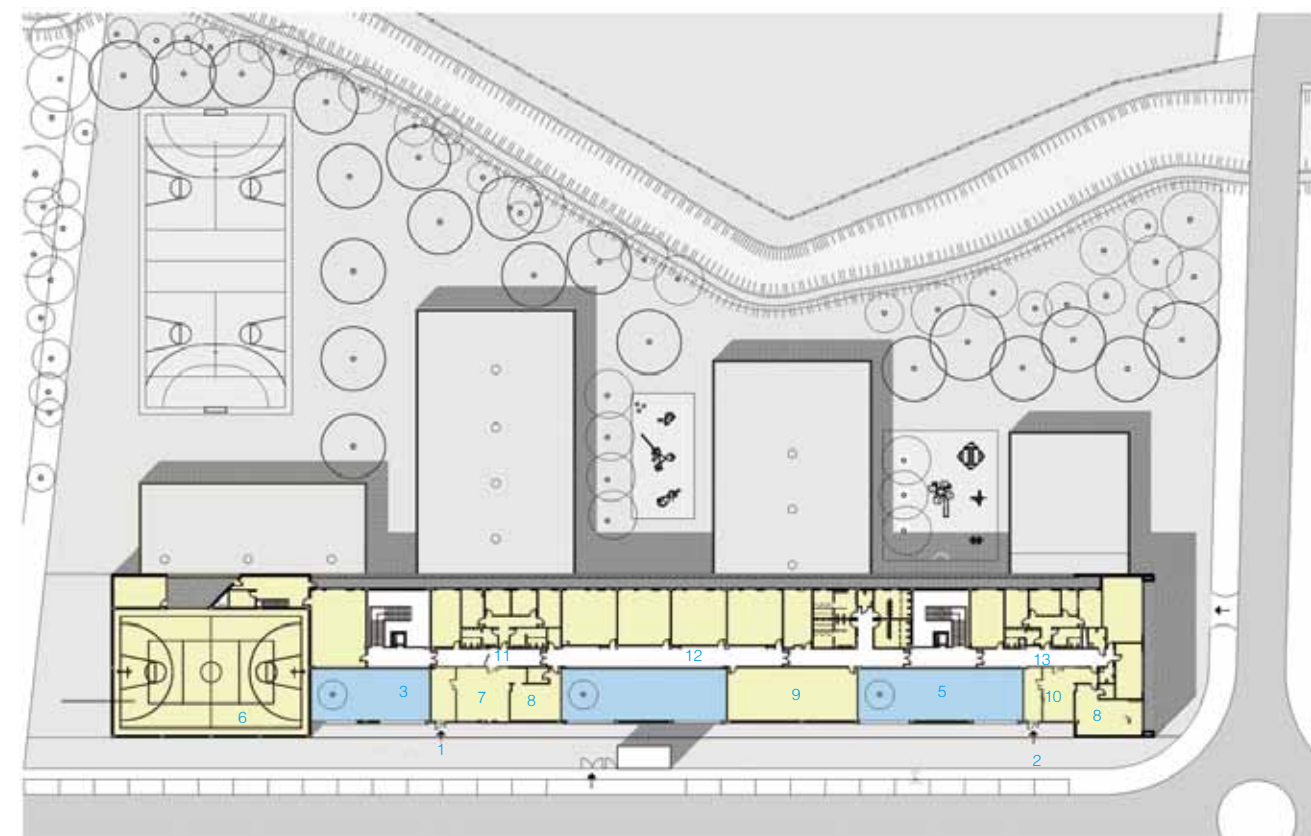
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2

- 1. Outside north elevation, playground
- 2. Outside north elevation
- 3. Outside north elevation, one cycle playground

- 1. Entry to the basic education input
- 2. Entry to the children's centre
- 3. Patio I
- 4. Patio II
- 5. Patio III
- 6. Gymnasium
- 7. Atrium IV
- 8. Secret room
- 9. Library
- 10. Atrium I
- 11. Director
- 12. Basic education
- 13. Administration of children





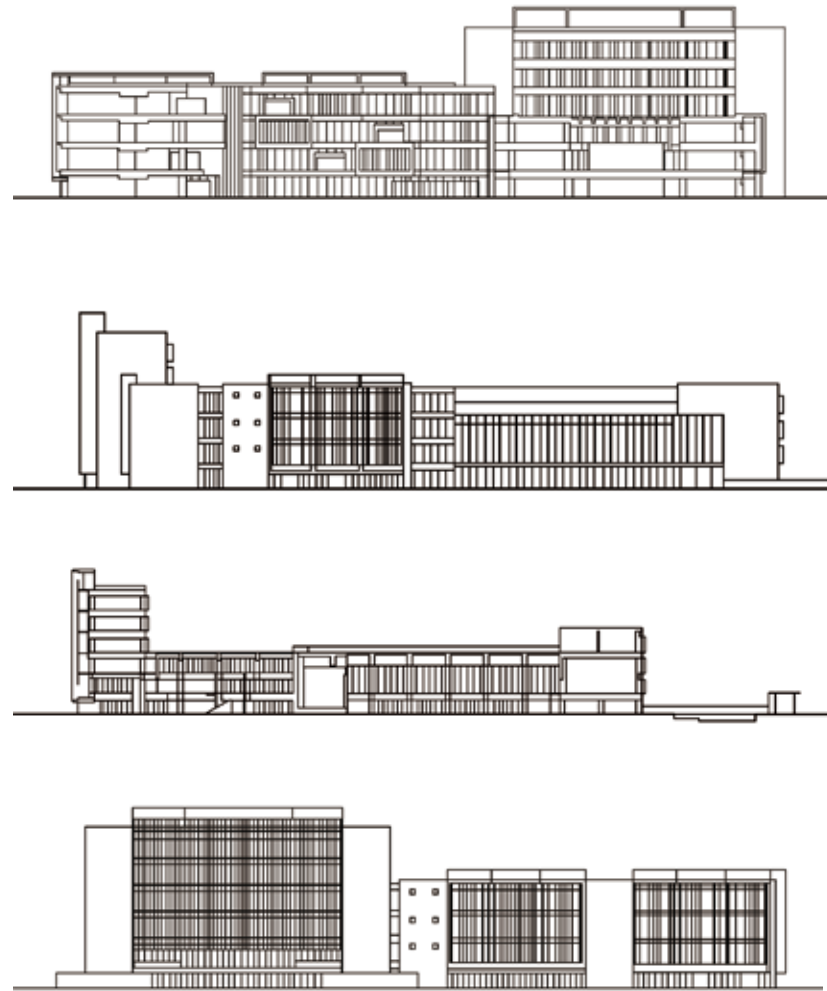
1. View from the atrium entrance; wall painting by Virginio Moutinho
 2. View to Patio from the multipurpose room
 3. Atrium between floors



Shitennojigakuen Elementary School

Designer: Shin Takamatsu +Shin Takamatsu Architect and Associates Co., Ltd. **Location:** Osaka, Japan
Completion date: 2008 **Photos©:** Nacása & Partners Inc.

This is first construction of educational facilities planned on Fujiidera Stadium site where was the home field of Kintetsu Buffaloes. After concentrative long term discussion, the client defined the mission of the school actualisation of "open" and "concentration", "safety" and "freedom", and "dignity" and "childishness". Also, the client required the architect to develop the specific architectural answer for the antinomy theme. Therefore, as the result of trial and error, all missions have double meanings. Class rooms were arranged with surrounding the courtyard, and the composition which opens an open space to the courtyard side. It is a direct answer for "open" and "concentration". Also, striving to ensure the visibility of the courtyard side is a physically achieving result of "safety" and "freedom". In addition, while keeping the strict design, some kinds of considered places, like den and alcove based on child scale and space recognition scale, are delicate artifices considering "dignity" and "childishness". Depth and density of life, which were developed by the answer of double meanings for the antinomy theme would be built up between the intervals.



1. Façade detail
2. Outdoor swimming pool
3. Overall view of exterior from courtyard
4. Façade with bright red colour window

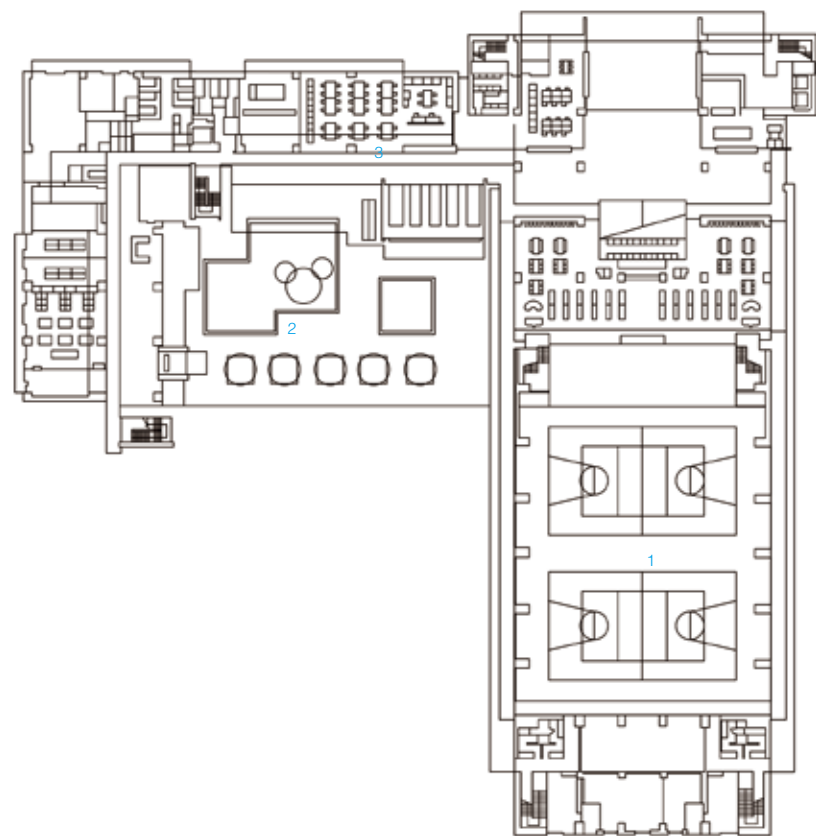




1



2



- 1. Gymnasium
- 2. Lobby
- 3. Classroom

- 1. Library
- 2. Alcove based on child scale
- 3. Public area with water closet and alcove



3



1



3



2

1. Multipurpose room
 2. Classroom with kitchen
 3, 4. Classroom



4

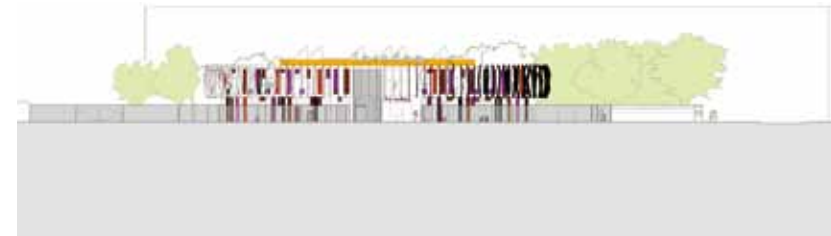
Michael Faraday Community School

Designer: Alsop Sparch **Location:** London, UK **Completion date:** 2010 **Photos:** Morley_von_Sternberg
Area: 3,000 square metres

The new school is a primary school of approximately 3,000 square metres including a nursery and provision for adult and community learners within the same building. It is at the heart of an urban environment that is to undergo significant change and renewal.

Fundamental to the design of the new school is a dynamic and flexible learning environment at the centre of the building. Classrooms and adult learning activities are wrapped around the atrium or "Living Room" on two levels to create a rich layering of indoor and outdoor teaching space. The site is immediately surrounded by residential properties on all sides, while the school grounds and the existing trees provide a sense of openness in this dense urban fabric. A fundamental requirement of the brief was that the existing school continued to operate throughout the construction of the new development. The new school was positioned very carefully relative to the existing buildings to ensure that the existing halls and kitchens were retained throughout the build. The new school consists of a larger two-storey circular main building and a smaller single storey "Ballroom". The main entrance is on Portland Street with a second entrance off Hopwood Road that provides a dedicated entrance for parents and carers so that they can drop off and pick up children directly from the classroom. The main school building accommodates the older children on the upper level with the younger children at ground level. Music and drama takes place in the "Studio" at the centre of the Living Room, and PE and dining in the Ballroom. The Ballroom is designed to operate independently of the main building for community use.

The creation of a diverse outdoor environment was a key part of the original competition brief. A rich and complex landscape has evolved that responds to the geometry of the building and creates a patchwork of smaller, more intimate spaces. Each of the ground floor spaces within the school has its own identifiable external space adjacent. This forms a series of smaller outdoor rooms around the perimeter of the building. Softer planting and woodland growing areas are pushed to the perimeter of the site forming a continuous buffer to the urban streets beyond. Hard areas for play are closer to the building and formed in large planes of high quality concrete with various textured finishes and colours. The main building has a circular plan form with accommodation arranged over two levels. The external envelope is formed from a series of faceted vertical panels incorporating solid panels, windows and sliding doors. The solid panels are fabricated in coloured high pressure laminate and integrated into a framed composite aluminium/timber façade system. The glass is also coloured using a combination of permanent ceramic frit and coloured inter layer within the double glazed unit.



3

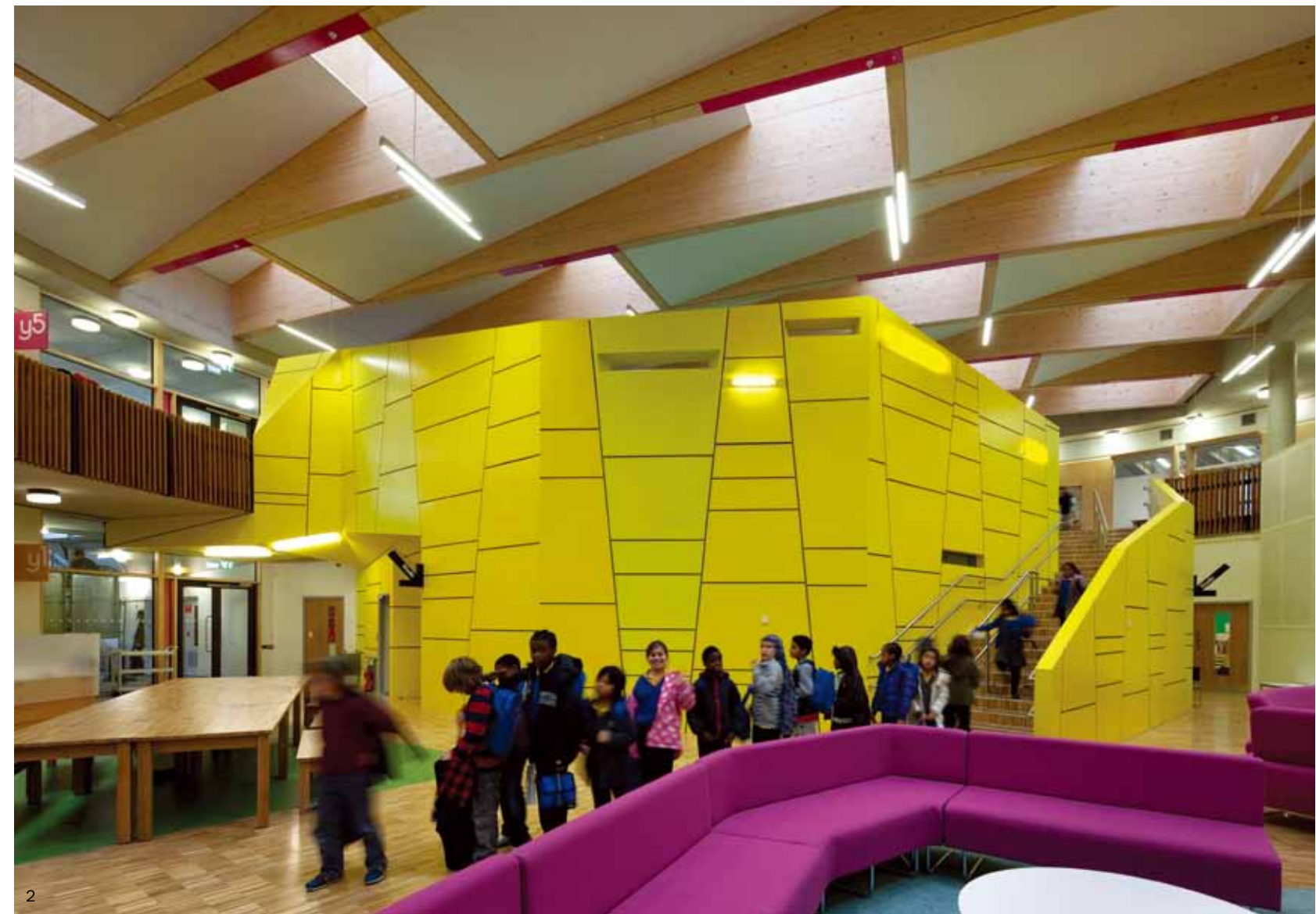
1. Façade detail
2. Side view of entrance
3. Front entrance
4. Back façade



4



1



2

1. Open class in lobby
 2. Lobby with stairs to upper floor



1. Studio
 2. Nursery
 3. Main school administration
 4. Reading room
 5. Living room



1, 2. Corridor out of classrooms
 3. Students in class
 4, 5. Communication area

Leça do Balio School

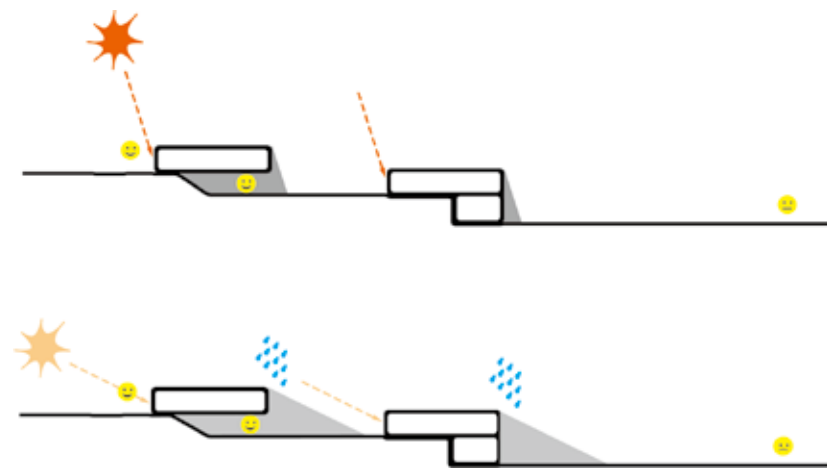
Designer: aNC arquitectos **Location:** Matosinhos, Portugal **Completion date:** 2010 **Photos©:** Daniel Malhão **Area:** 3,757 square metres

It is a school for 200 children of the first cycle of basic education and 40 children of kindergarten in Leça do Balio. Located next to the existing school for the second and third cycles of basic education, the new building, by the street, forms the entrance for both schools. A ramp leads to the existing school and organises the outdoors movements of pupils in second and third cycles, while two parallel blocks, whose dimensions are defined by the existing school, follow the slope and design playgrounds at different levels and of different kinds. The porches, the entrance ramp, the connection block and the exterior stairs, interweave the built fabric with the outdoor spaces.

Adapting the building to the slope is accentuated by altimetry indentations in each block, which create two floor-to-ceiling heights: a lower one for the classrooms and a higher one for common facilities such as the cafeteria, gymnasium and library. In the classrooms, oriented to the north, the neutral atmosphere becomes intimate with their low windows overlooking the landscape. In the common areas, washed by southern quadrant daylight and in continuity with the playgrounds, the wide space is deliberately made warm. Countless skylights complete the indented effect in the roof and punctuate the classrooms and their support spaces with southern quadrant daylight, and the circulation and service spaces with eastern quadrant daylight. This spatial modulation, by means of the light, re-designs the conventional matrix "school with corridor in the middle", with a repetitive prosody, which is accentuated by the use of openings with always the same dimension.

In contrast, the central space that houses the entrance and connects the two inner levels, allows by the generosity of its dimensions, undefined uses. Outside, this connection block expresses its ambiguity: sometimes identifies itself with the entrance ramp, now extends the covered playground. Here, the openings are appropriate to each face.

Surfaces with "stony" connotations, such as the concrete with several textures and colours and the aggregated sand, seasoned by surfaces with organic connotations, such as the wood and the cork, reinforce the familiar identity of the building, solid, safe, available and open-faced to all experiences.



1. General view from the street
2. View of the east façade of the north block
3. Access ramp from the main entrance to the existing school





1



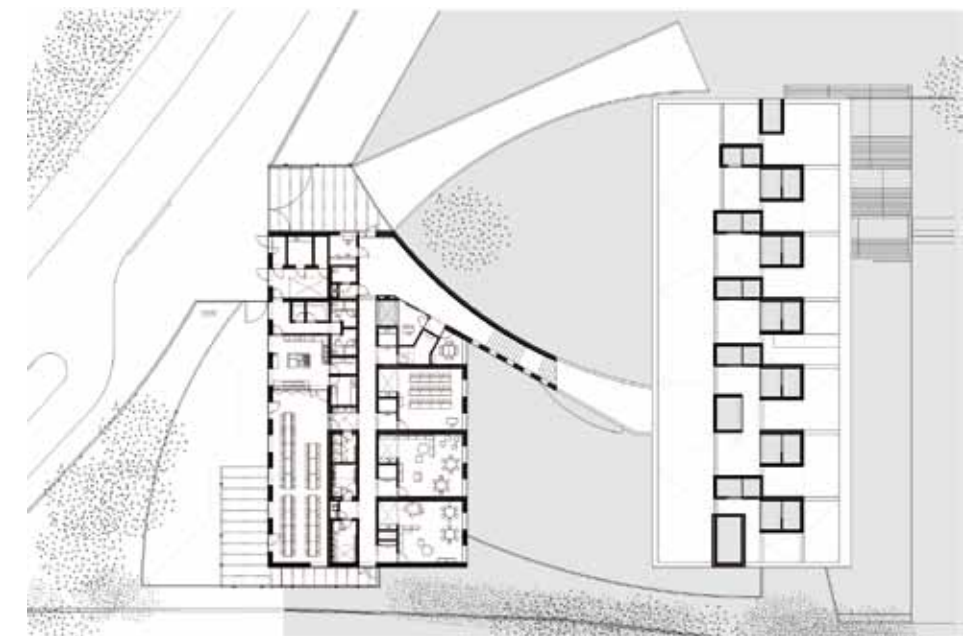
3



2

- 1. Main entrance
- 2. Connection block
- 3. Playground

- 1. Entrance porch
- 2. Entrance lobby
- 3. Service courtyard
- 4. Kitchen
- 5. Kindergarten playground
- 6. Dining hall
- 7. Void
- 8. Educational support/parents room
- 9. Classroom
- 10. Technical room
- 11. Covered playground
- 12. Technical room
- 13. Playground
- 14. Educational farm
- 15. Art and craft room
- 16. I.T.room
- 17. Teacher's room
- 18. Gymnasium/multi-purpose room
- 19. Connection block/multi-purpose space
- 20. Media library
- 21. Ante-chamber with sink
- 22. Showers and changing rooms
- 23. Stair to the second and third cycles blocks
- 24. Sports ground





1



3

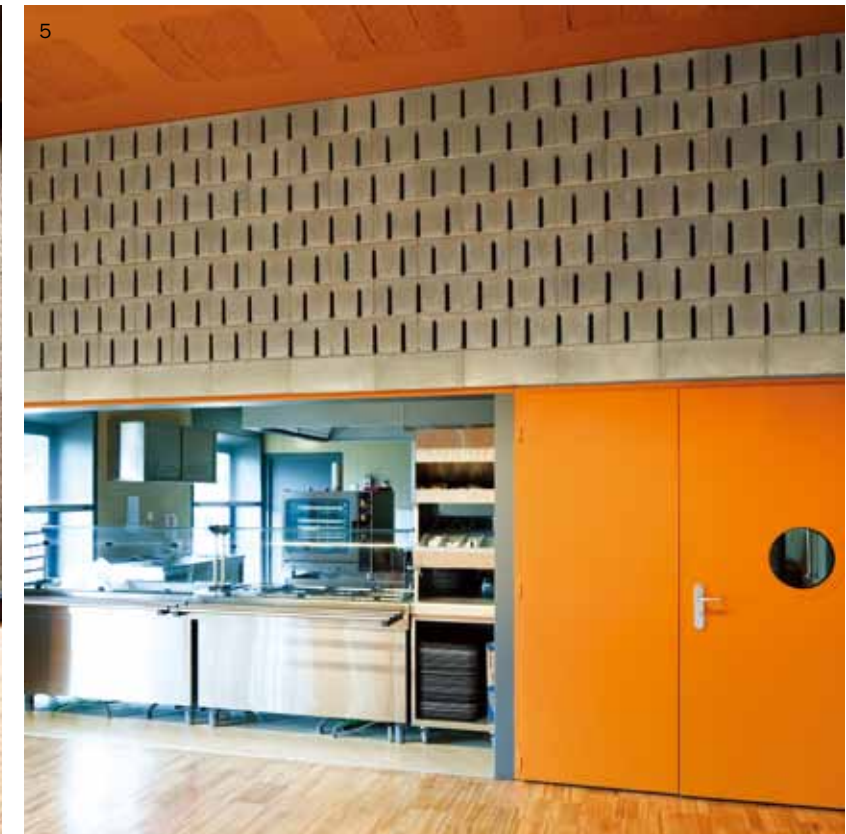


2

- 1. Connection block
- 2. View from the connection block to the north block
- 3. Sports hall
- 4. Teacher's room facing the main entrance
- 5. Canteen (detail)



4



5



1



3



2

1. Library
 2. Canteen
 3, 4. Classroom



4

Our Lady of the Rosary Public School

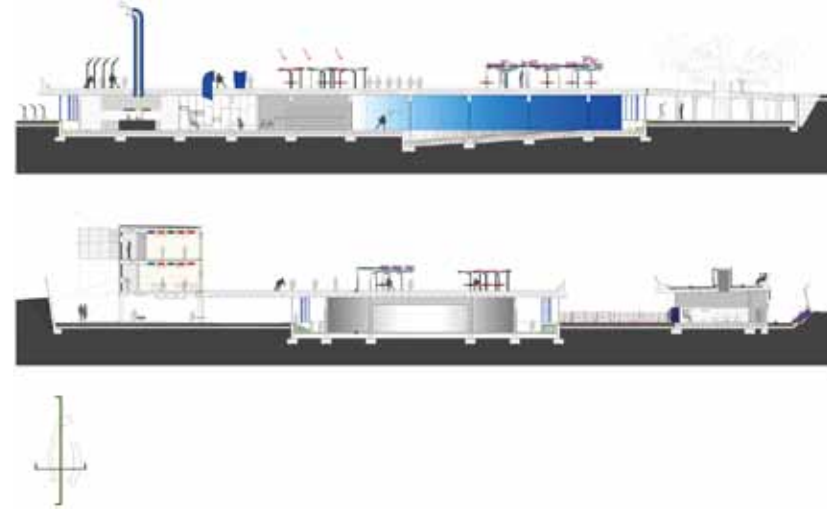
Designer: Martín Lejarraga **Location:** Torre Pacheco, Spain **Completion date:** 2007 **Photos©:** David Frutos and Pasajes Españoles **Area:** 4,652 square metres **Award:** Urban Intervention Award Berlin, 2010

The land on which the school sits is in a new area of strategic growth in the city, in an area with public educational and cultural infrastructures: a library, high school and sports facility. The project arises from a unique comprehensive idea for dealing with the entire block by creating a new topography to act as a reference point in this expanding zone of Torre Pacheco; a new urban, cultural and leisure area for residents, where the public space – characterised by the folding terrain and the integration of diverse uses – contains and protects the buildings.

The school is a parenthesis in the city, a parenthesis of services, education and leisure in which children face their daily visits in an attractive, safe and, above all, different manners. It is designed as a kind of jack-in-the-box, to collect fantasies and imagination, knowledge, dreams and colour, where everything has numerous possibilities and uses: they can walk on a roof or along a wall, go to the greenhouse, to the herb garden, perhaps gymnasium class is on the sports field today... The project attempts to resolve the list of requirements set forth in a simple, orderly and practical manner, integrating the building construction into the surrounding plot assigned to it, so that the architectural relationships between the buildings themselves create the courtyards and different blocks.

Thus the centre is resolved by means of several components separated on the basis of the requirements, arranged on different levels according to their uses. The pre-school building is on the lowest floor, with a separate courtyard, and the primary school building on the first and second floors, creating a large porch linked to the courtyard on the ground floor. The main entrance to the school has a pick-up area, where vehicles – cars and buses – have the space needed to drop children off under the general entry porch. This plaza has an entrance and an exit, in order to avoid slowing the traffic on the streets and make it safer for the children to enter the school. Through the main lobby, it is possible to access the different components that make up the general areas of the complex: administration, pre-school, primary school and shared services.

The pre-school children enter their classrooms from a ramp that slopes gently downwards, opening onto their private courtyards and connecting with the shared infrastructures zones, including auditorium, cafeteria, kitchen, resting areas and general storage area.



1. West elevation
2. West elevation detail
3. Aerial view





1



2

- 1. Classroom
- 2. Connection reading park
- 3. Special room
- 4. Child area
- 5. Swings
- 6. Sports
- 7. Garden
- 8. Dining room
- 9. Bus
- 10. Access
- 11. Conference projection room
- 12. Benches



1. View from the main court
 2. Children's court



1



3



2

- 1. South elevation
- 2. View from reading park
- 3. Main access
- 4. Sports court, second level



4



1



2

1, 2. Children's classroom

3. Main court



3

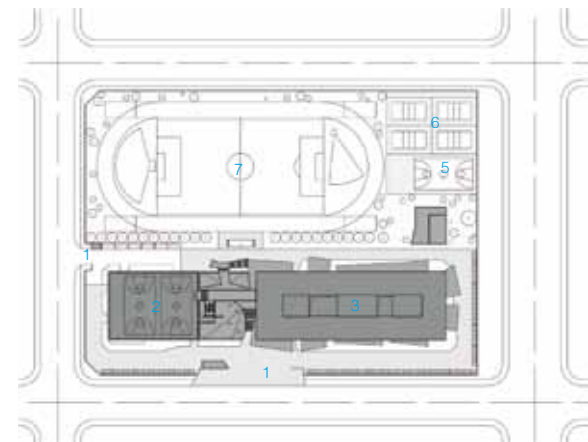
Zhangjiawo Elementary School, Xiqing District, Tianjin

Designer: Vector Architects + CCDI **Location:** Tianjin, China **Completion date:** 2010 **Photos©:** Shu He
Building area: 18,000 square metres

The goal is to establish a unique place within the school that encourages interaction between the students and teachers through their daily learning and teaching life. The basic programme consists of 48 classrooms, a number of special programme classrooms, cafeteria, training gymnasium, administration areas and an outdoor exercise field.

The design process starts with an analytical research of the spatial pattern of interactive activities, both in plan and in section. A series of physical study model were built along the process, in order to seek the most reasonable spatial and programmatic layout. Eventually the best location of the primary interactive space is discovered to be on the 2nd floor, sandwiched by regular classroom floors, and connected to the skylight through the central atrium, where natural ventilation were maximised. The space is defined by the surrounding special programme classrooms, and extends itself to a green roof deck at the south side, which is also the pivot point of the site arrangement. The deck connects to the main school entrance, the outdoor fields, and different parts of the building at different heights by stairs, ramps and bridges. Such a "Platform", consisting of indoor space and outdoor deck, not only generates and amplifies energy of interactions, also adds visual characters to the exterior building appearance because of the application of distinctive materials and space modules.

A series of green technologies are proposed in this project, such as geothermal system, storm water management, green roof, permeable landscape, passive ventilation, maximised natural daylight, recycled material and etc.



Site plan

1. Site entrance
2. Rooftop basketball court
3. School building
4. Toilet
5. Outdoor basketball court
6. Outdoor volleyball court
7. 300-metre standard running track

1. View of north-west
2. View of south-east façade



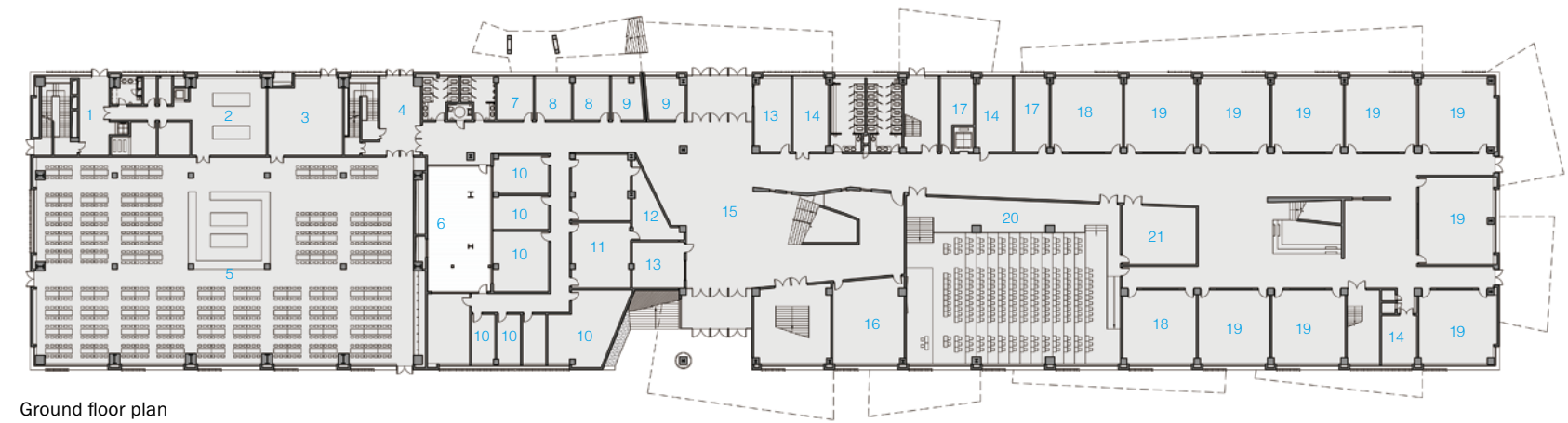


1



2

1. Corner view
2. View of the first floor roof deck



- Ground floor plan
- | | |
|------------------------|-------------------------|
| 1. Passage way | 12. Storage |
| 2. Serving area | 13. Security room |
| 3. Fire safety | 14. Plant room |
| 4. Passage way | 15. Entrance hall |
| 5. Café | 16. Science lab |
| 6. Terrace | 17. Office |
| 7. Psychologist | 18. Multi-use classroom |
| 8. First aid | 19. Standard classroom |
| 9. Broadcasting office | 20. Multi-function hall |
| 10. Executive office | 21. Equipment storage |
| 11. Meeting room | 22. Exhibition area |



1-4. View of the interior atrium

FDE Public School

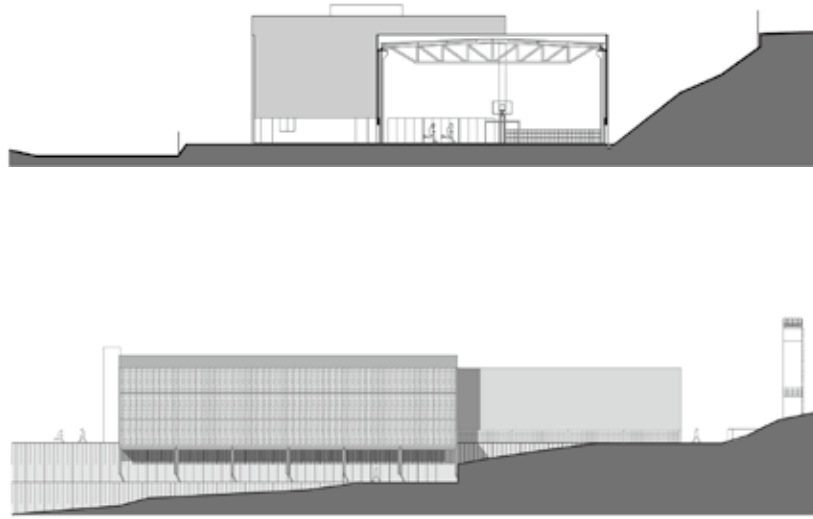
Designer: Forte, Gimenes & Marcondes Ferraz Arquitetos **Location:** São Paulo, Brazil **Completion date:** 2008 **Photos©:** Nelson Kon & Pedro Kok **Construction area:** 2,703 square metres

As a result of a programme by FDE, Foundation for the Development of Teaching, the primary and secondary state schools built by the Government of the State of São Paulo have in common, as the choice of their constructive systems, the industrialised components, the room programme and the leisure areas, the articulation between the spaces and the intention to create a comfortable place, with qualified architecture for the occupants of the schools and the teaching practice.

The structure of the school is entirely composed of pre-molded concrete elements. This system, chosen for the control quality of execution, the speed in assembling and the accessible cost, provides the character of the school. The structure is modular and corresponds to the dimensions of the main internal environments.

The building has a three-storey block and another one just with the ground floor, where the multisport court is located, with a high ceiling. The other pavements are occupied by the classrooms, environment rooms, computer and storage rooms, besides the teachers' and the director's rooms. The covered multi functional space, on the ground floor, has double height and is totally open for the external leisure area.

The concrete structure of the building extrapolates its limits, also supporting the shadow elements (brise soleil). On the front part, open concrete elements with irregular openings are grouped so as to form a large mosaic which filters the light. This concrete mosaic creates interesting visual forms, both from the inside, from where it seems to frame the landscape, as from the outside, from where it looks like a giant panel. During the night, when the classrooms are lit, the mosaic doesn't look so strong and the school gains a lighter and more diaphanous aspect.



1. View from the neighbour road
2. Back part
3. External view
4. The building with the surroundings





1

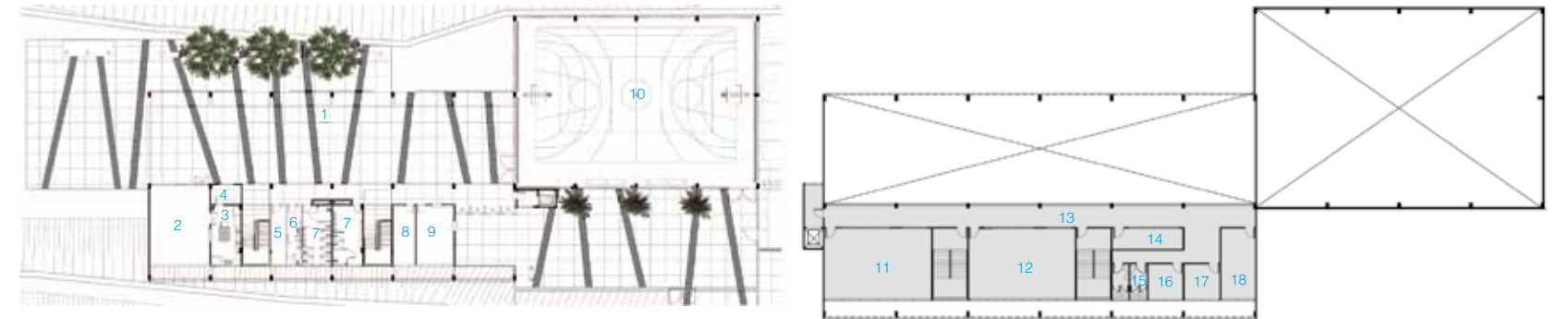


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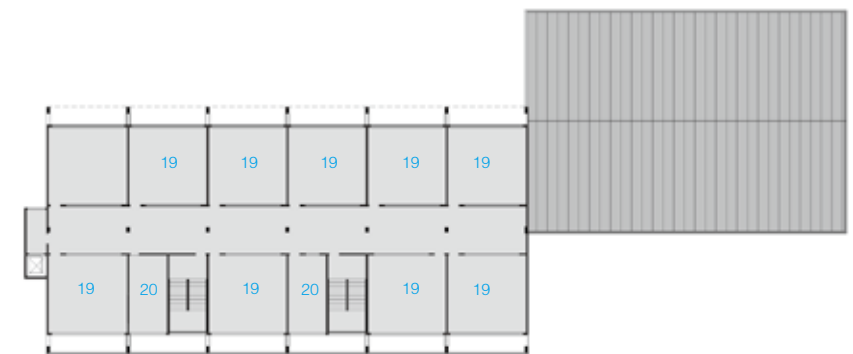


2

- 1. Gathering area, aluminium tile
- 2. Gathering area
- 3. Multifunctional space



- 1. Multifunctional space
- 2. Refectory
- 3. Kitchen
- 4. Storage room
- 5. Storage room
- 6. Employee's area
- 7. Bathrooms
- 8. Warehouse
- 9. Secretary
- 10. Court
- 11. Computer room
- 12. Multifunctional room
- 13. Circulation
- 14. Storage room
- 15. Employee's water closet
- 16. Educational coord.
- 17. Director's room
- 18. Teacher's room



School De Dijk

Designer: Drost + van Veen Architecten **Location:** Groningen, the Netherlands **Completion date:** 2009
Photos©: Roos Aldershof, Rob de Jong **Area:** 1,325 square metres

To improve the urban situation in the district Beijum in Groningen the client, the city of Groningen gave the command to move the school. The new school is built parallel to the canal. The historic dike along the canal, the most prominent landscape element was integrated in the design of the school.

The corridor plays an important role in the Montessori education. It follows the dike profile and forms the backbone of the building. Several areas, such as learning spaces, library and the teachers room, collars on the dike. Subtle rotations in these areas create long sight lines across the channel. The large hall is open to the sunken playroom. This is also a stage with the audience in the playroom. An eight metres wide staircase rises along the dike to the floor, and also serves as a seating object.

The school is the new iconic building in the district Beijum. The exterior of the school got a fresh look. The colour white dominates and contrasts with the somber, grey-brown colours of the surrounding buildings. The colour white is also intended as a statement of a new start. The other façades of the school are performed in a "warm" wood trim.

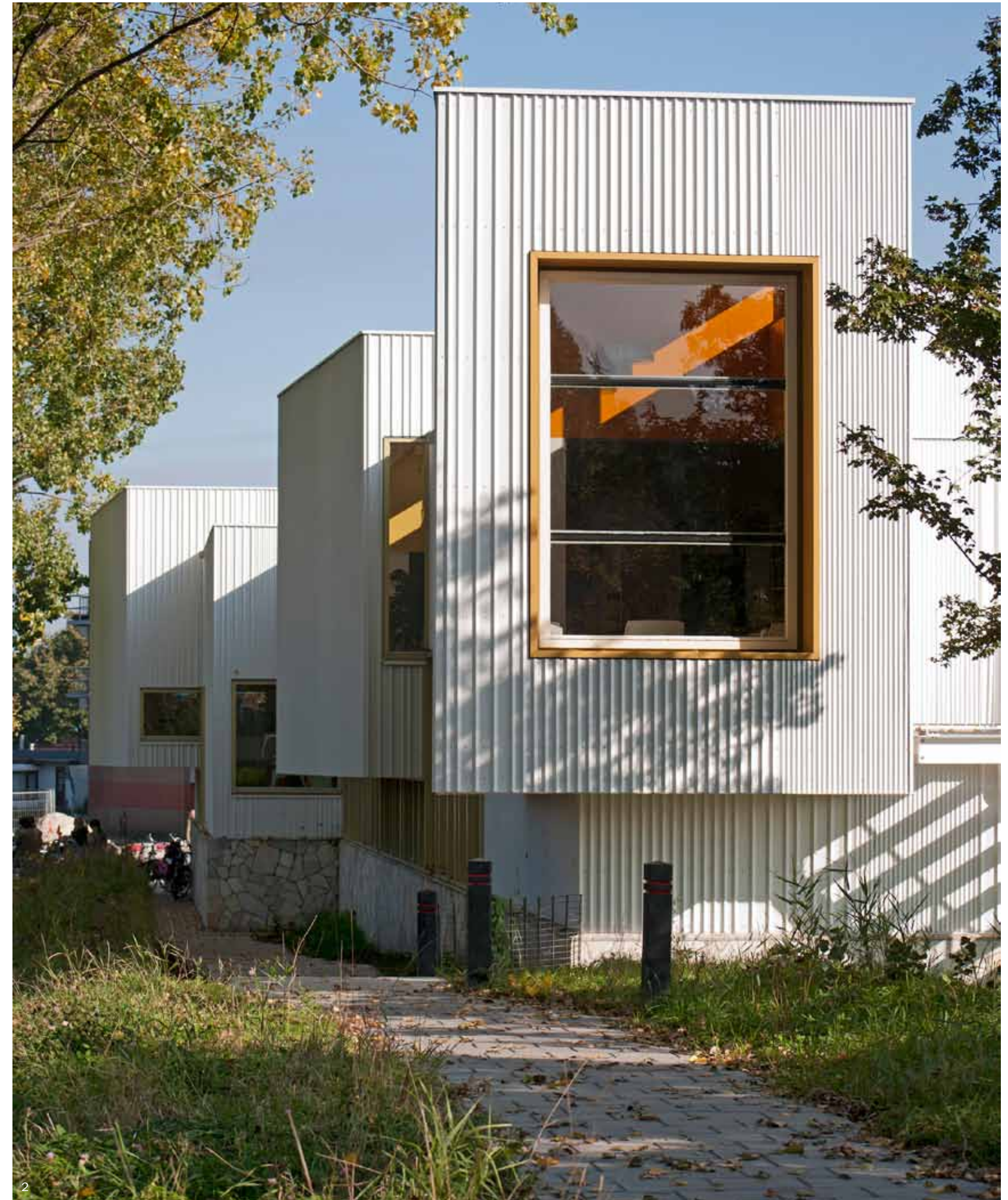


1. Overall view of the building, surrounded by green landscape
2. Side view of the main entrance from the street
3. Front view of the main entrance





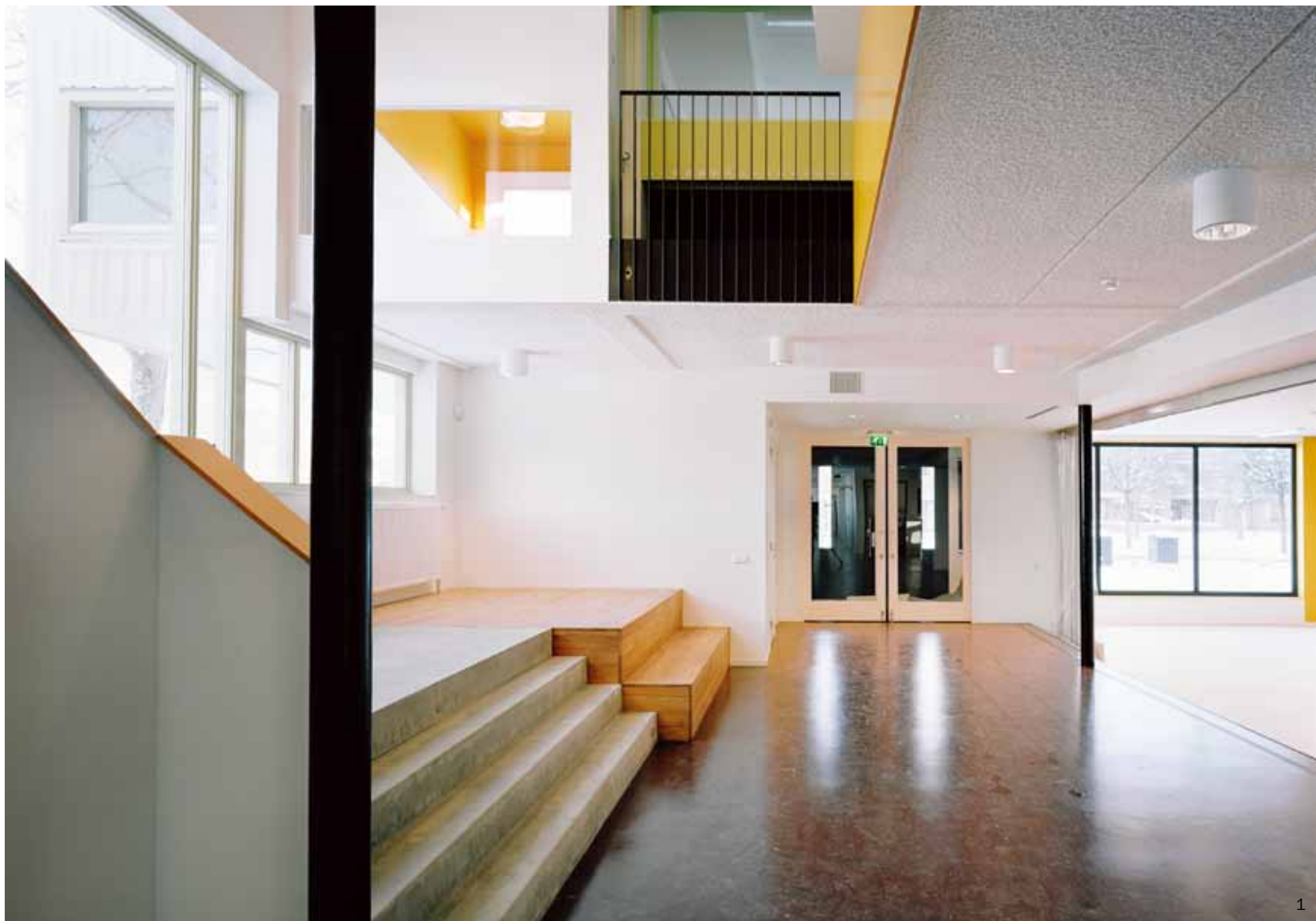
1. Back façade
2. Façade shape, window details



2



- 1. Classroom
- 2. Playroom
- 3. Playgroup
- 4. Corridor
- 5. Boardroom
- 6. Toilets
- 7. Janitor
- 8. Central staircase as gallery



1



2

- 1. Entrance lobby
- 2. Communication area
- 3. Library



3

Hundsund School & Community Centre

Designer: DivA Arkitekter **Location:** Bærum, Norway **Completion date:** 2009 **Photos©:** DivA Arkitekter
Area: 15,000 square metres **Award:** Statens Byggeskikkpris 2009, nominated

Hundsund local community centre consists of a secondary school, a nursery school, a swimming pool and a sports hall as well as an outdoor ice rink and a football field with adjacent service areas and a clubhouse. This represents a new tendency in planning and grouping of public buildings, which gives economy in use and allows for evening use by the local community.

In order to create a sense of place and a clear range of outdoor areas, the designers have designed a separate building for each function and in turn placed the buildings along an urban pedestrian street. All main entrances are from the street. The street becomes the "backbone" of the project, as a clear meeting place for the local community. The schools designated outdoor area is on the east side of the school building, while the nursery school's outdoor play area is well protected behind their building towards an existing hill with valuable, existing vegetation.

The layout of the school (for 540 pupils) is based on the latest in pedagogic theories (in Norway this means no traditional classrooms and learning through a combination of lecturing and individual tutoring and extensive use of project work), a hierarchy of indoor spaces, from small study areas and open working landscapes to lecture rooms and an assembly hall. The school café on the ground floor serves a hot lunch, and is the first school in Norway to do so. The café is also open to the local community in the evenings several days a week, and is a favourite by working parents who in Norway have to bring and pick up children from the nursery school or extra curricular activities such as sports. The sports building is used by the nursery - and the secondary school as well as the local community, and includes unisex changing rooms; a favourite, especially with parents with young kids using the swimming pool. Furthermore the community centre's outdoor areas, both the nursery school play area, the school's outdoor areas including areas for skateboards, basketball, volleyball etc. are open all week for the use of everyone.



- 1,2. The internal, community centre pedestrian street - that is the "backbone" of the centre
 3. The secondary school façade - façade towards the school's outdoor area
 4. The community centre with the school and kindergartenen - view from parking area to the south





1



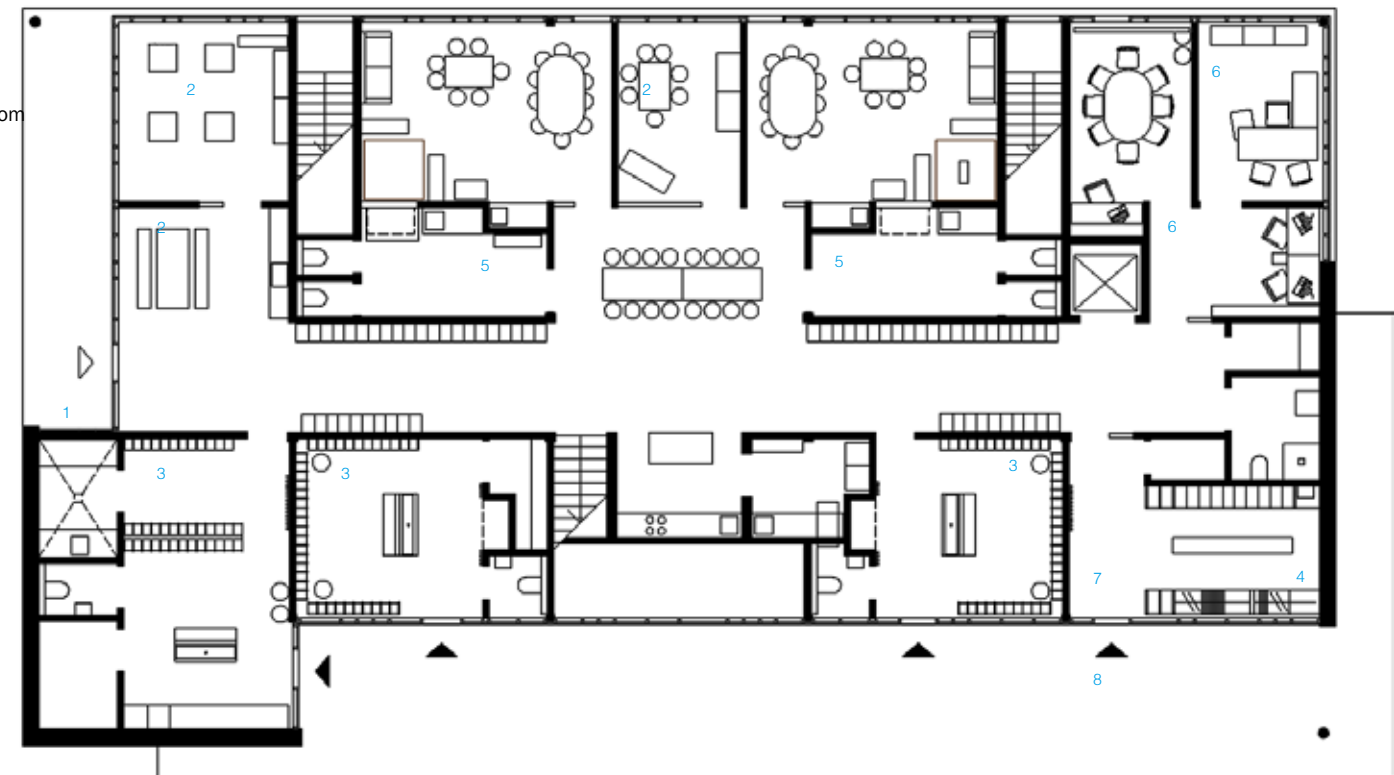
3



2

- 1. Classroom
- 2. Detail of ground floor school façade
- 3. School corridor - silver birch wall image acts as soundinsulation and as a glass screen

- 1. Covered terrace
- 2. Activity
- 3. Cloakroom
- 4. Staff cloakroom
- 5. Bathroom/changingroom
- 6. Administration
- 7. Entrance hall
- 8. Main entrance





1



3



4



2

1. Reception and changingroom "box" in sports building
2. Community centre and school canteen/caf e
3, 4. Main staircase in kindergarten

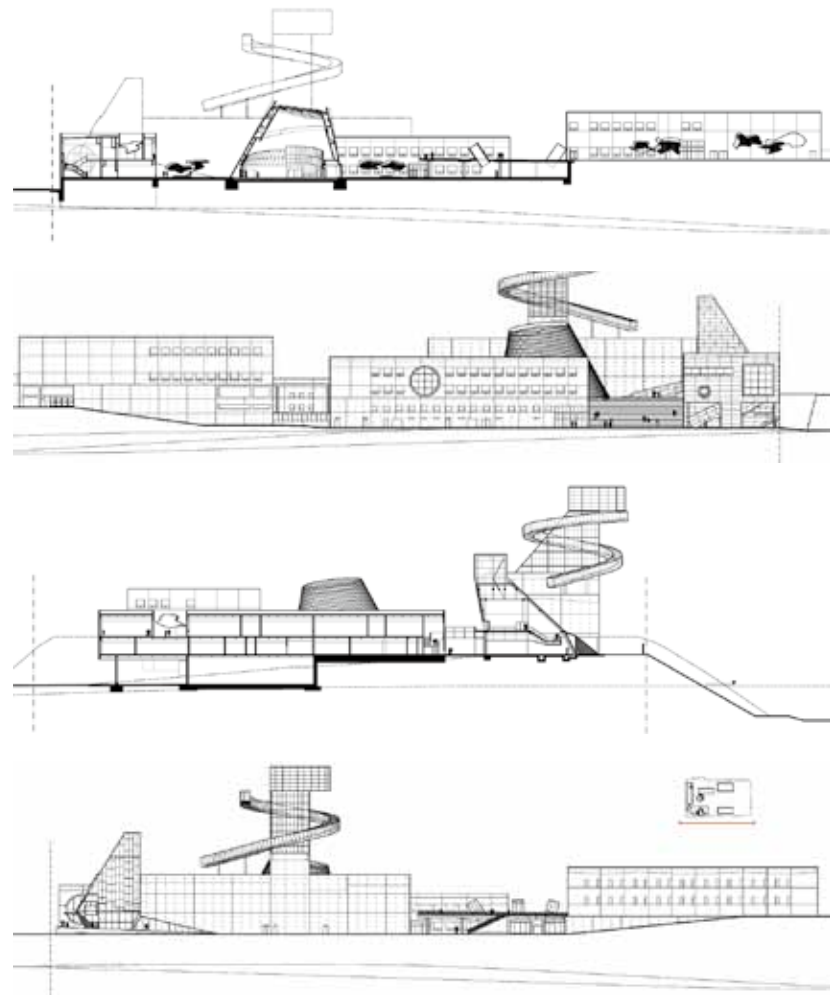
Central Los Angeles Area High School

Designer: COOP HIMMELB(L)AU **Location:** Los Angeles, USA **Completion date:** 2008 **Photos©:** COOP HIMMELB(L)AU **Award:** Metal Construction Association's President's Award for Overall Excellence, 2009

The designer's concept is to use architectural signs as symbols to communicate the commitment of the Los Angeles community to Arts. Like chess figures three sculptural buildings, which relate to the context of downtown Los Angeles and the programme, re-define spatially and energetically the otherwise orthogonal arrangement of the master plan. A tower figure with spiralling ramp in the shape of the number 9 located on top of the theatre's fly-loft serves as a widely visible sign for the Arts in the city and a point of identification for the students. Inside the tower, an event, conference and exhibition space with a view across the city was planned to be located. The theatre complex is placed at the corner of Grand Avenue and the 101 Freeway. The tower connects the school visually and formally with downtown Los Angeles, and together with the Cathedral's tower the twin towers will become a new landmark for the city. In addition to the tower a representational Lobby on Grand Avenue serves as the public entrance and integrates the school with the Grand Avenue corridor. Like a bridgehead the Lobby connects the site with the cultural facilities on the other side of the freeway. It is envisioned that the theatre with all its amenities can be made available for public and commercial events to create additional revenue for the school.

As the symbol for learning and education the Library, or the Space of Knowledge, is formally expressed through a slanted, truncated cone and placed in the centre of the school courtyard. Inside, the cone provides a large open space illuminated from above by a circular skylight thus offering an open, dynamic, but introverted and concentrated space for contemplation and focused learning. Through its diagonal position in relationship to the other buildings and its slanted form, the dynamic, circular building directs views and flows of people through the school courtyards, changes the perception of the courtyard space and provides a point of orientation for the students within the campus.

The four classroom buildings form the orthogonal perimeter of the school's interior courtyards. The functional box beam buildings house one academy each as well as other shared educational and administrative spaces. Each building is organised with a central corridor which doubles as an exhibition gallery, generous open public stairways with lookout points to the exterior and expressive entrances, which serve as transition spaces between the exterior and interior. Each academy building houses its general classrooms, art studios, workrooms and satellite administration spaces.



1. Whole scene
2. Overall view of façade
3. Side façade





1



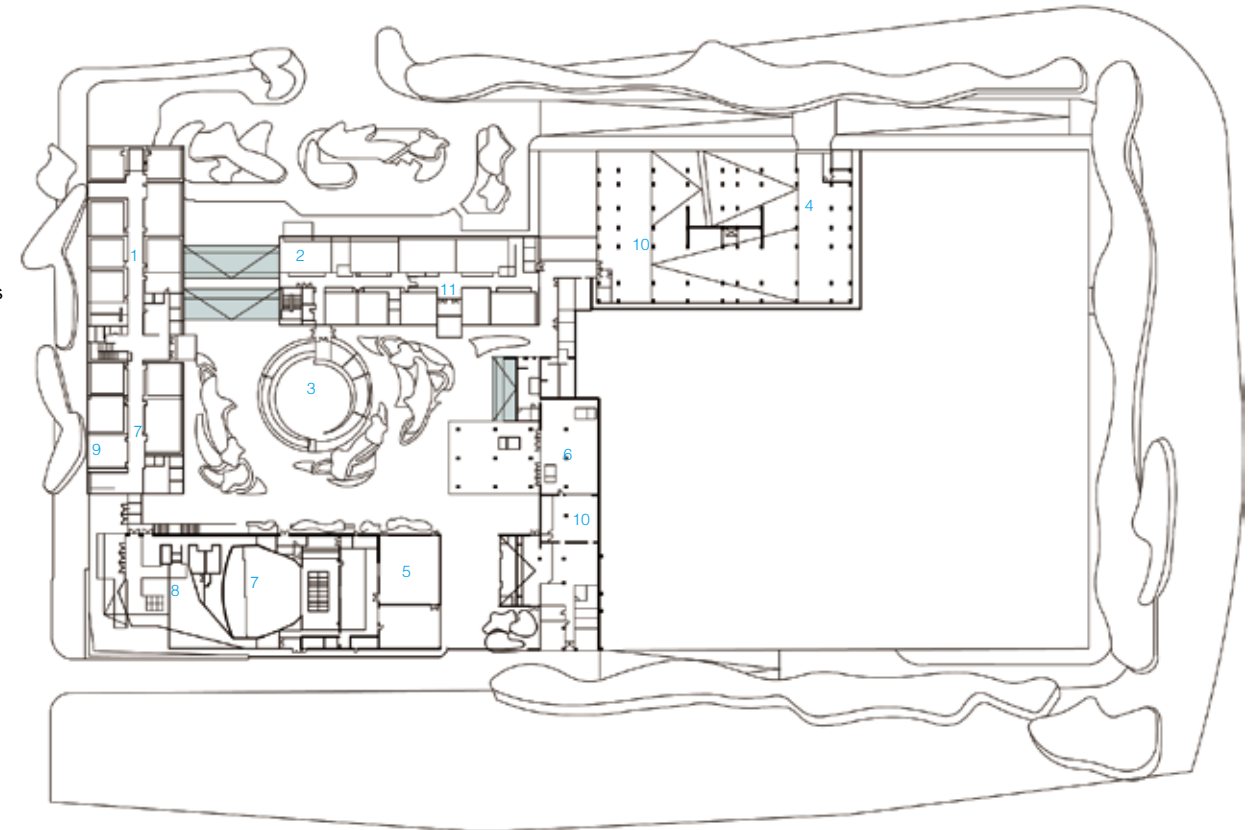
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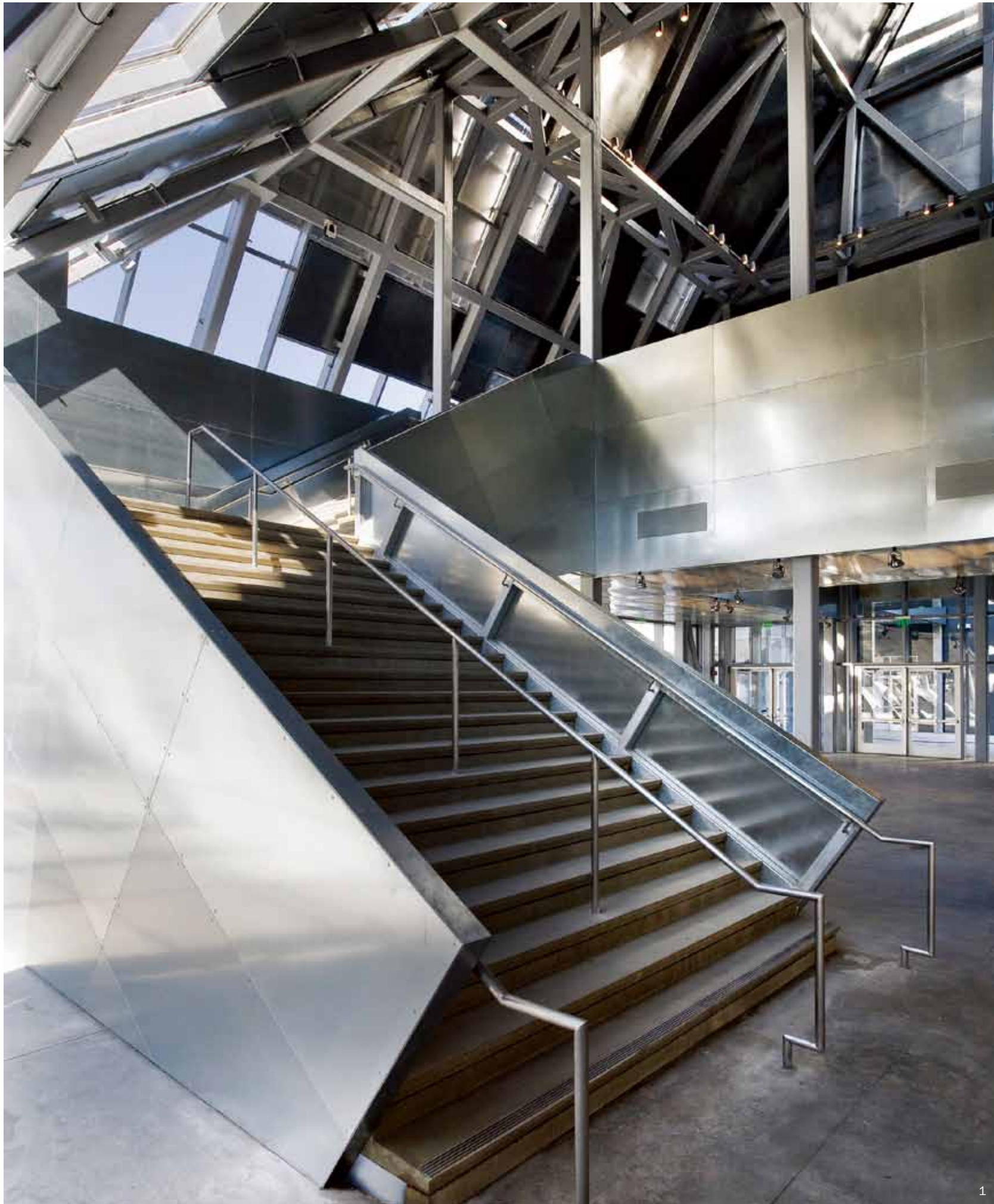


2

- 1. Side façade
- 2. The freeway is between the cultural facilities and the school
- 3. Landmark of the school and the city

- 1. Art
- 2. Dance
- 3. Library
- 4. Gymnasium
- 5. Music
- 6. Cafeteria
- 7. Theatre
- 8. Lobby
- 9. Administration
- 10. Service
- 11. Shared spaces





1

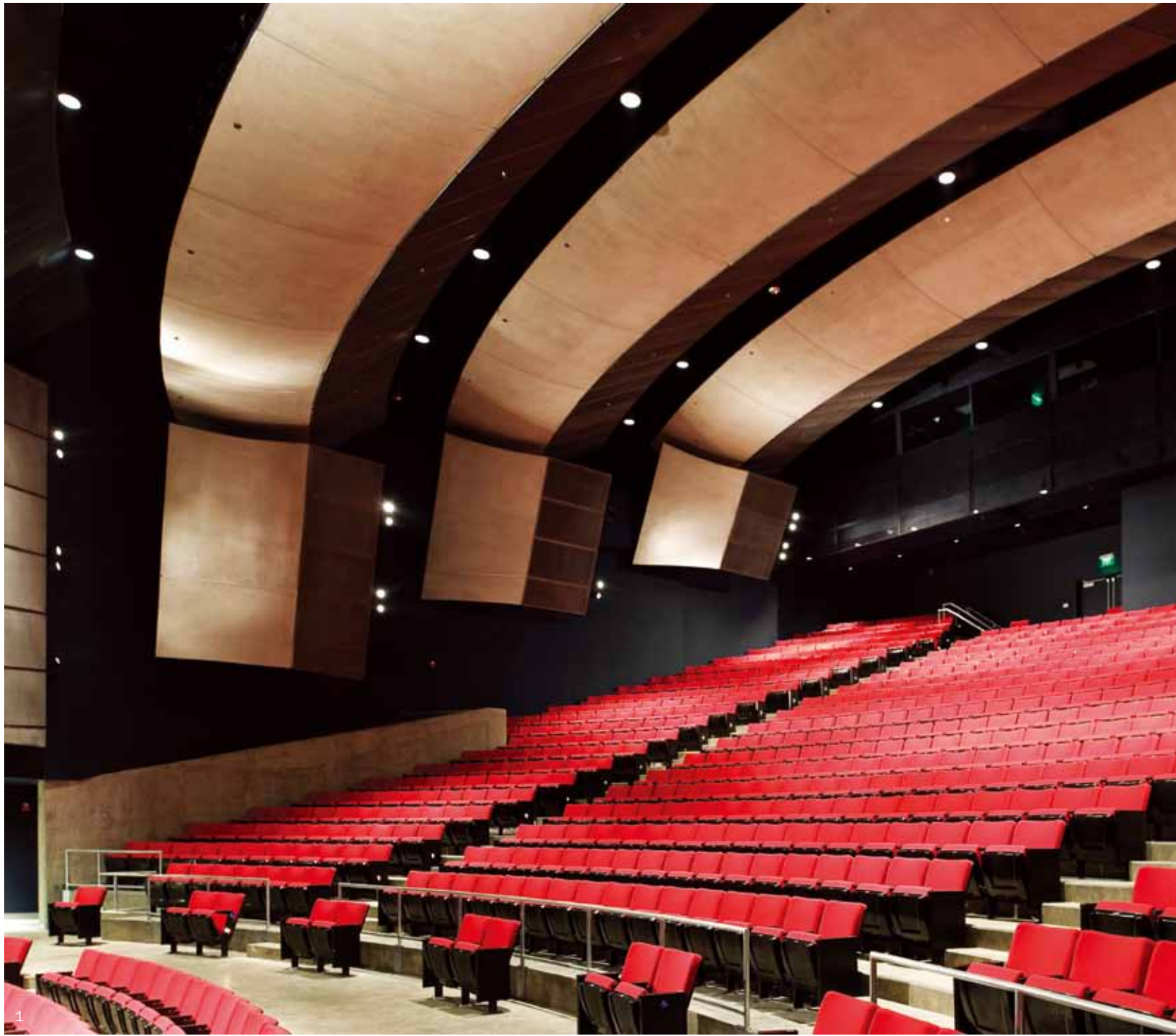


2

- 1. Stairs to the upper floor
- 2. Window detail
- 3. Stairs



3



1. School theatre
2. Lobby in the tower



2

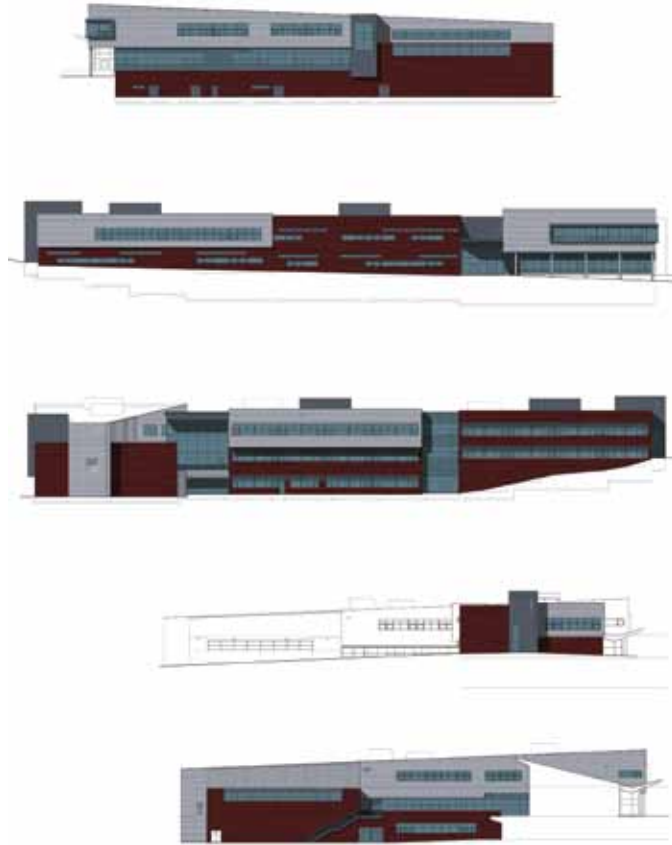
Aspen Middle School

Designer: Studio B Architecture **Location:** Aspen, USA **Completion date:** 2008 **Photos@:** Aspen Architectural Photography, Time Frame Photography, Paul Warchol Photography **Construction area:** 12,555 square meters

Awards: Colorado Construction Magazine Gold Hard Hat Bronze Award for Outstanding Education Project, 2007
AIA Colorado Citation Award, 2008
American School & University Magazine Citation Award, 2008
AIA Colorado West Merit Award, 2009

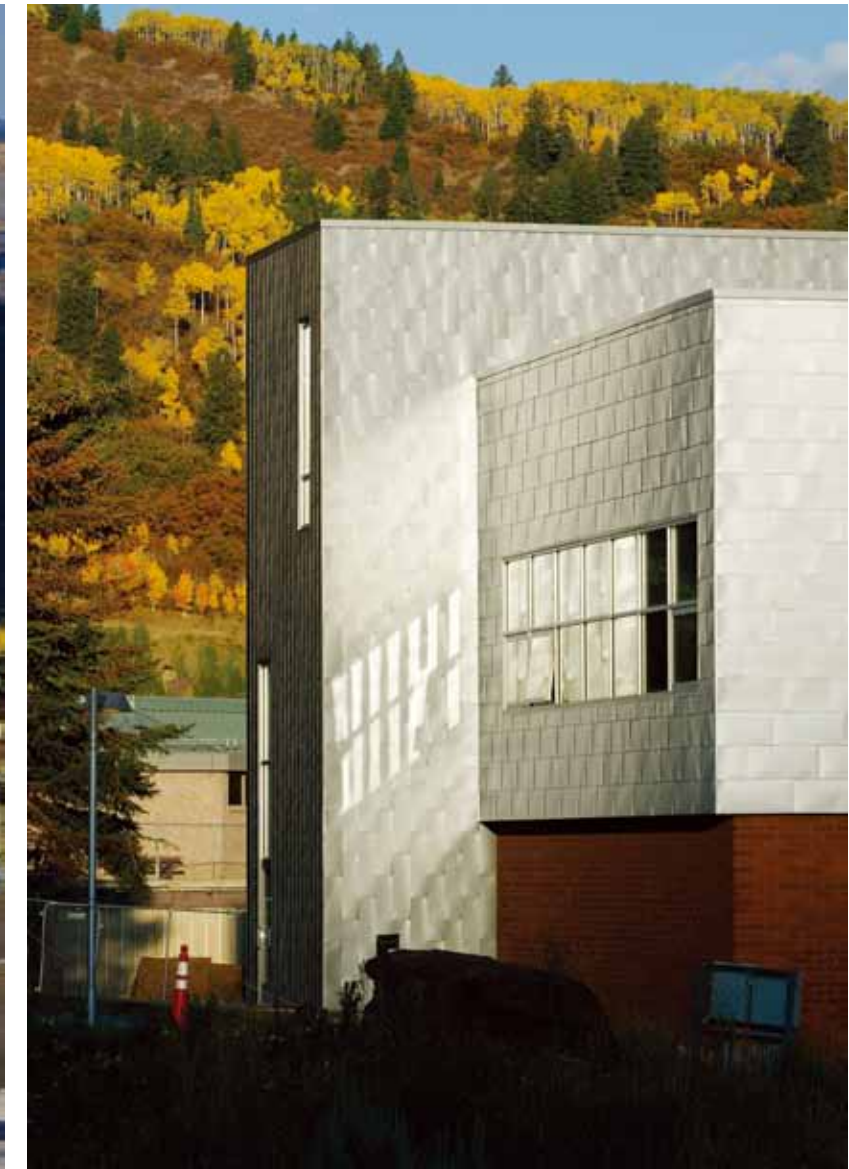
The Aspen Middle School embraces the School District's mission statement of creative classroom learning, the outdoor education experience and environmental stewardship. Its sleek profile minimises its impact on the surrounding alpine landscape and bows to the majestic views of the Maroon Bells Wilderness. Its proximity to Buttermilk Mountain is ideal and is where the students hone their winter-sports skills.

The simple L-shaped plan serves as a bridge between public and educating. The classroom bar is divided from the administrative and "specials" wing by the circulation core and each classroom enjoys abundant natural daylight, operable windows and views. The vocabulary of the building reinforces the vision established by other buildings on the school district's campus. Regionally manufactured brick, metal panels, translucent walls, and aluminum-framed high-performance glazing sheath the building's exterior. The articulated entry canopy and adjacent arcade identifies the main entry, while at the same time, provides a safe, visible and protected shelter for student drop-off and pick-up. Window patterns, light louvers and sunshade devices respond to solar orientation, control the effects of the high altitude sun and create a distinctive aesthetic on the exteriors. Wherever possible, sustainable materials such as bamboo, recycled flooring and ceiling tiles are incorporated into the design, casework is formaldehyde free and interior materials use low VOC paints, finishes and adhesives. High efficiency mechanical, electrical and plumbing systems integrate innovative products and techniques such as solar air heating, waterless urinals, occupancy sensors and solar tubes. These strategies have resulted in this being the most energy efficient building on the school campus. Integrating these technologies has yielded a high performance building that reduces almost one million pounds of carbon dioxide per year, reduces water usage by 40% and reduces storm water runoff by 25%. The Aspen Middle School received LEED Gold Certification in October 2008 from the US Green Building Council and is the first in the State of Colorado.

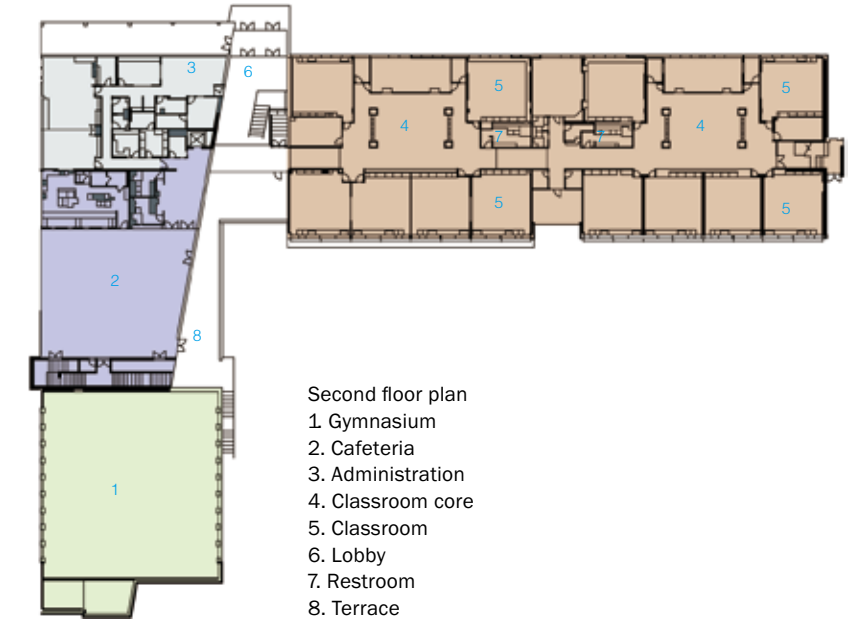


1. Early morning of the overall project
2. Arrival view
3. View over ball field to southwest edge of school





1. Winter north elevation
 2. Dusk entry shot, photo by Time Frame Images
 3. School buses lined up at morning drop off
 4. Materials palate





1

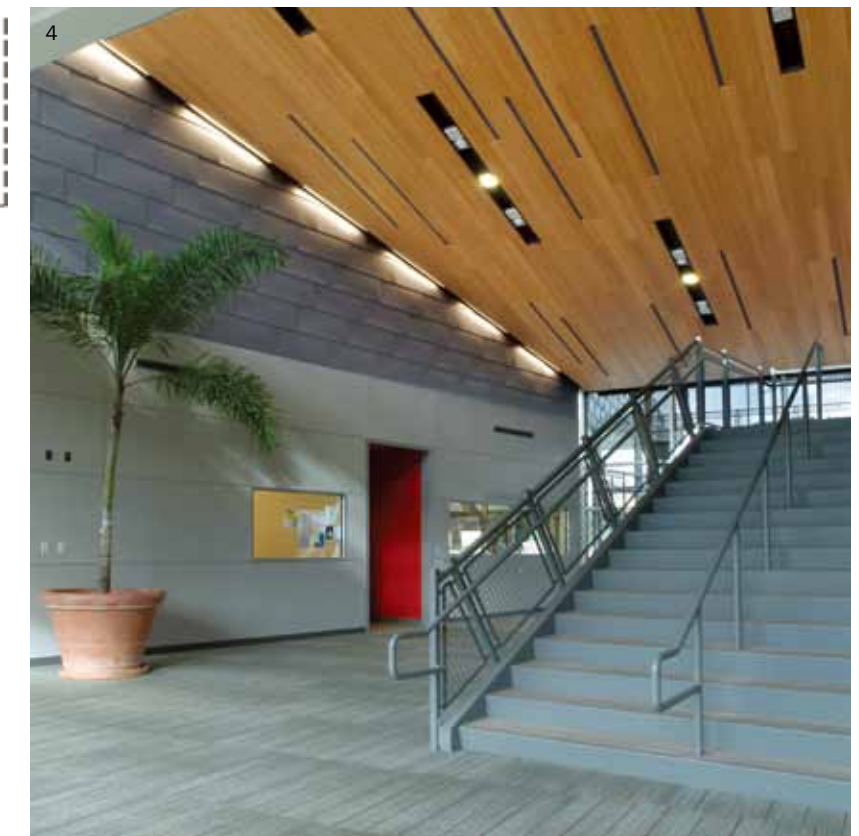
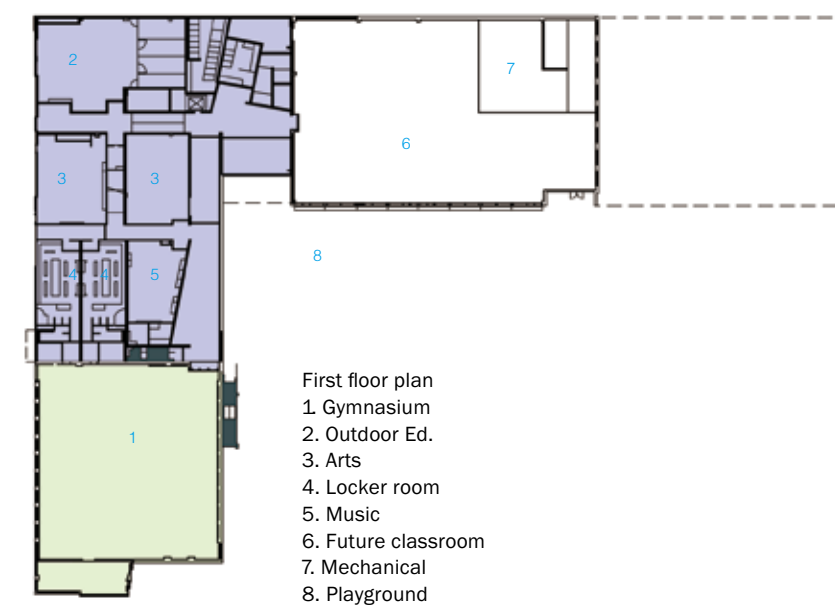


3



2

- 1. Evening view from terrace towards school entrance, photo by Time Frame Images
- 2. View from the entry interior south, photo by Time Frame Images
- 3. Arrival view depicting interior materials, photo by Time Frame Images
- 4. Entry stair view and ceiling detail, photo by Time Frame Images



4



1. Library vignette, photo by Time Frame Images



2

2. View into gymnasium



3

3. View from upper level into the gymnasium, photo by Time Frame Images

School Dining Room, Multi-Proposal Centre

Designer: ABD Architetti **Location:** Verona, Italy **Completion date:** 2008 **Photos©:** Alessandra Chemollo
Award: Finalist Project In The Gold Medal For Italian Architecture In 2009; Entering Project In The Biennial Of Buenos Aires In 2009

The project is directly related to the west side of the middle school of Dossobuono, in a suburban context made up of one-family homes with residues of the fine agricultural land laid out as peach orchards.

The link to the present school is provided by contacting with the hall inside the middle school. The architecture takes the form of an elementary suspended prism, framed by a white metal profile which contains the façades in silkscreen printed glass. There is a marked contrast between the immateriality of the extension and the tactility of the present structure.

The building has a trapezoidal plan and is laid out on two levels: the first, partly below ground level (-3,50 metres), is connected to the ground with two points of access set by flights of stairs; the second, housing the dining room (+1 metre), is connected to the ground with two ramps which rest on the steel structure.

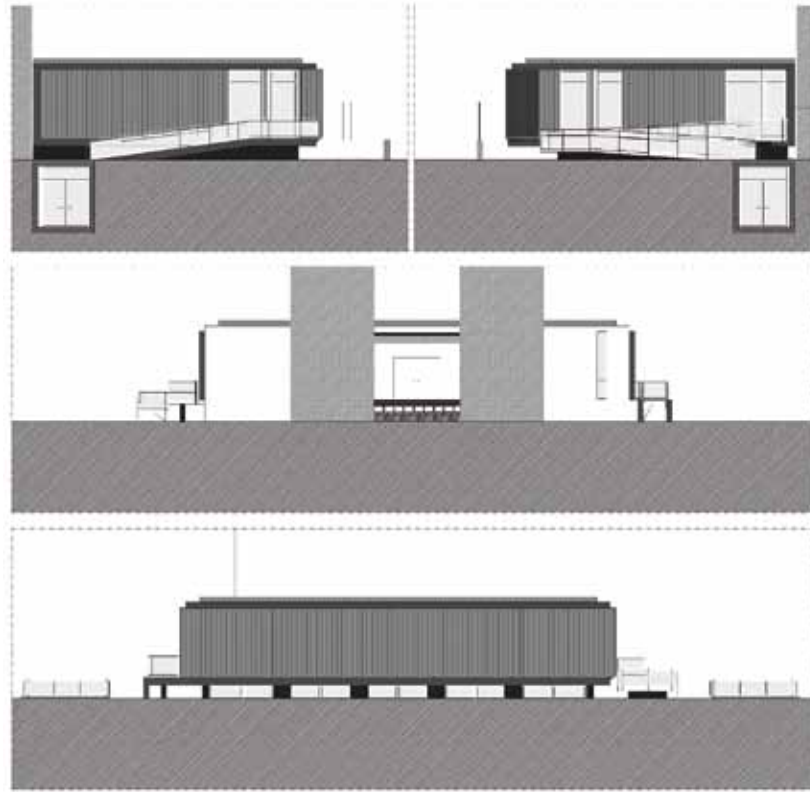
The ramps are countered with the fronts on which they rest creating an effect of rotation in relation to the volume.

The complex consists of the two simple unified spaces, distinguished by a special concern for climatic conditions and lighting: the underground level is intended to house the musical band and the first level the school dining room, to which is juxtaposed a block housing the services and the kitchen.

In the dining room a double glass wall lets in the light filtered through a screen of bamboo plants. The silk-screening outside, integrated into a double pane of hardened and stratified 18-millimetre glass, evokes the pattern of a bar code.

The reinforced concrete and iron structure is sized so as to make it possible to add a possible further storey. A sequence of large T-girders supports tall lowered beams which articulate the interior, where white is the dominant colour, only counterpointed by the oak flooring.

All the spaces are lined with sound absorbing plasterboard.



3

- 1. Outside ramp access
- 2. Façade detail
- 3. Side view of façade
- 4. Entrance



1



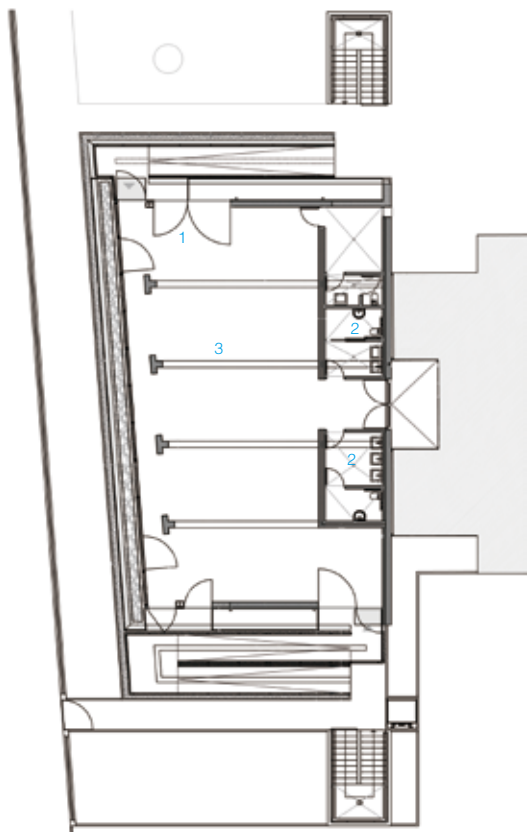
2



4



1. Public space with view of bamboos
2. Wall between bamboo and the interior



1. Main entrance
2. Water closet
3. Multipurpose center

School 'Tij49

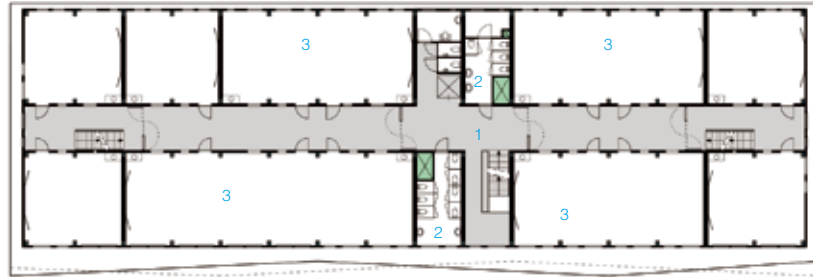
Designer: HVDN Architecten **Location:** Amsterdam, The Netherlands **Completion date:** 2007 **Photos©:** Luuk Kramer, Jan Derwig **Award:** Winner Zuiderkerkprijs 2009 Amsterdam

Blok 49 on IJburg is reserved to accommodate unusual functions and activities such as Blijburg, a temporary beach with its associated bars. The block and its surroundings will be further developed in the coming 15 years. This temporary school, with a planned lifespan of 20 years, is intended to accommodate the forecast swell in the number of IJburg's schoolchildren. In order to make optimal use of the site, the building traverses the block creating a schoolyard that stretching from the waterfront to the street.

It was evident in the spring of 2006 that the completion of IJburg's secondary school was behind schedule. As the commencement of the school year in September could not be postponed, the Municipality decided to speedily construct a temporary school. With the completion of the original school, the temporary structure would be made available to accommodate the future increase in the number of primary schoolchildren. Even though the time frame from conception to completion was less than six months, the client stipulated that this should not manifest itself in the building's appearance.

The proposal involves a three-storey building with a wide, double-loaded central corridor. By compartmentalising the building vertically, to comply with the fire regulations, the stairwells and voids form part of this central space. The three entrances are located in the building's long elevation facing the schoolyard.

To harmonise the stacked prefabricated elements into a convincing building, the horizontal bands in the façade are strongly articulated. The cantilevered strips also function as effective sun screens and shelter for the entrances. They are finished with a sprayed rubber layer, white on the outside and with a different brightly coloured soffit per floor. The colouring corresponds with the school's internal colour scheme. By illuminating the bands at night, the building acts as a beacon in the neighbourhood.



1. Corridor
2. Water closets
3. Classrooms

1. Schoolyard with the building
2. Façade detail
3. School name imprinted on the façade
4. Main façade

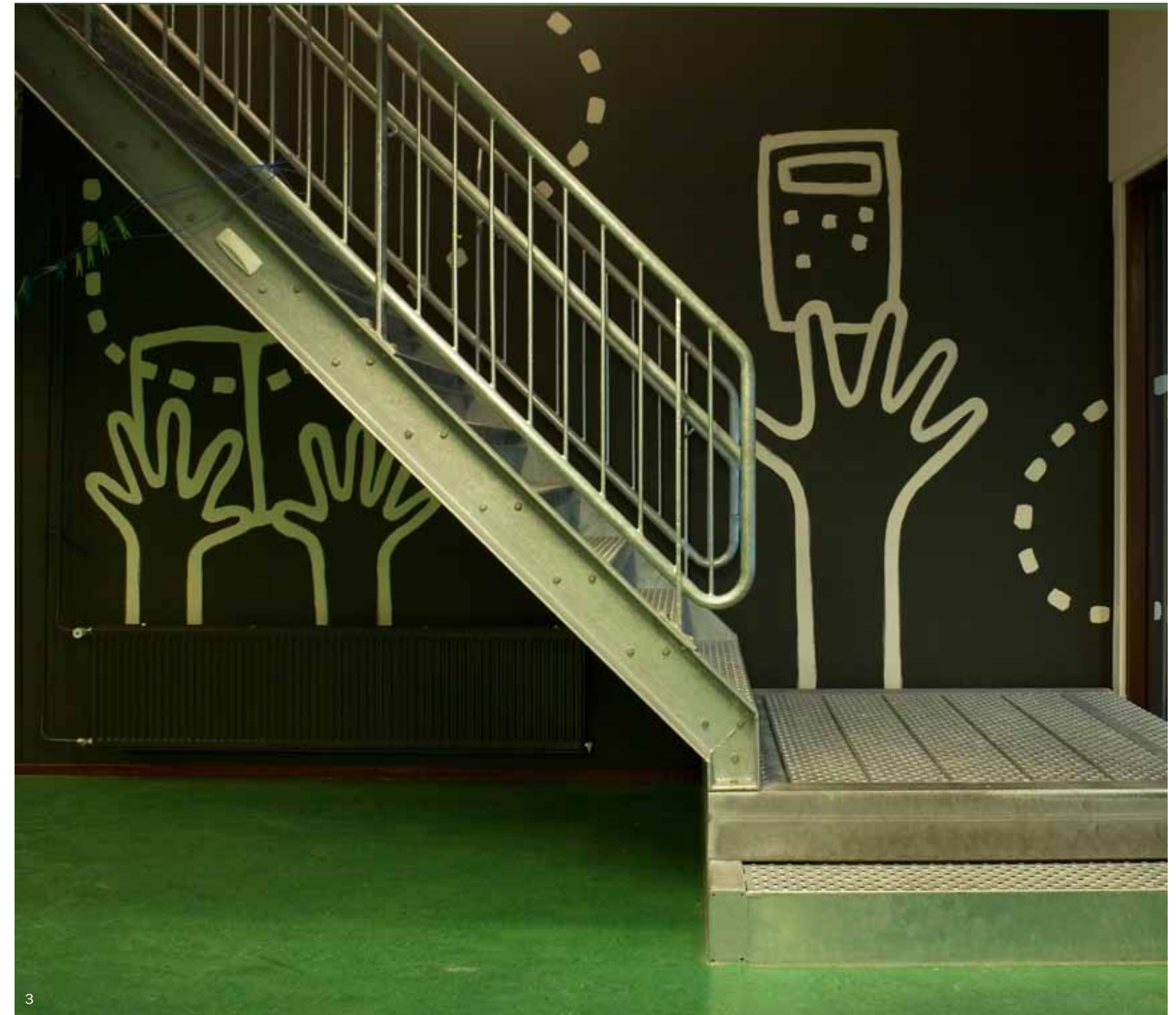




1



2



3

- 1. Night view of façade
- 2. Night view of side façade
- 3. Interior stairs

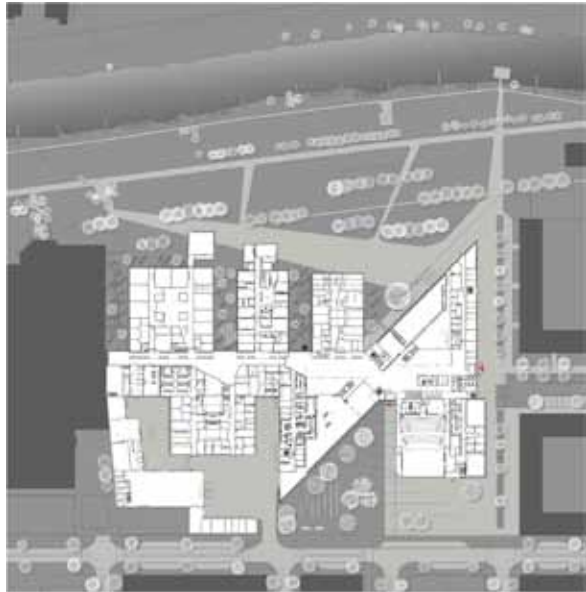
Aranäs Secondary High School

Designer: Wingårdh Arkitektkontor AB **Location:** Kungälv, Sweden **Photos:** Ulf Celander and Krister Engström **Completion date:** 2006 **Award:** Kasper Salin Award, 2006

This is a school with many scales. 1,500 students have been distributed to three teams about 500 in each. Two big triangular rooms form cores for two of them; the third has taken the old and partial rebuilt house in possession. These teams have since been divided up in smaller groups, with approximately hundred in each. The size has importance; it gives sufficiently big study groups, which governed the triangles' measures. The groups have one long side each, with facilities for the teachers direct next to.

The inner courtyards do also function as lobbies for the school and to the theatre. Measures and standards connect to the city centre next to. Dividing the big school in several smaller houses has created a large volume in a compact body. This is good housekeeping, like the use of prefab concrete elements in structure and in the façade.

The indoor courts also serve as foyers for the school and for the theatre positioned nearest to the town. Measurements and patterns take their cue from the neighbouring rectilinear townscape. By breaking the big school down into several smaller buildings, a large volume has been gathered into a compact volume, resulting in low costs, as has the use of prefabricated concrete elements for carcase and façades.



1. Façade with symbols on it
2, 3. Façade view with school courtyard



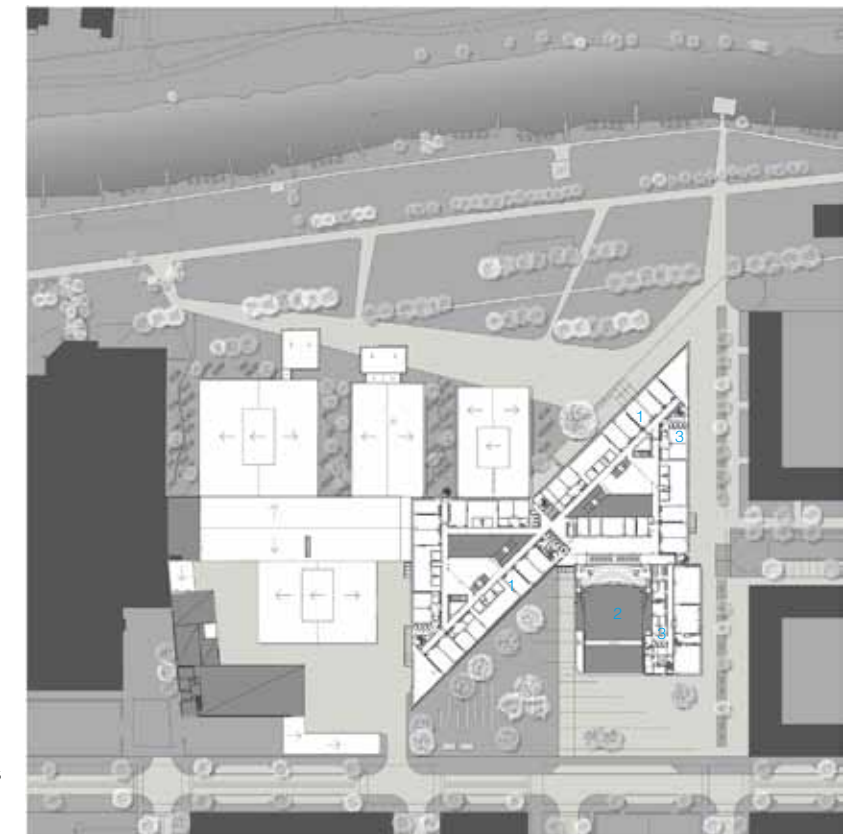
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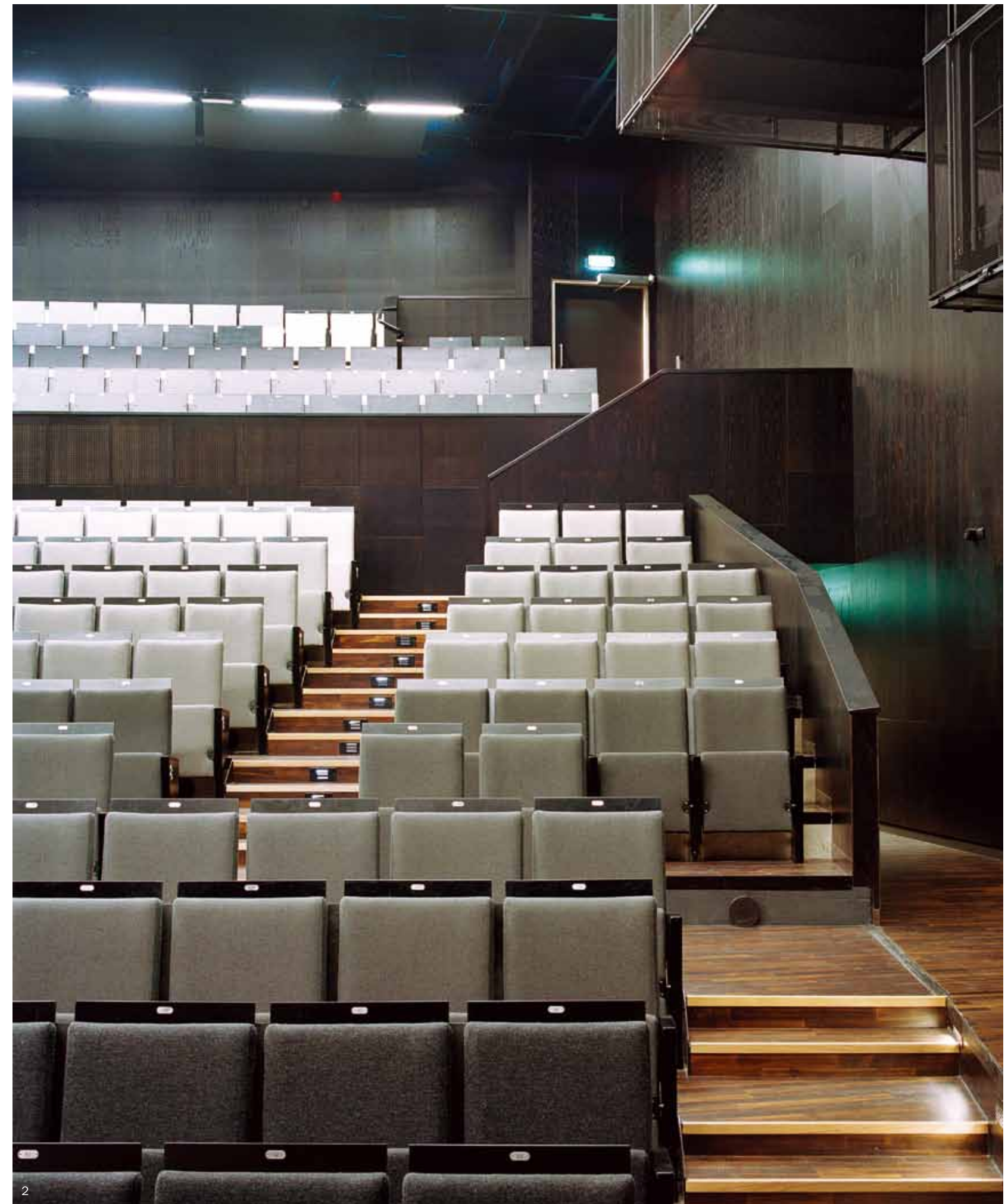
2
 1. Side overview of the façade
 2. Library on the ground floor



1. Classrooms
 2. Auditorium
 3. Toilets



1. Reading area in the library
2. Auditorium



2

Designer: Böttger Architekten BDA Köln Completion: Tönies+Schroeter+Jansen Frei Architekten GmbH, Lübeck **Location:** Schwarzenbek, Germany **Completion date:** 2008 **Photos©:** Thomas Spier **Area:** 14705 square metres

Academic High School and 3 Field Sports Hall, Schwarzenbek

The multi-track school was opened in February 2008 and accommodates 950 students and 80 teachers. The design implements the educational concept and creates a secure but inspiring atmosphere for children and young people. Research, task based learning at own pace and increasingly individual subject matters are dominating the daily routine.

Today's subject and class-comprehensive project work demands adequate and flexible rooms. The structure, consisting of three parts, provides a good orientation within the building and sustains the identification with the "own" premises. A fully glazed centre acts as a connection. This part is the communication point of the school. It accommodates the recreational area, a café and an auditorium to assimilate common school-life.

Externally the high school is a closed brick-built volume with horizontal strips of windows articulating the face of the building. Generous, light flooded classrooms relating to the surrounding landscapes providing a snug and relaxing learning atmosphere. The façade consisting on opaque U-shape profile glass-omits a clear view to avoid distraction - and translucent, openable windows to connect with the public space outside. This structures the face of the building and provides inter-visibility across the courtyards. The common space inside i.e. the auditorium, the café or the recreational space is open and transparent to welcome visitors and guests to various events. The red-coloured brick was used internally as well, to experience the segmentation of the premises.

The shade of colours of floors and doors varies on each level to accomplish a character of its own. Clear, bright colours are supporting recreation and communication between classes and providing a convenient atmosphere. The courtyards of the premise are designed differently, based on its function: the courtyard next to the library serves as a quite, outdoor reading space and relaxing retreat, the courtyard next to the administration is used by teachers and another courtyard is planted with bamboo.

Two small, green patios are providing the ground floor with light, offering rooms with relation to the outside. The public space shaped by the three parts of the building notches the school with the surrounding landscapes and provides an area of individual activities: a garden with biotope, a playground with climbing wall or a café terrace. The development of the academic high school creates the architectural framework for a comfortable, inspiring and pleasant working environment to prepare students for the future.



1. Courtyard with grassed area and seating
2. Ground floor with glass wall
3. Back façade
4. Overall view of the building from the courtyard





1



3

- 1. Main entrance
- 2. Corridor with red-coloured floor
- 3. Corridor with yellow-coloured floor



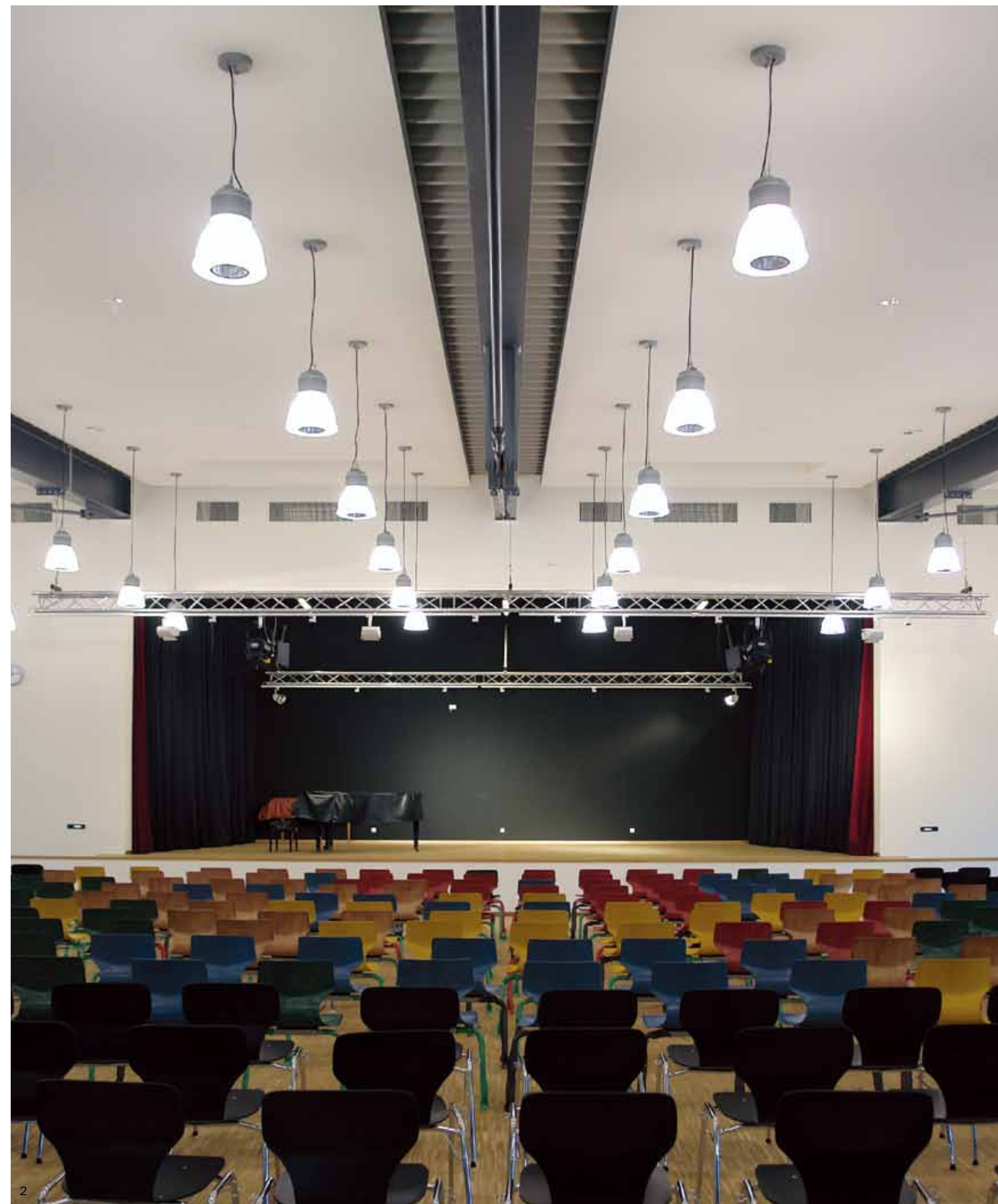
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- 1. Main entrance
- 2. Courtyard
- 3. Element A
- 4. Element B
- 5. Playground
- 6. Patio
- 7. Element C





1. Entrance lobby detail
2. Multifunctional hall



2



1, 2. Classroom detail

Arts and Media Centre at The Doon School

Designer: Khosla Associates **Location:** Dehra Dun, India **Completion date:** 2010 **Area:** 2,322.50 square metres **Photos©:** Bharath Ramamrutham and Amit Pasricha



Integral to the concept of the new Arts and Media Centre is the journey of an artist, interpreted as a central spine that runs east-west along the entire length of the site; dissolving into the ample lung space of a landscaped garden.

The artist traces the path but is encouraged to break away from it in the all-important process of self-discovery. The axis encourages one to traverse, pause, take a turn, wander and reflect.

The building is contextual in terms of its orientation and materiality as it interfaces the iconic 100 year old English Renaissance inspired main school building and the rest of the brick architecture of the campus. The east-west orientation of the built form and landscape reinforces the direction of the old aqueduct and main building. The building massing is bold, contemporary and abstract. An exciting use of materials – exposed brick tiles juxtaposed with olive coloured corrugated metal sheets and glass is set against an omnipresent spine of yellow slate. Local stone is used generously in the courtyards and the internal flooring is predominantly grey Kota stone – blending effortlessly with the lush natural surroundings yet being highly durable. The curved façades soften the corners of the building and are detailed finely with bands of brick-on-edge. The natural topography and foliage of the site is well preserved and negotiated, like the level difference between the building and the landscaped garden and existing trees are accommodated in the building design.

The building is also climate sensitive. The long spine of the building running east-west takes advantage of maximum amount of north light so as to minimise to use of artificial lighting during the day. The temperature within building is kept between a minimum of 16°C and a maximum of 27°C by several devices: adequate cross ventilation of all the studios and galleries, filtered north light through the skylight system and indirect yet ample light through the courtyards. Exhaust systems in the skylights flush out the hot air and humidity in peak summer via a stack effect. Large overhangs on the south and west side protects the internal volumes from the fierce summer sun.



2

1. Distant view of overall building, surrounded with green landscape
2. Exterior façade detail
3. Main entrance



1



3

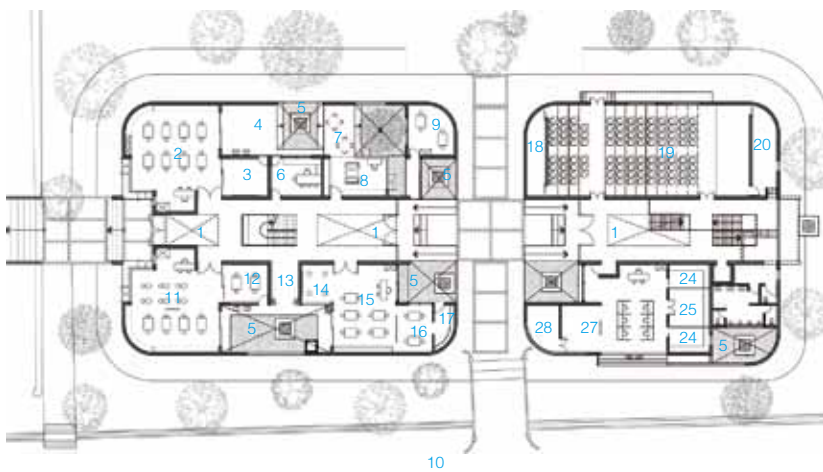


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2

1. Side façade view from courtyard
2. Side view of the main entrance
3. Entrance detail

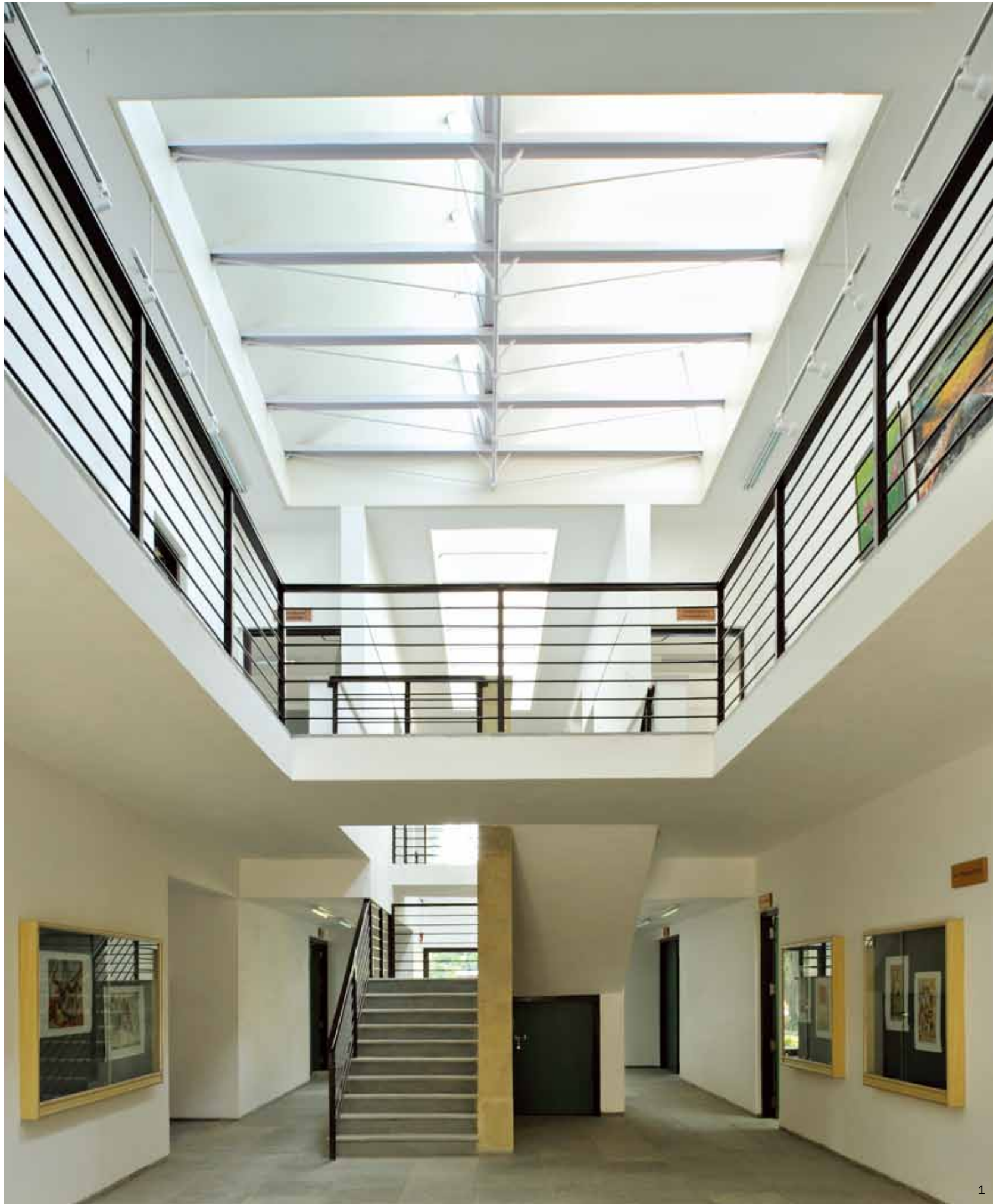


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|------------------------|-----------------------|------------------------|-------------------------------|
| 1. Double height foyer | 11. Sculpture studio | 21. Auditorium store | 31. Terrace |
| 2. Textile studio | 12. Studio IV | 22. Lift | 32. Painting studio |
| 3. Space for loom | 13. Interaction space | 23. Toilets | 33. Animation/graphics studio |
| 4. Wet area | 14. Pottery | 24. Editing room | 34. Reprographics room |
| 5. Courtyard | 15. Ceramic studio | 25. Recording room | 35. Gallery II |
| 6. Hod's cabin | 16. Studio I | 26. Film studio | 36. Gallery III |
| 7. Inspiration space | 17. Clay store room | 27. Area for shooting | 37. Permanent museum |
| 8. Library | 18. AV control room | 28. Equipment storage | 38. Store room |
| 9. Studio II | 19. Lecture hall | 29. Gallery I | 39. Expansion space |
| 10. North skylights | 20. Green room | 30. Multipurpose store | 40. Publication's room |



3



1



2

- 1. View showing from ground floor
- 2. Art studio
- 3. Gallery



3

Lycee-Menton

Designer: N+B Architectes **Location:** Menton, France **Completion date:** 2009 **Photos©:** Paul Kozlowski
Award: French Architecture Regional Awards, 2009

The project of restructuring and extension of the High School Paul Valéry in Menton is characterised by a strong duality. On one hand a magnificent site between sea and mountain opened on a distant horizon, and on the other hand, very strong constraints, related to the place: a very strong slope of the ground, the presence of the railroad in the north (generative of nuisances), the exiguity of the available spaces for the extension, associated with a strict urbanistic regulations for the siting of the new buildings. The works led in busy site were also a major issue in the device of construction of this project.

So, the architect's first objective was that of being a unit to the site which they retranscribed by a spatial continuity - due to the necessary connection of buildings between them, despite the strong differences of altimeter setting - but also visual continuity, to provide a real identity to this establishment. A unique skin and identity consists of wooden sun breaks, which become such a protective veil enveloping both existing buildings and new construction.

The regulations in force and the tiny size of the plot left little latitude to the locations of extensions: the south for the entities related to teaching and the north for the boarding school. Thus, the topography was one of the major points of the architect's reflection. In their views, to invest a site, it is to make a commitment in a new management of the built space, an indispensable and vital management for future, but also embody the emptiness that surrounds it. This work on the relief admits a minimum of reorganisation of the programme to install the various buildings and organise spaces. Each entity takes place in the landscape, their organisation and distribution in the site answer the essential themes that are: the notion of flexibility, environmental consideration, simplicity of use and functionality, coherence which allow the programmatic entities to articulate around resized and arranged out spaces.

The scale of the place which was organised thanks to implanting buildings of size easily grasped. The management of spaces is thought as urban entity, such a microcosm offering a variety of landscapes.



1. Outdoor covered corridor
2. Connection access
3. Façade detail





1

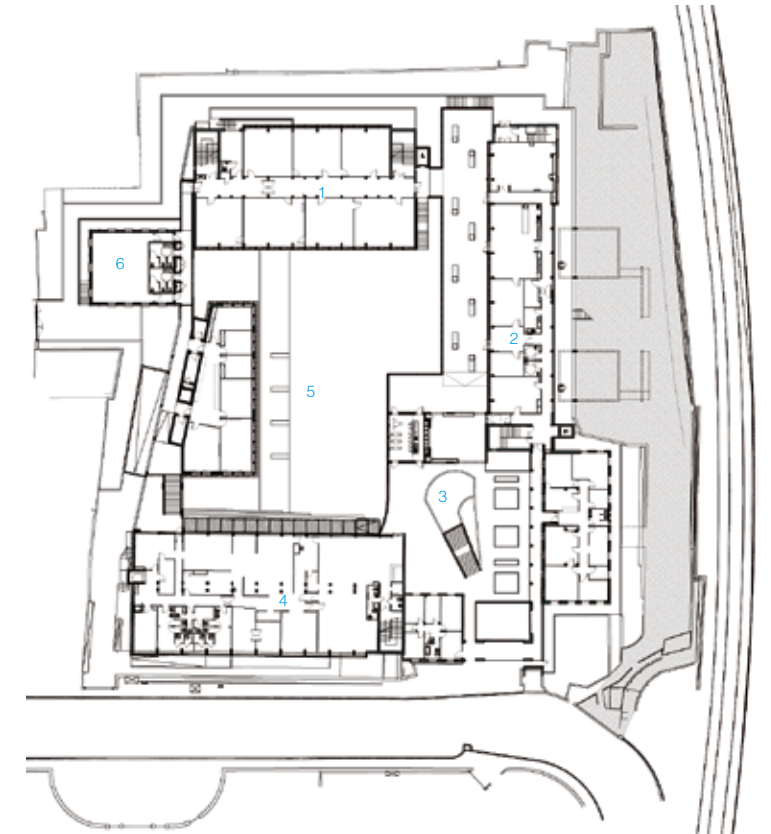


3

1. Overall view of façade
 2. Façade viewed from courtyard
 3. Building viewed from upper land



2



1. Teaching building 1
 2. Teaching building 2
 3. Playground
 4. Dormitory building
 5. Central square
 6. Laboratory



1



2



3



4

- 1. Façade detail
- 2. Outdoor terrace
- 3. Seating in the courtyard
- 4. Classroom

Eyemouth High School, Scottish Borders Schools

Designer: 3DReid **Location:** Eyemouth, Scotland, UK **Completion date:** 2009 **Photos©:** Alan McAteer Photography **Area:** 10,867 square metres

Eyemouth High School is part of the £72 million public private partnership between Scottish Borders Council and Scottish Borders Education Partnership (SBEP - comprising Bilfinger Berger Project Investments and John Graham Dromore Ltd). It is a 10,867-square-metre development catering for 500 pupils and is planned to act as a catalyst for further regeneration in the area.

The key objectives have been to provide high quality teaching environments to meet the needs of all pupils and also actively encourage community interaction with the schools, creating buildings with civic presence and high impact design. The location and topography of the site have dictated the form of the building, with a challenging ± 20 metres change in level across the site determining the 3-2-1 stepping of the floor levels.

On entry to the building, a triple height space containing the dining area opens out onto two courtyards, creating a continuous visual and physical connection between the internal and external environments. The character of the town of Eyemouth has been interpreted in a modern way at the new school with masonry to the ground floor and white render above, similar to the Custom House at the Harbour. The strong colours to the library and assembly hall relate to the way of coloured paint, which is used to identify house and boat ownership. The render bands around the windows of the local houses are reflected in bands around the full height windows in each classroom. The columns at the building entrance, which can be used by the school for display purposes, are influenced by a ships rigging. The steps at the entrance and between terrace levels are a necessity in this area and similar features can be found all around Eyemouth.

Natural day lighting and ventilation were an integral part of the initial designs. The height of the classroom ceilings allows large windows, which permit light to penetrate deep into the spaces. The greater volume also allows air to circulate more freely and tempered natural ventilation is introduced into the classrooms from purmo vents and radiators. The wide circulation routes are naturally lit from above and lightwells allow daylight to penetrate all levels to allow a visual link between floors and departments within the school. This fundamental environmentally sound design, and the inclusion of sustainable design features (Biomass Boilers, natural ventilation, etc.) have enabled the schools to achieve an EPC Rating of "A" and an "Excellent" BREEM pre-construction rating.

Other key features include triple height entrance areas, libraries which act as a focus for community interaction, flexible spaces that can adapt to teaching and community use and wide corridors. Rector of Eyemouth High School David Watson said: "It's undoubtedly an exciting time for the school and the community as well. It's a landmark building, a first rate building and we look to match it with the quality of education we provide."



1. School front view
2. Entertain area
3. Side view of façade
4. Overall view of the building





1



3

1. View showing the building from parking area
 2. School backyard
 3. View showing the back façade from the courtyard



2



- 1. Social subjects
- 2. Maths
- 3. Modern languages, business studies and computing
- 4. English
- 5. Music and drama
- 6. Physical education
- 7. Library



1



2

1. View from the third floor showing lounge on the ground floor and stairs to upper floor
2. Stairs connecting to upper floor



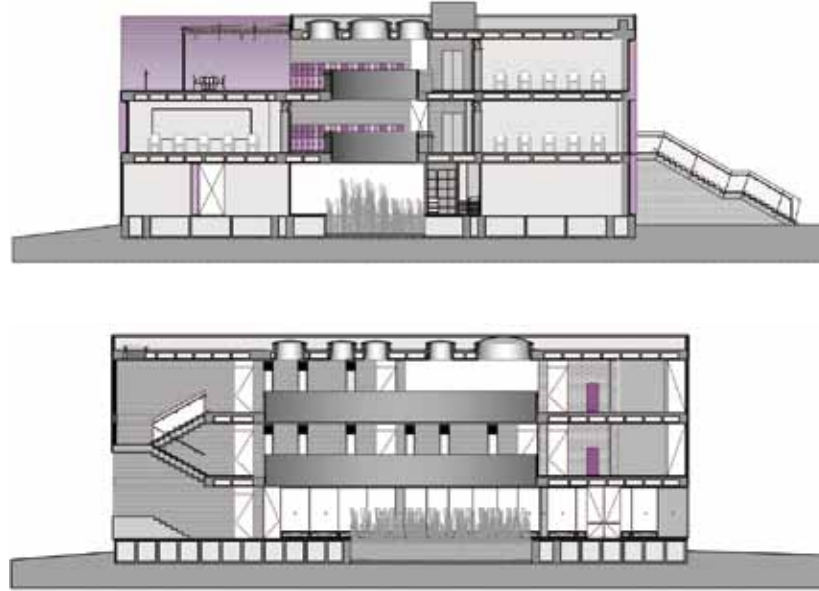
1. View downward from the second floor stair
2. Upper floor foyer and corridor
3. View showing the lobby from upper floor corridor
4. Library

High School Classroom Building - Colegio Los Nogales

Designer: Daniel Bonilla Arquitectos **Location:** Bogota, Colombia **Completion date:** 2010 **Photos©:** Rodrigo Davila **Construction area:** 2,286 square metres

The High School building completes the group of classroom-buildings; therefore it resumes the usual typology of the existing buildings, a central open space and peripheral classrooms. It's also chosen to use brick walls, the prevailing material in the school. The particular variation consists in developing a sinuous atrium with an internal garden. The exterior is defined by two closed sides facing the large green extensions, and by two glass façades with vertical sun shields where the classrooms operate.

The Colegio Los Nogales began in the year 1982 with conversations between parents, educators and friends who were discontent with the educational opportunities available amidst the social and political hardships of that time. In this context, a group of people decided to come together to contribute to a solution by founding a distinctly different co-educational and bilingual school. A common goal was shared by these individuals; to offer children an education promoting the development of all dimensions of the human person, to prepare students to become Colombia's future leaders and to shape young citizens committed to a better future for their country. This new institution would seek to develop in its students the awareness, responsibility and pride of being Colombian but within a universal context, providing each student the advantages implicit in learning a second language and culture. As a result of this reflection, Corporación Colegio Los Nogales, a private, not-for-profit, educational institution was founded on July 14th, 1982. Currently there are 873 students enrolled in the school: 365 in secondary, 290 in elementary and 218 in primary.



2

- 1. Overall view of school from the courtyard
- 2. Side view of the façade
- 3. Front façade



1



3



1



2

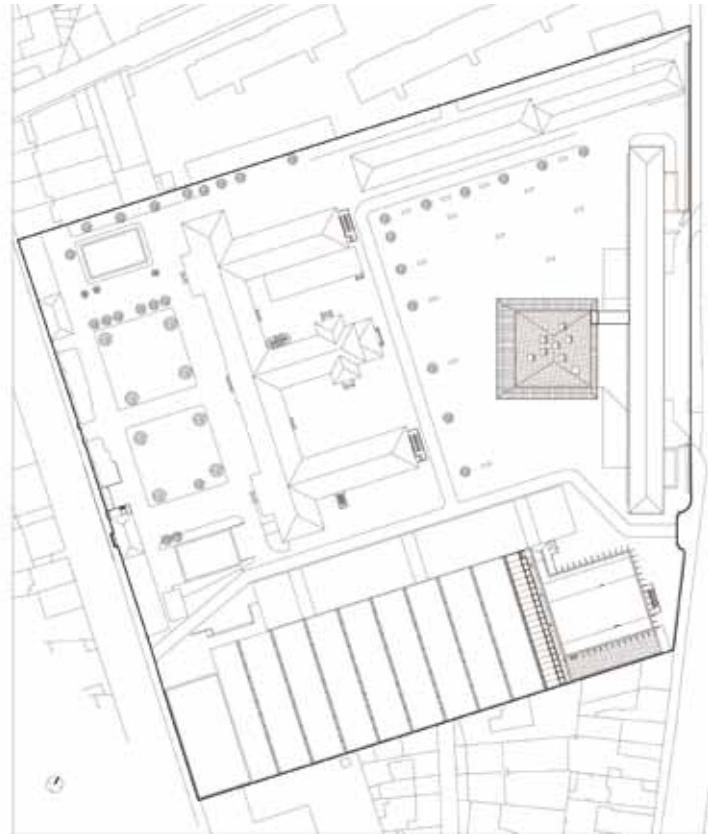
1. School building bathing in the sunlight
 2. Atrium with green plants



- 1. Classroom
- 2. Teachers' office
- 3. Coordination
- 4. Main hall
- 5. Biology lab
- 6. Chemistry lab
- 7. Physics lab

Lycee Albert Claveille

Designer: Art'ur Architects **Location:** Périgueux, France **Completion date:** 2009 **Photos©:** Florent Michael
Gross floor area: 6,771 square metres



This rehabilitation is a clear opportunity for a new deal and provides the chance to offer all users a new working and living environment. The architectural challenge is to create a core, re-orient the polarities of the school, harmonise a high school made of heterogeneous buildings. The entire restructuring of the teaching building (externat) and the addition of a school library on the restaurant's terraced roof therefore allow students to find a coherence in its use. The coherence of the architectural design results from the use of white Trespa panels. The white facing of the teaching building becomes the scenic background for the white-striated homogenous block of pure volumes which hosts the school library and the restaurant on the schoolyard level.

The school library reigns on a pedestal in the middle of the schoolyard. Built on the model of a peristyle room, it hosts the reading room in its centre. This superimposition, built from dry construction materials with a structure in galvanised steel, unifies the school library and the restaurant and gives to the whole the look of a white-striated homogenous block of pure volumes. The roofing rests upon a peripheral line of very thin galvanised steel posts, which encloses the central volume. Finally, the floor has undergone a complete restructuring, through the creation of a concrete base and the integration of both stairs and access ramps; it sets the whole composition, prioritises circulation, and leads naturally to the doors of the various buildings. To protect from the sunshine, the South-facing roof becomes gradually slimmer and ends up in a sizeable brim-like cantilever. The eastern and western façades are protected from low-angled sun rays by perforated white vertical Trespa panels, running at right angles from the glass surface, mounted on pivots and linked together to an automated system. This system allows controlling the building's permeability to the sun's rays for each façade, all the way to complete closure.



3

1. Cap and shading
2. Innovation on the roof
3. The view of back
4. Overall view of restoration building



1



2



4

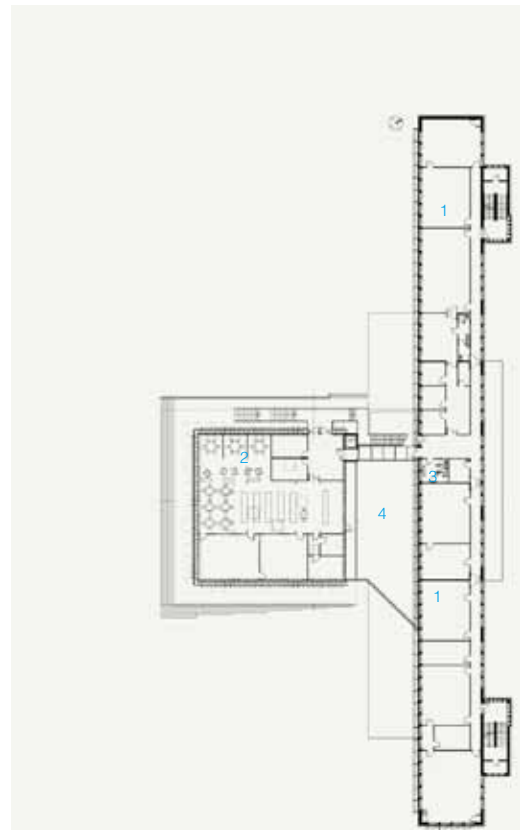


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2

1. Façade detail, with innovative design
 2. Shading in the work room
 3. Flow of sunlight



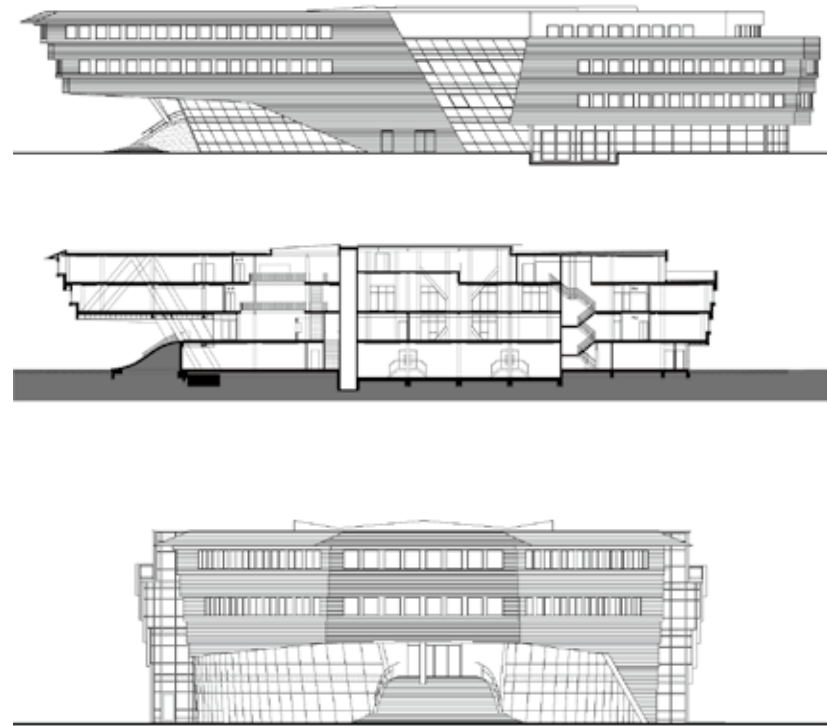
1. Classroom
 2. Communication area
 3. Toilets
 4. Lobby



3

Piter Jelles YnSicht Secondary School Building

Designer: RAU **Location:** Leeuwarden, the Netherlands **Completion date:** 2008 **Photos©:** Bjorn Utrott and Ben Vulkers **Award:** Finalist Dutch School Building Prize, 2008



The school building boasts an extrovert design, a compact mass maximising the use of space, flexible floor plans and a power consumption that is nearly 35% lower than the required level for this type of building, making the school ahead of its time. The extremely compact rounded form allows the extensive use of glass while keeping heat and energy consumption to a minimum. The shape also minimises the required space for traffic flow and ensures short access routes. Large atriums allow daylight to penetrate into the central hall on the first floor. The timber strips covering the façade also serve as protection from the sun.

The building's dynamic layout makes optimal use of the available space. It integrates into the surrounding green spaces in a harmonious way and is a valuable addition to the neighbourhood and the city. Sustainability was a key concept in the building's design.

The school building is intended first and foremost for the pupil. The shape invites people to enter the building. The exceptional stairs to the entrance with the red trim down the middle represent this invitation: a symbolic red carpet. The pupils receive a royal welcome.

The school aims to connect to the pupils, since the building itself is also intended to be a learning experience for the pupils in technical programmes. The high-profile visibility of the many impressive technical features adds a special touch, showcasing technology for the other people who use and visit the building. For example, the technical room is open to pupils and to visitors. Pipes and ducts are visible and innovative materials have been used in the construction.

Both large and small classrooms were built to facilitate the flexible approach to education used here. This will make it possible for the school to respond to changing educational needs in the coming decades. The adaptive approach is possible due to the flexible wall system used. Operating costs can be kept to a minimum due to the use of durable materials that require no maintenance.

- 1, 2. Façade detail
3. Side façade
4. Front façade, overall view



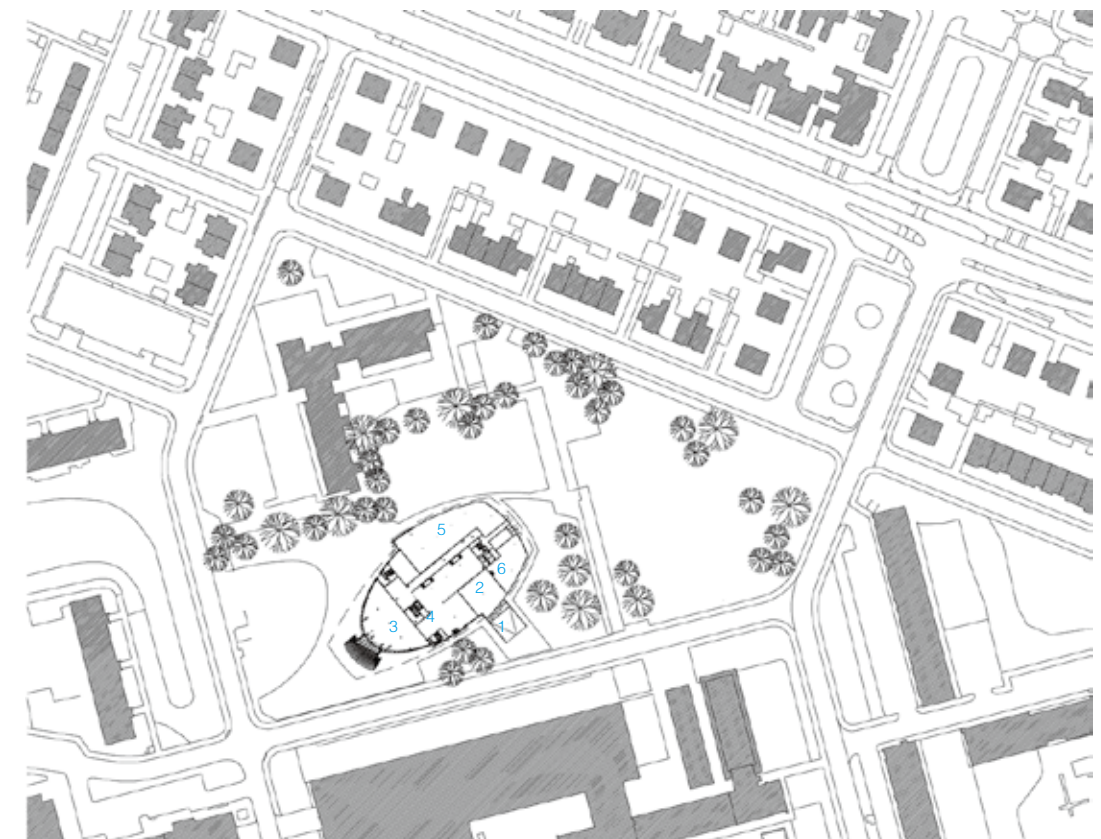


1



2

1. View showing the entrance
 2. Atrium viewed from the upper floor



1. Entrance
 2. Main lobby
 3. Restaurant
 4. Kitchen
 5. Classroom
 6. Administration



1



3



2

1. Lounge and communication area on the ground floor
 2. View showing the ground floor
 3. Corridor with function of gallery
 4. Upper foyer with big skylight



4

Designer: N+B Architectes/**Elodie Nourrigat & Jacques Brion** **Location:** Bagnols sur Cèze, France
Completion date: 2010 **Photos©:** Paul Kozlowski **Construction area:** 20,000 square metres

Restructuration and Extension of Albert Einstein High School

High school Albert Einstein, Brassens site, in France, was recently restructured and extended by French firm N + B Architects. The project took into account the notions of flexibility, educational project, and environmental use functionality and to enable the programmatic entities, to be linked together around exterior spaces. The ambition of this project is to offer a coherence set in a specific environment.

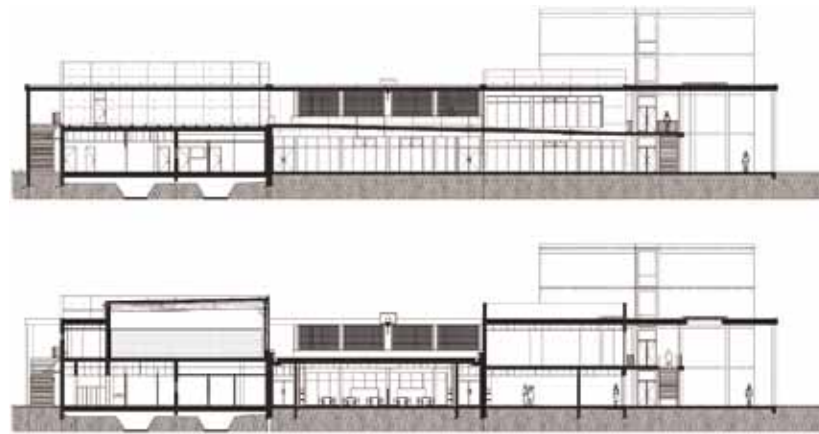
The High School Albert Einstein, Brassens site, is a big building of the 1960s. Built with a model, it is composed by high linear buildings and big metallic workshops. Site's analysis shows several functional gaps. Today it is important to change establishment's image by the way of idea and contemporary vision.

Reconquest's strategy is that "find place's scale". The stake is to reconquest the human scale in building and exterior spaces. The project draws one's inspiration from campus model which presents the advantage to be flexible and to allow a better identification education's poles. This intervention process also allows students to find a easy way and fit into a social life while being supervised.

The court is the major element of the project, meeting's place but also transition. Its localisation offers direct connection with the cafeteria, restaurant place, administration, workshop, general teaching room, school life. Here gather the students during their free time. That is why it is necessary to propose qualities of specific spaces, easily appropriable, playful and to bring a feature to the exteriors arrangements. The landscape treatment of the court is voluntary urban type like central place, mainly mineral, allowing a differentiation with gardens.

The project realises low heights buildings, low influence on the ground to get a better distribution and space's occupation. This flexibility allows adapting itself to the programme and to the discipline in constant evolution.

Spaces are treated and easily recognisable to assert an idea of sequences and gratitude education's pole. Gardens between the buildings are like screens improving a better visual and thermal comfort and offering landscape diversity. Visual borderlines are more and more wide thanks to the preserving of the green space in the northwest of the High School.



1. Workshop patio details
2. Patio of workshops
3. Square of the restoration, night view
4. Night view between two blocks





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1. Façade detail
 2. Footbridge of connection of workshops
 3. View from the square towards workshops

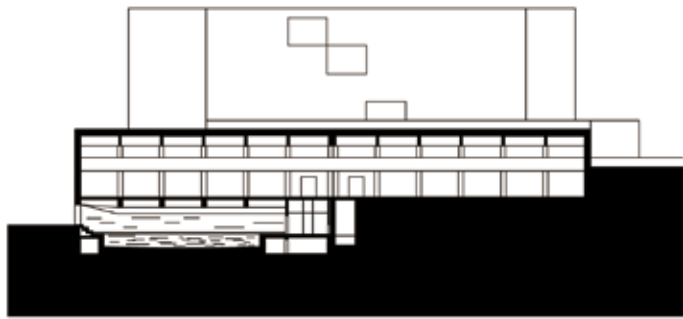


1. Workshops
 2. Sports room/restoration
 3. Existed building
 4. Teaching building
 5. Resource's centre

Boarding School Campus

Designer: Hertl Architekten **Location:** Linz, Austria **Completion date:** 2008 **Photos©:** Walter Ebenhofer
Area: 5,195 square metres

An existing boarding school from the 1970s is adapted in its whole structure to requests of modern accommodation. The strict geometry of the building has become manifest in concrete, which is translated with new vocabularies into a language of clear form. New structure of the façade, extension of the building's form and a new organisation of functions are the most important tasks. The main actions implemented are opening the core to atriums for natural lighting and overview, clearance of the ground floor with annexing to the new tribune of the gymnasium. Beside that another floor is added creating a zone for sports and relaxation on the roof. All impacts improve the characteristic of the building. The glass atrium is connected to the new entrance hall; in the upper floors recreation zones open to the façade adjoin. The concept focuses on an energetically as well as economical high quality types of façade. The façade is characterised by a strictly horizontal formation and materials arranged in stripes. Stripes and reflections as well as various contrasting but homogenous surfaces are the impressions the observer gets depending on sunlight as well as perspective. The similar grey tone of the panels of enamel glass, tin plates, eternit and solar cells creates a fine, stone-like structure in the scale of the whole surface.



3

1. Side view of façade
2. Façade detail
3. Yard on backside
4. Main view of façade and entrance



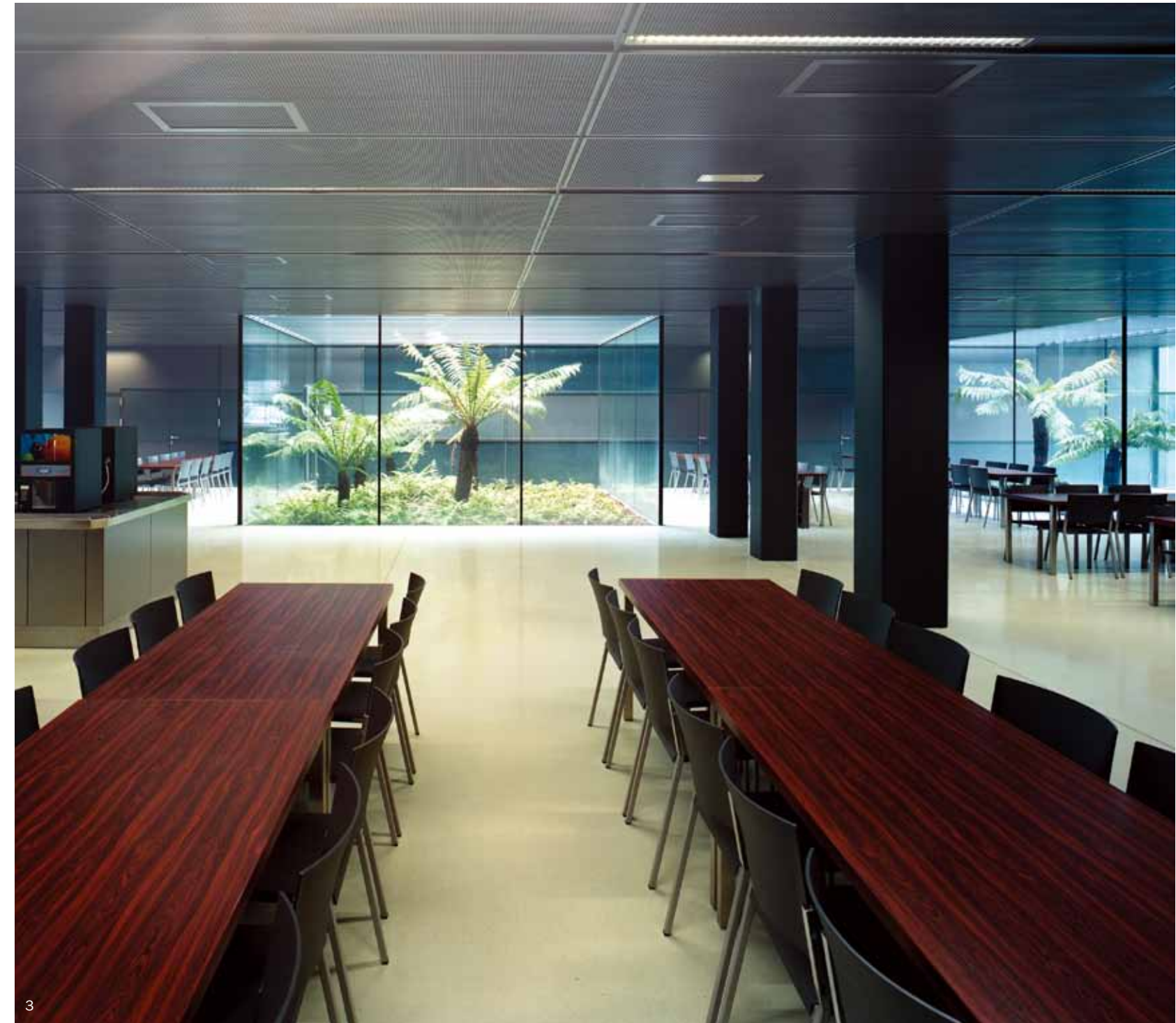
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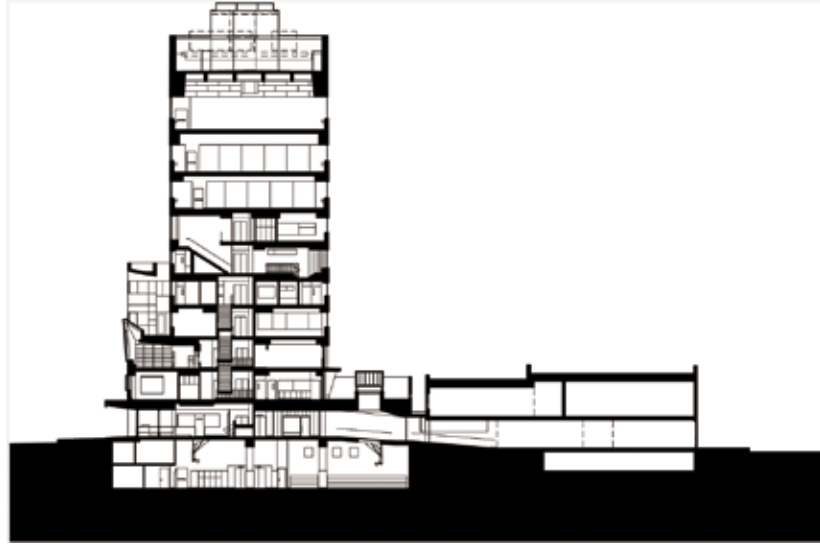
- 1. Lobby
- 2. Wardrobe
- 3. Shoe cleaning
- 4. Connecting corridor
- 5. Lounge
- 6. School doctor
- 7. Fitness room
- 8. Restroom
- 9. Courtyard
- 10. Dining room
- 11. Dish self-service
- 12. Sluice room
- 13. Kitchen
- 14. Reefer
- 15. Staff lounge
- 16. Meeting room
- 17. Waste room
- 18. Lager
- 19. Garage
- 20. Tribune
- 21. Gymnasium

1. Façade detail
 2. Lounge
 3. Dining room

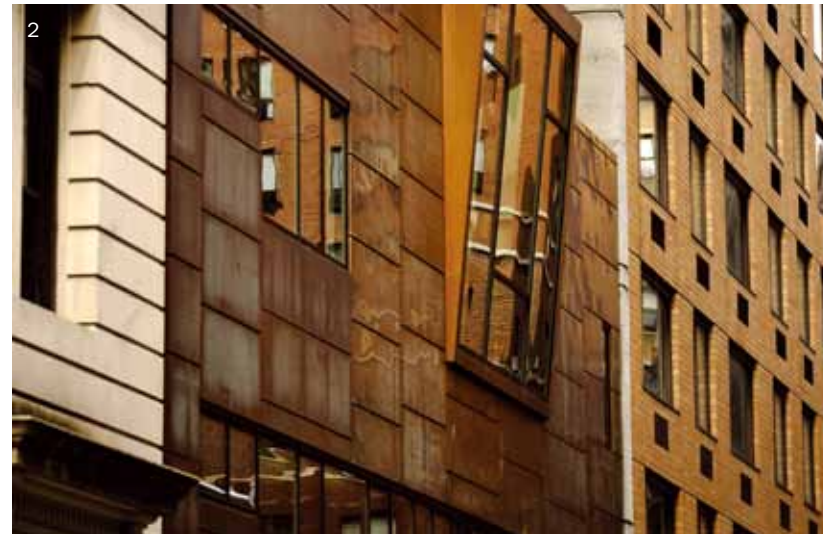
Stephen Gaynor School

Designers: Rogers Marvel Architects/Rob Rogers, Jonathan Marvel, Thaddeus Briner, Lissa So **Location:** New York, USA **Completion date:** 2006 **Photos©:** David Sundberg, Paul Warchol, Rogers Marvel **Construction area:** 4,645 square metres **Awards:** AIA New York State Award of Merit, 2009; Concrete Industry Board Merit Award with Special Recognition, 2006

The mid-rise tower for the Stephen Gaynor School and Ballet Hispanico reveals the programme of the two organisations: gymnasium, administration, classrooms, cafeteria, library, dance studios and technical support spaces. The buildings' front and back façades exhibit different materials and personality as appropriate to their immediate context in this Upper West Side neighbourhood. For the first few storeys above street level, a natural patina copper skin creates a timeless front at a pedestrian and community level and also identifies the location of library and art studios. As copper ages distinctly, this modern façade will transform the building into a quiet landmark over time. On the front upper register, and on the back of the building, a panelised tile cladding outlines programme distinctions between floors and composes diverse window openings. The panels, no two alike, present a clearly individual yet contextual building amidst its masonry neighbours. The cladding was specially developed with Turner Construction and Island Industries to meet the demands of an academically-driven construction schedule, tight budget constraints, and highly restrictive site logistics concerns. The system became the key architectural feature for the project: the panels are organised with expressive reveals to conceal attachment and thermal movement details while accenting the programmatic and spatial distinction of the spaces within.

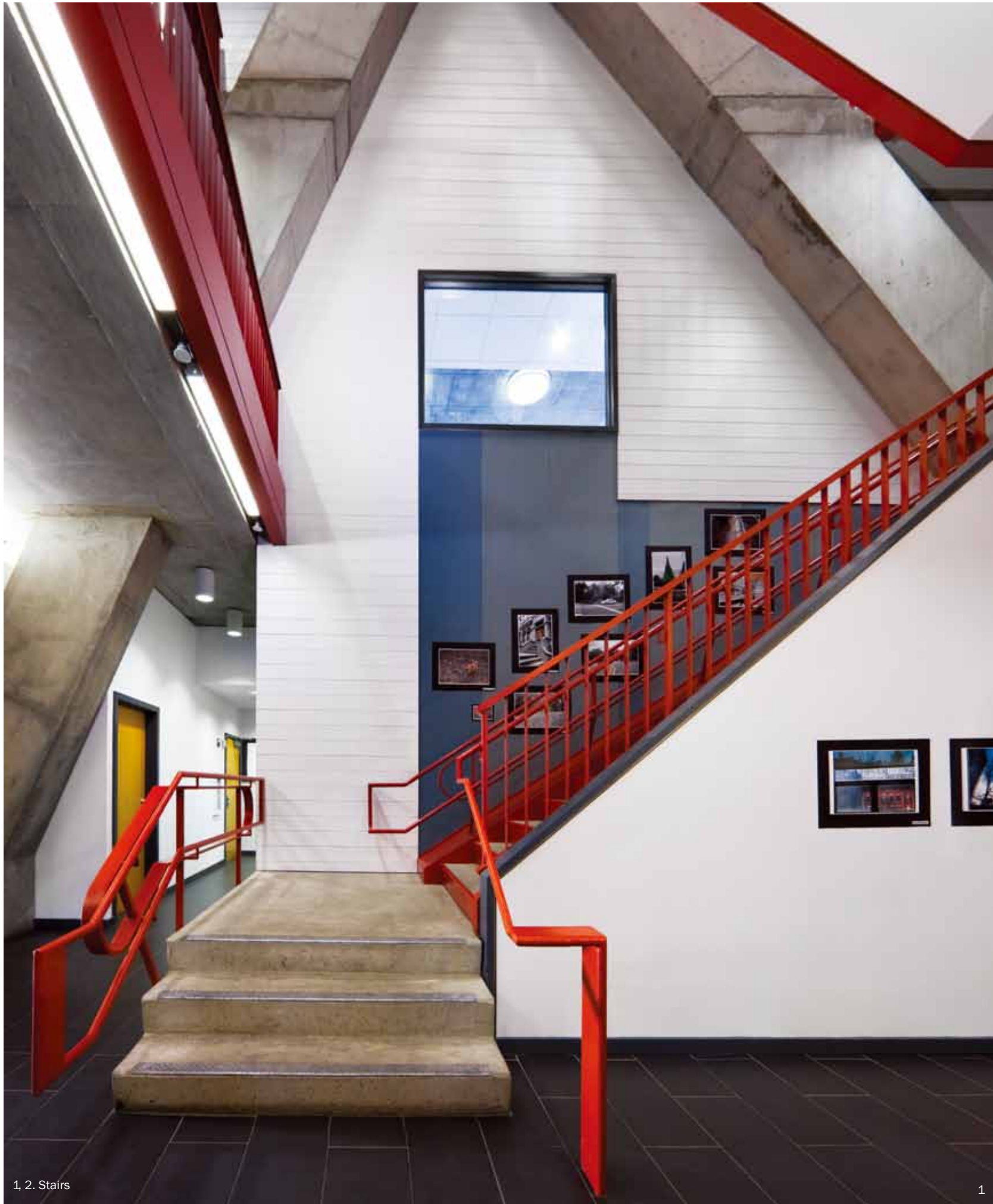


1. Students in the courtyard
2. Façade detail, natural patina copper skin creates a timeless front
3. Main entrance and front façade





1. Side view of the façade
2. Front view of façade, diverse window openings
3. Entrance lobby



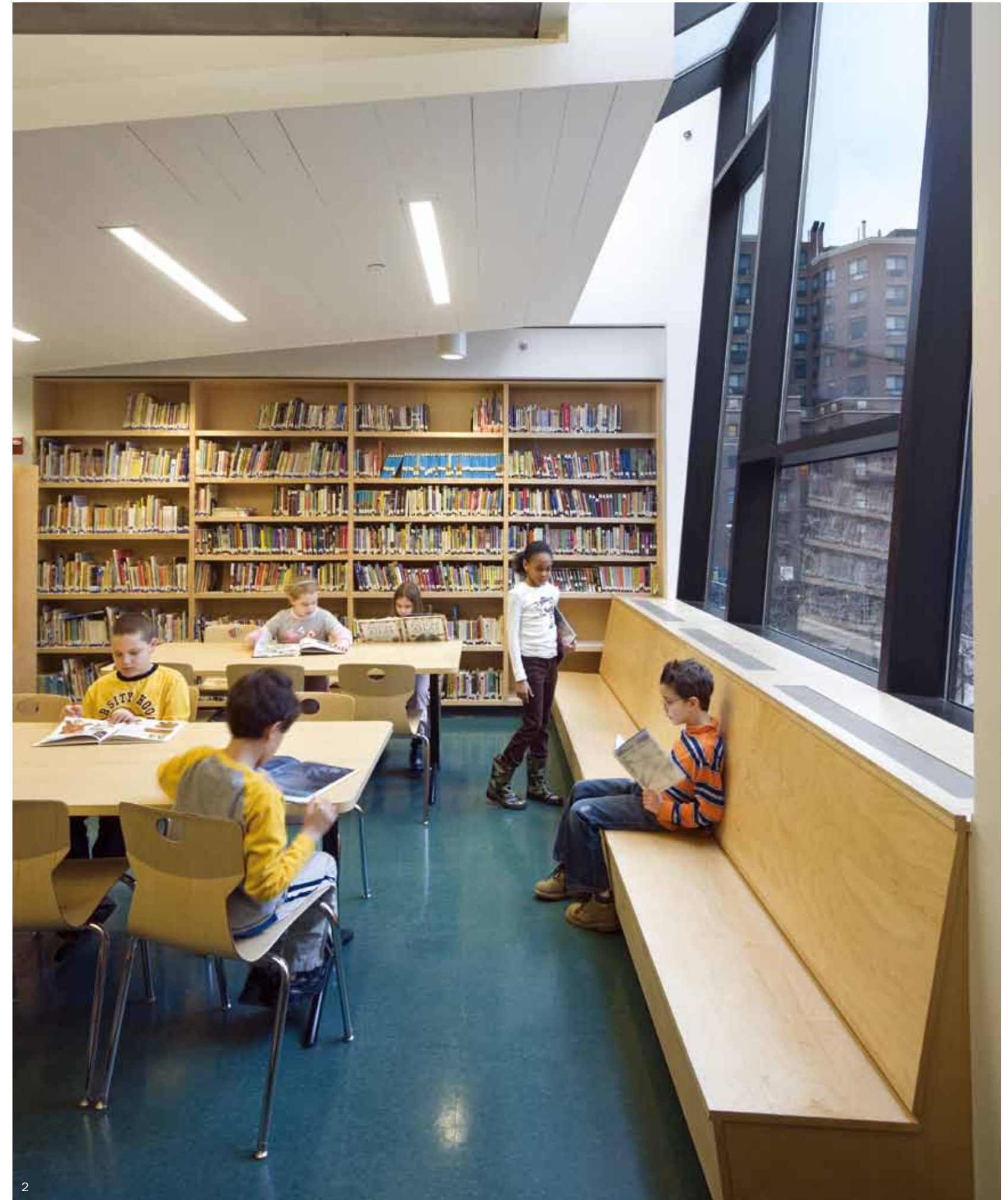
1, 2. Stairs





1

1. Dance studio
2. Library



2

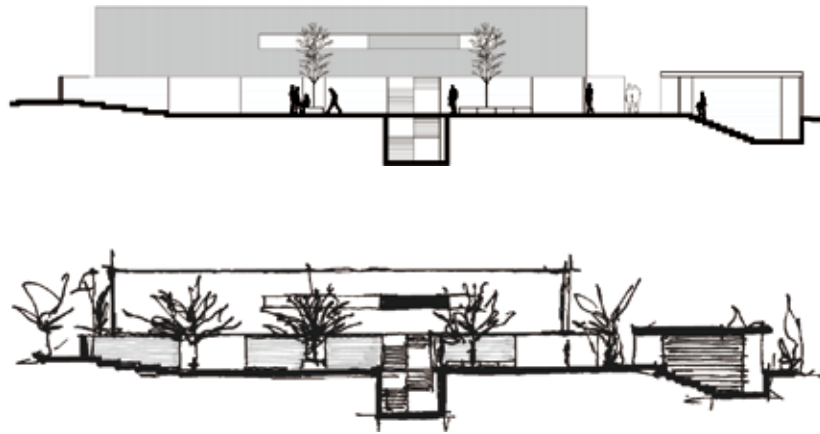
Culinary Art School

Designer: Jorge Gracia, Javier Gracia, Jonathan Castellon, Gracia Studio(construction) **Location:** Tijuana B.C., Mexico **Completion date:** 2010 **Photos©:** Luis Garcia **Area:** 894 square metres

Cleanness and orderliness define Culinary Art School, and it's really all needed when seeking to respond the 894-square-metre project's requirements, located in Tijuana, Baja California, Mexico. Culinary Art School is mainly characterised for its importance of motivating the alumni through the environment, which seeks to inspire them in this learning process.

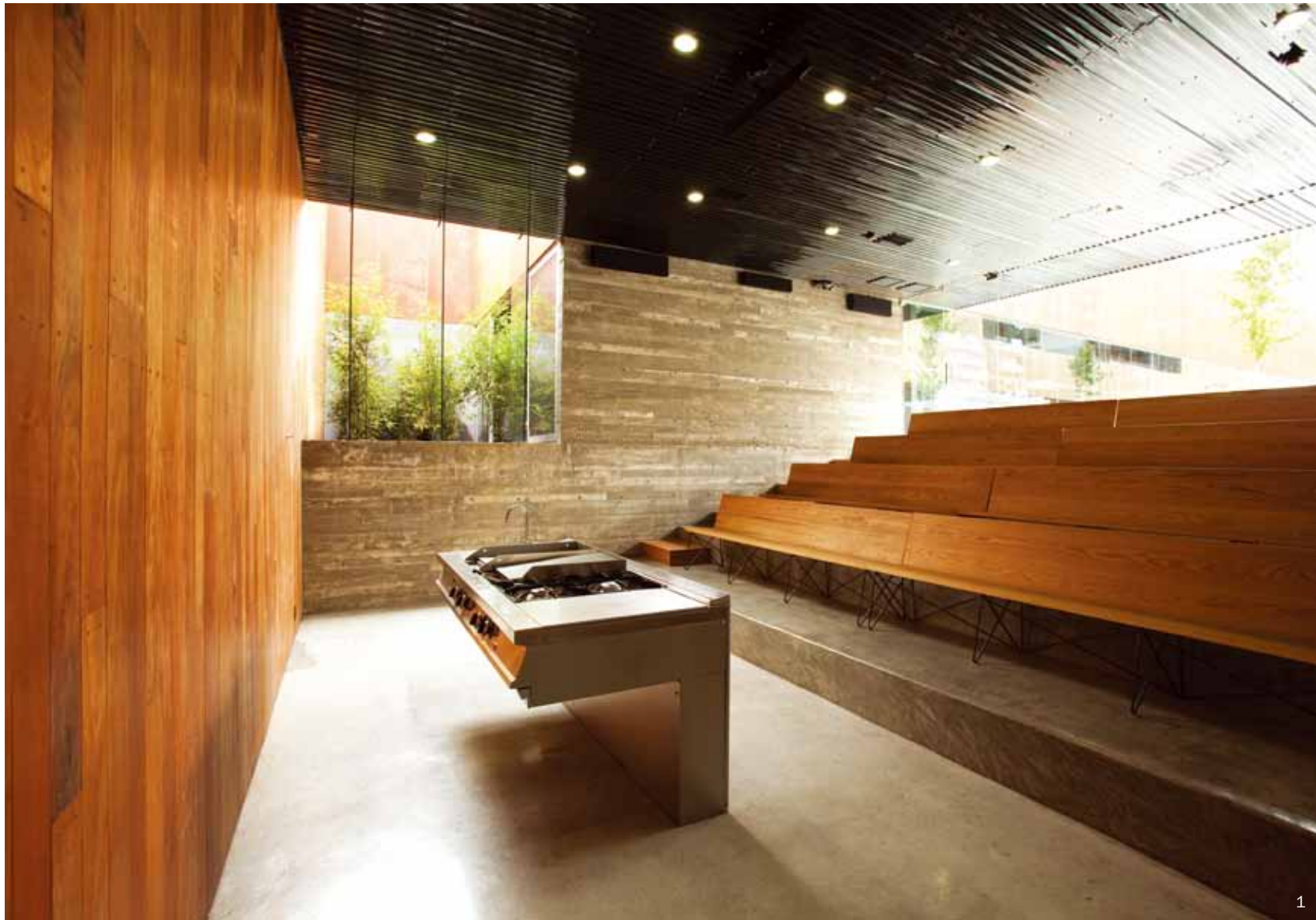
At a quick glance, any stranger would say anything but a professional cooking school is housed inside these two volumes, which function as the main characters, and where materials like exposed off-form concrete, corrugated steel, garapa wood, glass and metal structure are combined. The consistent use of these materials defines the purity and elegance of Culinary Art School, which embodies the beliefs of Gracia Studio. It is located on the last phase of a 30-year, three stage development in Tijuana, vacant lots surround the school, which is why the two main volumes face each other, creating a transition space: the grand plaza/courtyard, an interior pedestrian "street" that works as the perfect centerpiece between the two volumes.

The greater volume, lined with garapa wood on the upper level, and cast on-site concrete beneath, contains the administrative offices, classrooms, library, and the wine cellar. On the second main volume, covered with corten steel on top, and glass below, the cooking stations, with absolute transparency between them and the plaza, allowing physical and visual interaction among these characters, as well as with the other workshops: the architecture and interiors come together to create an environment that will inspire each and every student. "We are always in-between, inside and outside simultaneously", says Inés Moisset, an Argentinian writer; a third volume is involved, which accommodates the cafeteria and a small auditorium with concrete terraces, where the alumni and visitors are able to observe their professors' work.

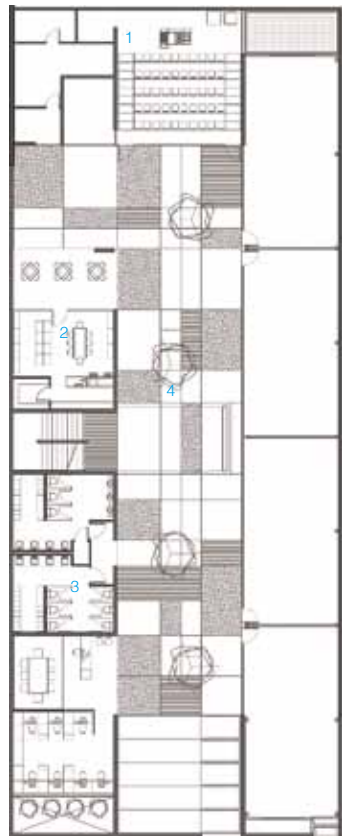


1. Night view of courtyard
2. Main entrance
3. Night view from the street
4. Courtyard between two blocks



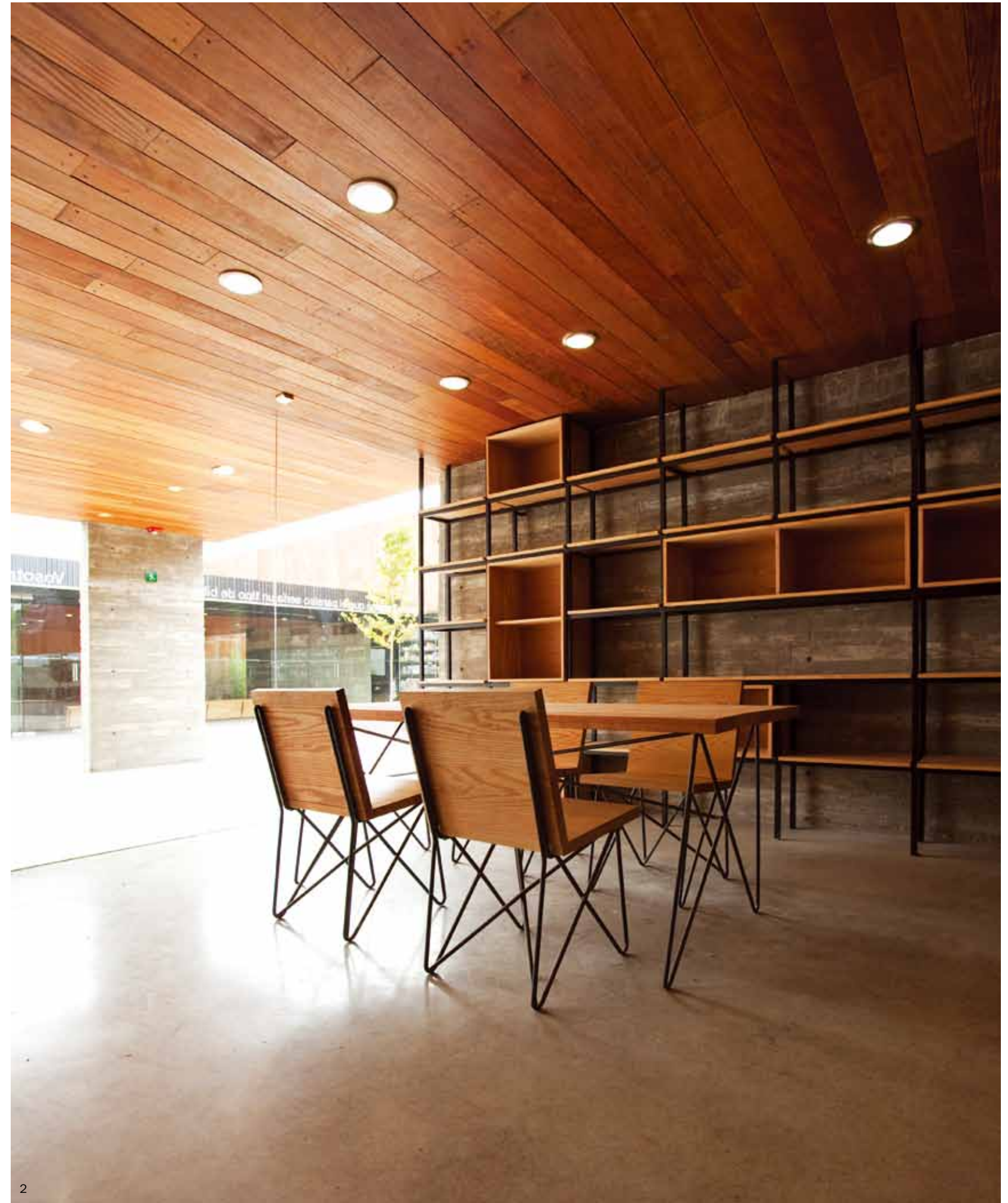


1



- 1. Event room
- 2. Study room
- 3. Bathroom
- 4. Courtyard

- 1. Small auditorium with concrete terraces
- 2. Study room



2

Easton Area Middle School

Designer: Spillman Farmer Architects **Location:** Easton, USA **Completion date:** 2008 **Photos©:** Steve Wolfe Photography **Area:** 33,630 square metres of new construction; 16,165 square metres of renovation



The Easton Area Middle School project focused on the substantial expansion of the existing middle school from 16,165 square metres to 51,002 square metres to house the education of over 3,000 students in grades five through eight.

In planning this expansion to meet the goals of the District, the architectural team created a campus that functioned as “schools within a school” in order to maintain the sense of community typical of smaller schools. The existing building was renovated for the fifth and sixth grades while the new addition was designed to meet the needs of grades seven and eight. Each school has its own entrance, administrative area, library, nurse, computer labs, music rooms, faculty areas, student dining areas, and physical education spaces. They share a new 1750-seat auditorium, a 3000-seat performance gymnasium, television studio, and kitchen facilities. These areas have been strategically planned to allow for classroom areas to be secured when public spaces, such as the auditorium or performance gymnasium, are used for evening events. A “light court” brings natural daylight into nearly every classroom.

The exterior of the new addition harmonises with the existing building while using design details to reduce the apparent mass of the substantial structure. The multi-storey addition is designed to take advantage of the natural slope of the land to reduce the perceived height of the building: on the south side, the building has two storeys but on the north side, following the downward slope of the landscape, it has three storeys. This strategy makes the south side, on which the main entrance is located, appear less massive. The south façade also curves gently (following the site’s natural contour), which reduces the visual length of the building by eliminating abrupt corners. Three main glass-walled stair towers are a cost-effective design element that also allows for ease of circulation and increases security. Glass-walled entrances welcome natural light in the daytime and allow the indoor lights to act as a beacon after dark, drawing visitors into the school.

1. Night view of overall building
2. Glass-walled stair towers

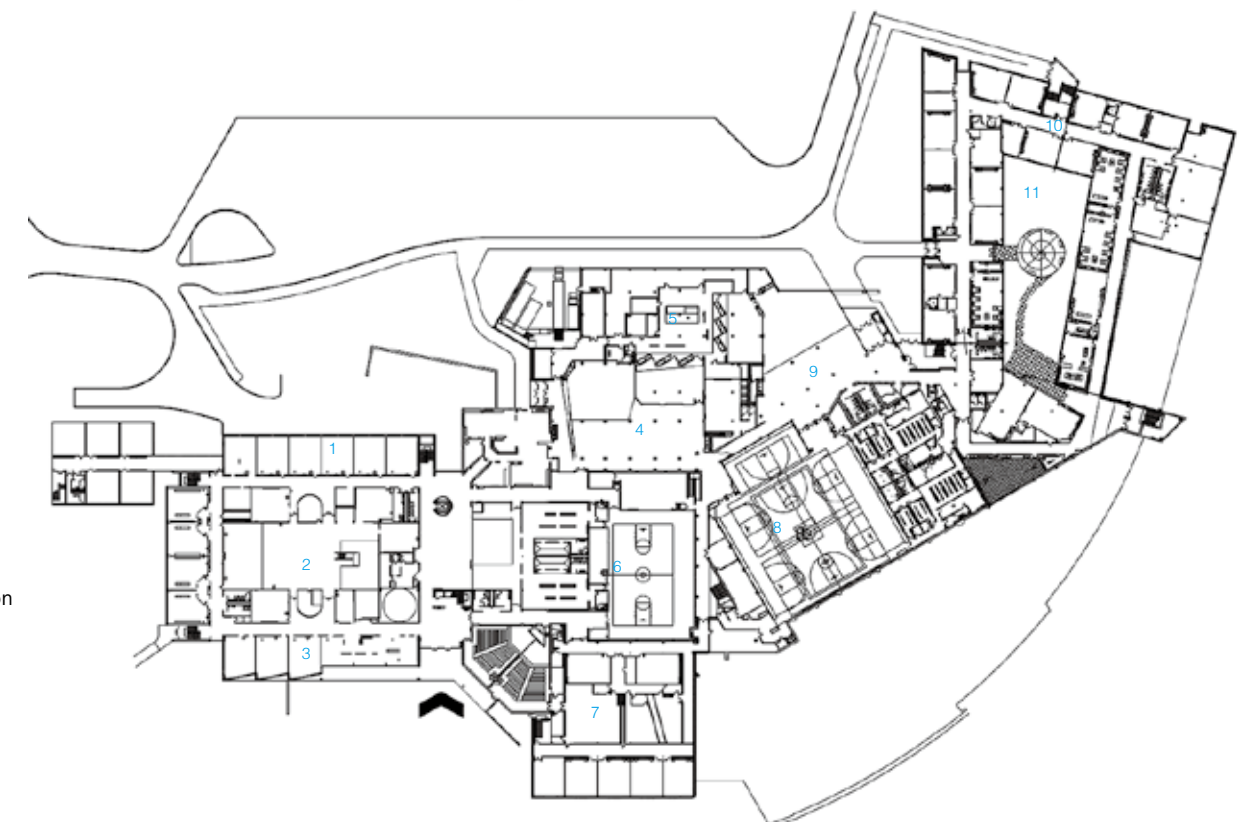




1



1. Main façade with school name
2. Building for grade seven to eight



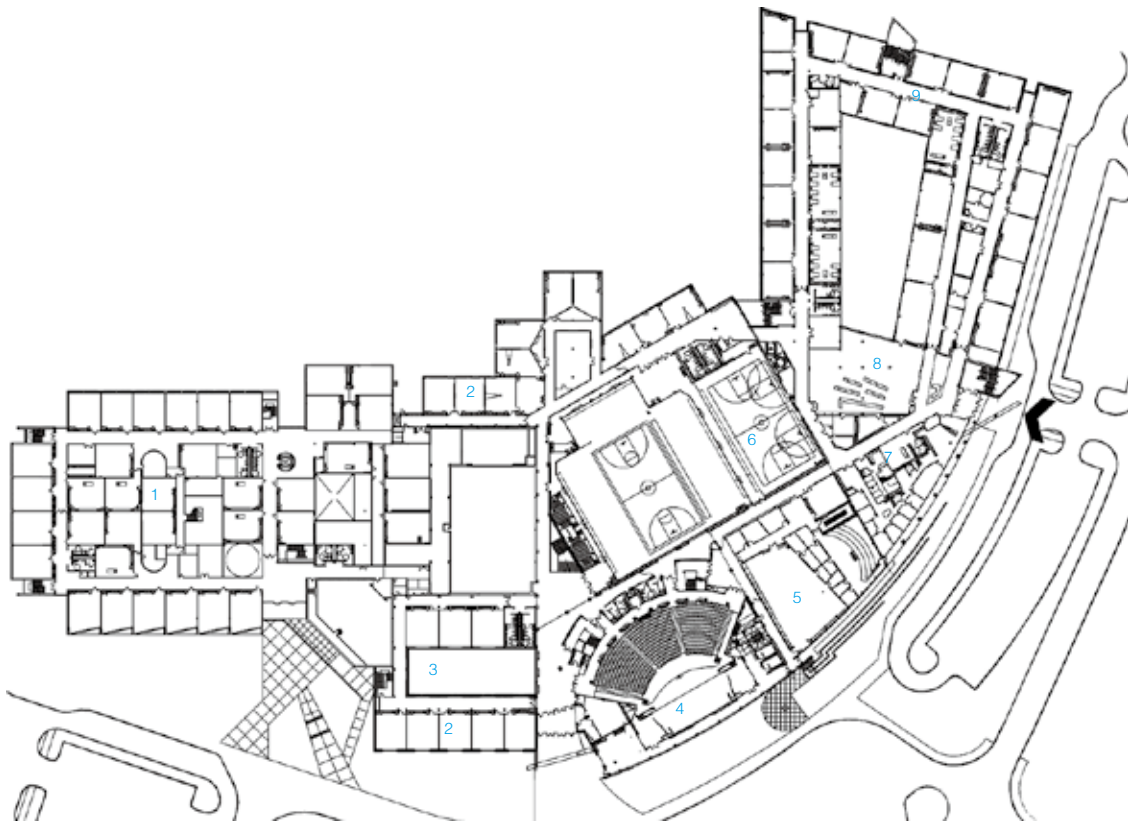
- Second level
- 1. 5th & 6th grade classrooms
 - 2. 5th & 6th grade library
 - 3. 5th & 6th grade administration
 - 4. 5th & 6th grade cafeteria
 - 5. Food service
 - 6. P.E. gymnasium
 - 7. Classrooms
 - 8. Main gymnasium
 - 9. 7th & 8th grade cageteria
 - 10. 7th & 8th grade classrooms
 - 11. Light court



1



2



- Third level
- 1. 5th & 6th grade classrooms
 - 2. Classrooms
 - 3. Light court
 - 4. Auditorium
 - 5. Music suite
 - 6. P.E. gymnasium
 - 7. 7th & 8th grade library
 - 8. 7th & 8th grade library
 - 9. 7th & 8th grade classrooms

- 1. Library and computer resource
- 2. Gymnasium
- 3. Auditorium



3

Lynnwood High School

Designer: Bassetti Architects **Location:** Bothell, USA **Completion date:** 2009 **Photos©:** Michael Cole

Construction area: 20,345 square metres

Awards: James D. MacConnell Award, Council of Educational Facility Planners, 2010

Polished Apple Merit Award, Council of Educational Facility Planners, 2010

Engineering Excellence Best in State Bronze Award, American Council of Engineering Companies, 2010

Energy Star Challenge, US Environmental Protection Agency, 2008

With a light imprint on the surrounding environment, a school is built to last and evolve to meet new learning, social and community demands.

It's lunchtime. Students emerge from numerous learning spaces into the Agora – the heart of Lynnwood High School. The grand Agora, Greek for “marketplace”, serves as a cafeteria, lobby, event space, performance venue and study hall. Most critically, it's where students, staff and community gather to socialise with friends, eat lunch, admire fresh bouquets from the Floral Shop or smell appetisers baking in the Food Lab.

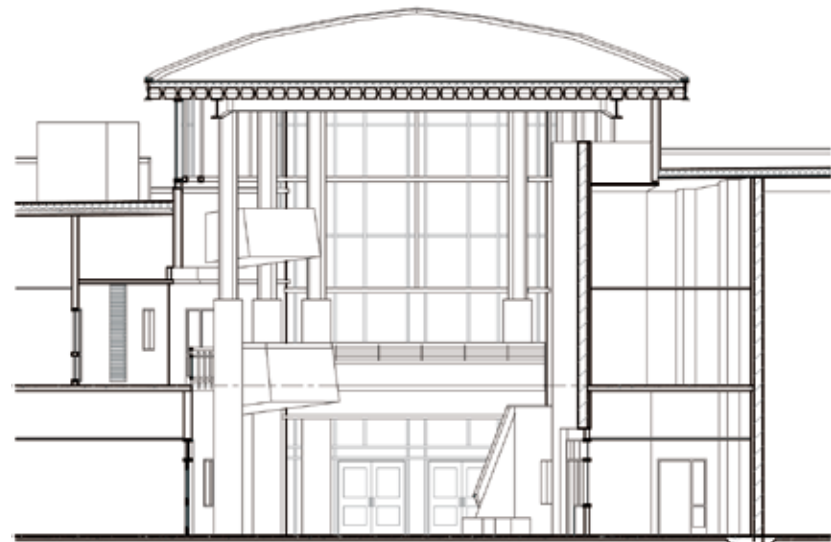
Standing outside his office, Principal Dave Golden surveys the room, bustling with activity, and says, “I can honestly say we've had fewer problems and fewer behaviour issues because of the Agora. The students can all see each other and be together.”

The Agora is an unencumbered rhythmic structure that serves as a central gathering space and community resource. An adaptable space, the Agora effortlessly handles the traffic flow of 1,600 students and addresses social interaction at multiple levels. The heart of the school supports Small Learning Communities and Career & Technical Education programme spaces, providing flexibility for independent and joint use. The school is designed to meet evolving educational demands and anticipates multiple organisational scenarios – from traditional departmental groupings, to exploratory theme based academies, and open plan individualised learning areas.

Situated adjacent to a wetland and protected by stands of mature Douglas-fir, Lynnwood High School is surrounded by outdoor learning spaces and athletic fields. The siting of the school was organised for supervision, ease of community access, traffic segregation and to support and preserve the wetland and creek along the western edge of the property. Generally, storm drainage from the building and fields is held in detention ponds and cleansed before being released into Martha Lake Creek. To enhance learning about site ecology, storm water collected on the roof of the Agora is visibly channeled through a decorative conductor and a series of runnels before discharging into the central wetland.

Sustainable design strategies played a seminal role in shaping the school. Embedded in the new school, they include energy efficiency, waste reduction, air quality, water quality, natural ventilation, day lighting and urban agriculture. Most of the green practices were made visible to students and community alike.

Lynnwood High School was a volunteer project for the Washington Sustainable Schools Protocol enacted so that public schools meet a level of sustainability equivalent to LEED Silver. The building was designed to exceed state energy code requirements by 50% and to attain an Energy Star Performance Rating of 91, placing it in the top 10% of energy efficient buildings nationwide.



1. Main road access to the school
2. View from the courtyard showing outdoor learning area
3. Main entrance

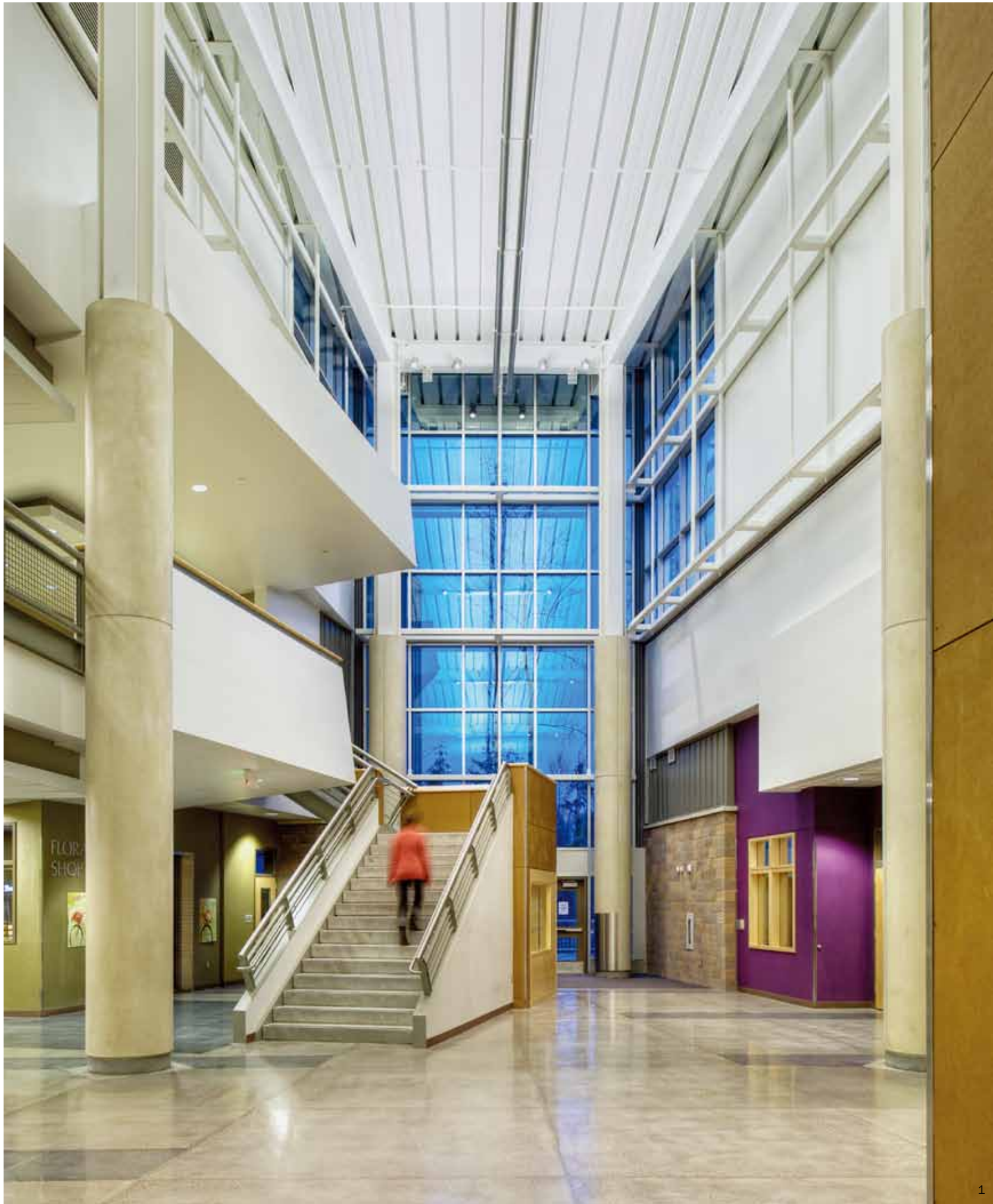




1. Courtyard connecting blocks
2. Side view of the building
3. Atrium



- 1. Biotechnology
- 2. Industrial design & construction tech
- 3. Business & marketing
- 4. Horticulture
- 5. Culinary arts
- 6. Classroom
- 7. Seminar
- 8. Flex area
- 9. Science lab
- 10. Teacher planning
- 11. Theater
- 12. Instrumental space
- 13. Choral
- 14. 2D art
- 15. 3D art



1



2

- 1. View from the lobby showing the stairs to upper floor
- 2. Corridor, also the gallery of the school
- 3. Foyer



3



1. Classroom
2. Communication area between classrooms
3. Theatre

Victorian College of the Arts Secondary School

Designer: WILLIAMS BOAG architects - WBa **Location:** Melbourne, Australia **Completion date:** 2009
Photos: © David Ascoli, Tony Miller **Site area:** 3,500 square metres

The Victorian College of the Arts Secondary School is a select entry government school, providing an internationally recognised specialist programme for training talented young dancers and musicians. Integral to this programme is the provision of a high quality academic education from Year 7 through to VCE. WBa were engaged by DEECD in October 2006 to design and document a new facility for the School in Miles Street Southbank. The new 5,460 square metres VCASS facility occupying the whole of its 3,500-square-metre site over two floors was completed in June 2009 and is among the most unique secondary school buildings in the world with its inner urban setting and specialist teaching facilities. These include tertiary institution quality Dance Studios with sprung floors and acoustically designed Music Practice and Ensemble Rooms. In addition the main Dance Studio and Recital Room double as performance spaces incorporating tiered seating for 205 and 130 people respectively. The school is organised about a central corridor over two levels with a skylight above, providing a central focussed activity zone and allowing natural light to penetrate the building interior. The major performance spaces and dance studios are large double height spaces, which are also provided with highlight windows.



1. Overall view of the building
2. Main entrance





1. Façade detail

2. West elevation alongside freeway off ramp



2



- | | | |
|-----------------------------|-------------------------|-------------------------|
| Ground floor pLan | 12. Principal | 24. Head dance office |
| 1. Entry | 13. Foyer/cafe | 25. Head music office |
| 2. Reception/administration | 14. Kitchen | 26. Dance office |
| 3. Business manager | 15. Dance studio | 27. Student manager |
| 4. Counselling interview | 16. Therapy | 28. Office |
| 5. Staff resource | 17. Male change | 29. Large recital |
| 6. Leading teachers office | 18. Female change | 30. Small recital |
| 7. Sick bay | 19. Drama | 31. Practice room |
| 8. Staff workspace | 20. Ensemble percussion | 32. Light court |
| 9. Staff lounge | 21. Harp room | 33. Loading bay |
| 10. Assistant principal | 22. Music technology | 34. Ensemble brass |
| 11. Conference | 23. Music office | 35. Ensemble (improv.2) |



1



2



3

- 1. Internal street/atrium
- 2. Rear stairs & light court
- 3. Corridor and circulation
- 4. Library entry



4



1



2



3

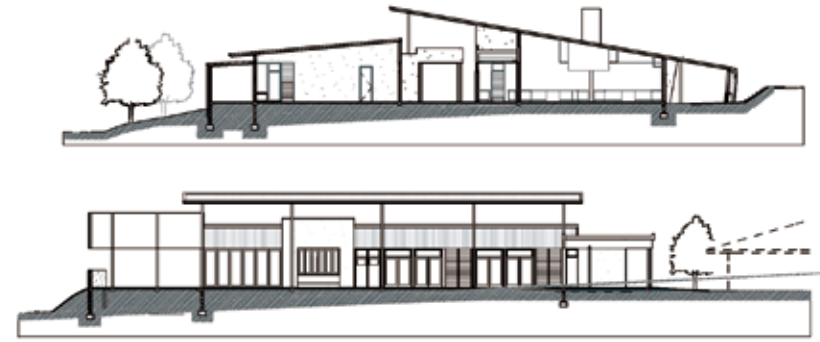
- 1. 2. Dance studio
- 3. Larger recital
- 4. Auditorium (dance)



4

The Enterprise Centre

Designer: Lightwave Architectural/Mark Walsh, Chris Collier **Location:** Queensland, Australia **Completion date:** 2009 **Photos©:** Amanda Briggs **Site area:** 7,096 square metres



The tight site and strict budget required careful consideration to the built form and the complex function of the development. Seeing a lack of public involvement with the school, the Enterprise Centre was to perform several functions. Firstly it was to act as the school's home economics block with a fully functioning commercial quality kitchen. Secondly, the attached classrooms were to allow business training to work with the kitchen to provide a complete package of hospitality operations for students and public training.

Afforded a separate street frontage to the school, the Enterprise Centre was given its own identity and public face for training, conferences and a fully operational restaurant. The kitchens and classrooms were split to create two buildings with one large roof extension covering the internal space. This active spine connects the street and the school to create both the main entrance and gathering/dining space.

The main roof falls towards the primary street frontage to reduce the scale of the project in the residential area. The true nature and size of the development is subtly revealed as one approaches the entry on the secondary street.

The project needed to be adaptable to serve a number of purposes. The separation of the core functions into two distinct buildings utilises the "in between" as entry, undercover gathering, alfresco dining, and spill out from the business/classrooms. The classrooms are separated by operable walls, allowing them to open up for dining rooms for the restaurant or as a function centre.

The front room has a wall of glass facing the street to display the inner workings of the centre publicly and open to the north. Additional openings extend the classroom/dining space into the central alfresco dining. The main roof opens up to the east to catch the predominant breezes. The north facing entry and feature "stern" filter the northern sun and flood the central space with natural daylight. The hub of the centre, the alfresco area, is sheltered by the two buildings while the openings at each end and promotes cooling breezes. Extensive louvers and high level openings encourage cross ventilation. The final design needed to serve the schools multi-faceted requirements while satisfying strict DETA guidelines in both built form and functionality, which were often conflicting ideals. Careful planning and rationalisation about spaces and relationship to the school enabled all parties to be more than satisfied with the final outcome. The value adding of the central core enhanced the school's initial brief by adding further options to the use of the building.

1. Main entrance
2. Façade viewed from courtyard





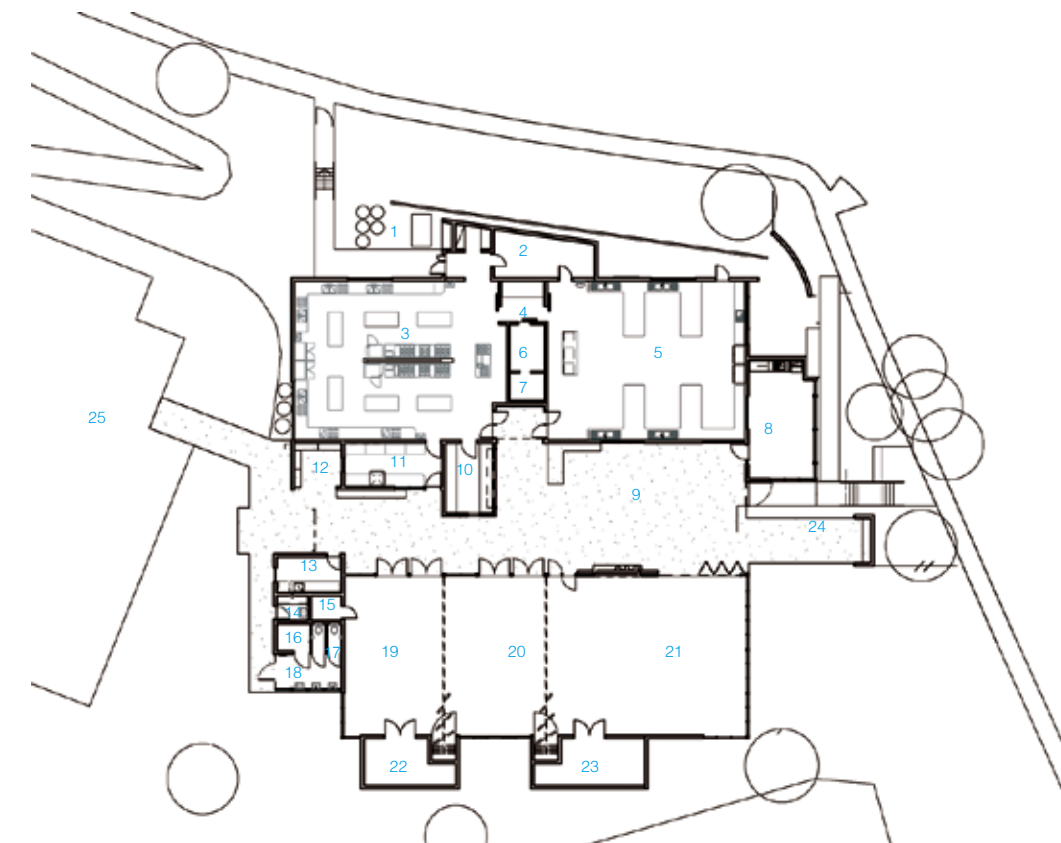
1. Side view of façade
 2. Access to the entrance
 3. Airconditioning services



2



3



- 1. Loading dock
- 2. Dry store
- 3. Commercial kitchen
- 4. Equipment store
- 5. Kitchen 2
- 6. Cold store
- 7. Freezer
- 8. Staff reception
- 9. Alfresco area
- 10. Servery
- 11. Scullery
- 12. Bag store
- 13. Laundry
- 14. Cleaners area
- 15. Data/communication area
- 16. Disabled water closet
- 17. Water closet
- 18. Washroom
- 19. Classroom
- 20. Classroom
- 21. Dining/classroom
- 22. Store 1
- 23. Store 2
- 24. Stern
- 25. Existing building



1



3



2

- 1. Dining area/classroom
- 2. Kitchen servery
- 3. Restaurant



1



2

1. Kitchen
2. Combined function rooms and classrooms

YRF English Studies Building for Children

Designer: Ron Fleisher Architects **Location:** Ramla, Israel **Completion date:** 2010 **Photos©:** Shai Epshtein
Area: 540 square metres

The English language is a crucial tool for social mobility. Reinforcement of English studies opens up endless opportunities and changes the self-perception and ability of being an active individual in the society. YRF is an American fund with goals that made the English studies periphery in Israeli. Ramla is a diverse city which inhabits Muslims, Christians and Jews, and newcomers from Ethiopia and ex-USSR. Thus Ramla is a natural environment for YRF to integrate in. In 2008 the YRF foundation contacted the firm and asked to provide architectural model for an English centre in Ramla. The main challenge was to produce a plan that reflects the YRF's special approach to English studies. The children of the 21st century are exposed to intensive stimulations. The traditional educational methods aren't satisfying as a significant alternative for contemporary communication. The educational act needs a space for a new learning experience. The new building for English studies realises those ideas. There are no classrooms in the building. It consists of several spaces that encourage interactions and conversations between the children and between the children and the staff. The building is divided to two floors, in each floor there are three activity areas. The ground floor is dedicated to elementary school aged children and the first floor to high school aged students. In both floors an audio-video room and a multifunctional space that occupies half of the floor. The third room is an art workshop in the ground floor, and a lounge in the first floor.

The designers reinterpret the American concept of education institution, a neo-classical portico. The building as a whole is an outdoor-indoor study environment. The white fold wraps the environment that the designer created and floats above it providing shade in the hot middle-eastern climate. Working in a tight budget led the designers to the very basics of architecture: white plastered walls, bare concrete and clear glass. The combination of the three elements created architecture which is innovative and local.



3

1. Main entrance
2. Columns with courtyard
3. Front façade
4. Overall view of the building



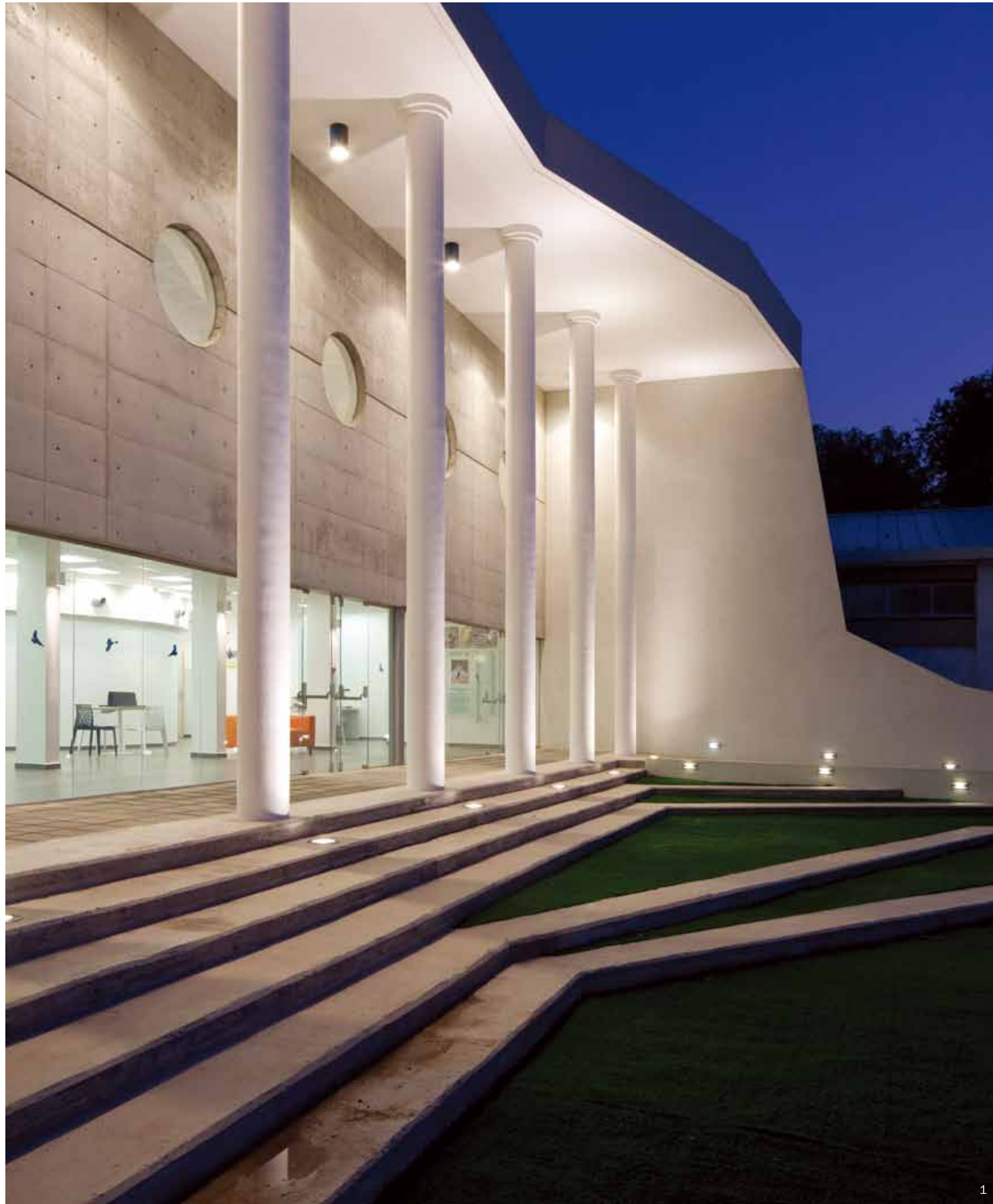
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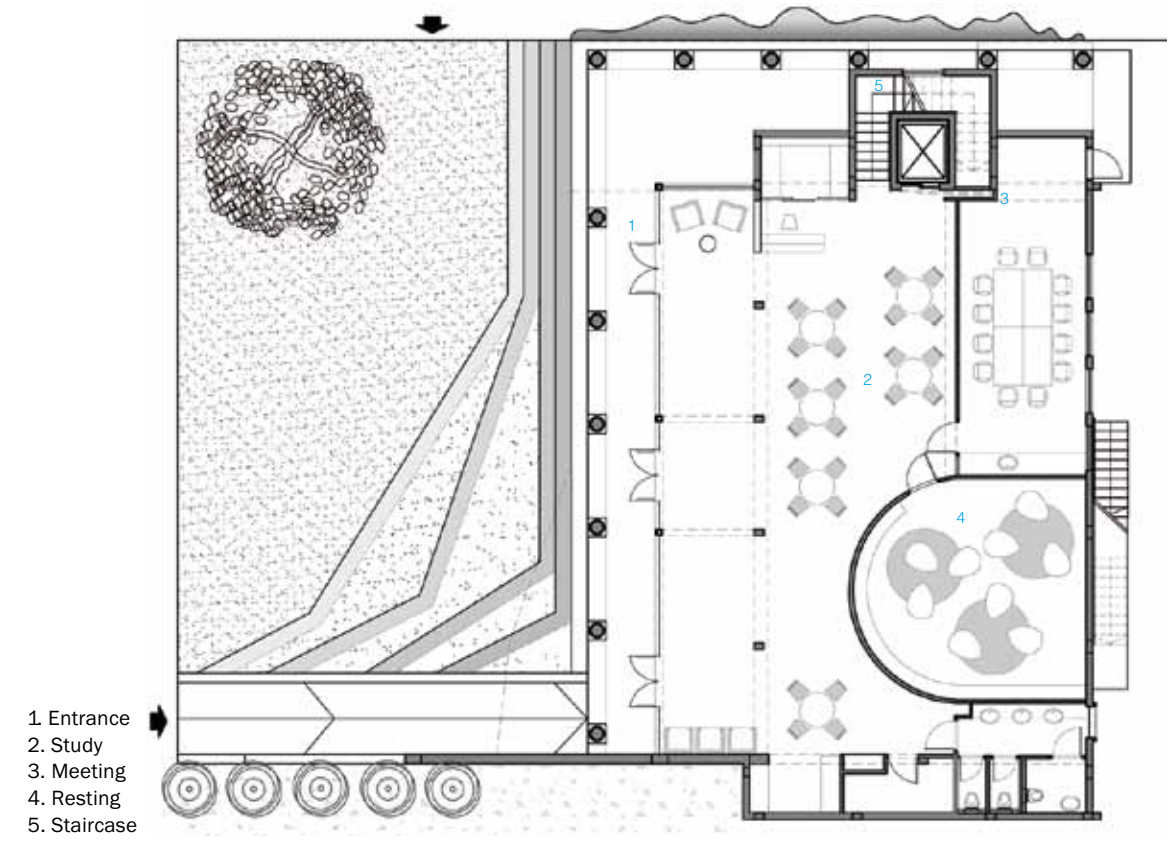


2



3

- 1. Night, view showing façade detail
- 2. Porch
- 3. View showing the ground floor



- 1. Entrance
- 2. Study
- 3. Meeting
- 4. Resting
- 5. Staircase



1



2

1. Entrance lobby and lounge
2. Classroom

Appendix

**COLORADO DEPARTMENT OF EDUCATION
DIVISION OF PUBLIC SCHOOL CAPITAL CONSTRUCTION ASSISTANCE**

1 CCR 303(1)

**CAPITAL CONSTRUCTION ASSISTANCE PUBLIC SCHOOLS FACILITY
CONSTRUCTION GUIDELINES**

Authority

§ 22-43.7-106(2)(i)(I) C.R.S., the Capital Construction Assistance Board (Assistance Board) may promulgate rules, in accordance with Article 4 of Title 24, C.R.S., as are necessary and proper for the administration of the BEST Act. The Assistance Board is directed to establish Public School Facility Construction Guidelines in rule pursuant to §22-43.7-107(1)(a), C.R.S.

Scope and Purpose

§ 22-43.7-106(1)(a) C.R.S., the Assistance Board shall establish Public School Facility Construction Guidelines for use by the Assistance Board in assessing and prioritizing public school capital construction needs throughout the State pursuant to § 22-43.7-108 C.R.S., reviewing applications for financial assistance, and making recommendations to the Colorado State Board of Education (State Board) regarding appropriate allocation of awards of financial assistance from the assistance fund only to applicants. The Assistance Board shall establish the guidelines in rules promulgated in accordance with Article 4 of Title 24, C.R.S.

1 Preface

1.1 The Colorado Public School Facility Construction Guidelines were established as a result of House Bill 08-1335 which was passed by the General Assembly of the State of Colorado, signed by the Governor and became law in 2008. This Bill requires the Assistance Board to develop Construction Guidelines to be used by the Assistance Board in assessing and prioritizing public school capital construction needs throughout the state, reviewing applications for financial assistance, and making recommendations to the State Board regarding appropriate allocations of awards of financial assistance from the Public School Capital Construction Assistance Fund.

1.2. These Guidelines are not mandatory standards to be imposed on school districts, charter schools, institute charter schools, the boards of cooperative services or the Colorado School for the Deaf and Blind. As required by statute, the Guidelines address:

Health and safety issues, including security needs and all applicable health, safety and environmental codes and standards as required by state and federal law;

Technology, including but not limited to telecommunications and internet connectivity technology and technology for individual student learning and classroom instruction;

1.2.3. Building site requirements;

1.2.4. Building performance standards and guidelines for green building and energy efficiency;

Functionality of existing and planned public school facilities for core educational programs, particularly those educational programs for which the State Board has adopted state model content standards;

Capacity of existing and planned public school facilities, taking into consideration potential expansion of services and programs;

1.2.7. Public school facility accessibility; and

The historic significance of existing public school facilities and their potential to meet current programming needs by rehabilitating such facilities.

Mission Statement

2.1 The “Colorado public school facility construction guidelines” shall be used to assess and prioritize public schools capital construction needs throughout the state, review applications for financial assistance, make recommendations to the State Board regarding appropriate allocations of awards of financial assistance from the Public School Capital Construction Assistance Fund, and help ensure that awarded grant moneys will be used to accomplish viable top priority construction projects.

2. SECTION ONE - Promote safe and healthy facilities that protect all building occupants against life safety and health threats, are in conformance with all applicable Local, State and Federal, codes, laws and regulations and provide accessible facilities for the handicapped and disabled as follows:

3.1 Sound building structural systems. Each building should be constructed and maintained with a sound structural foundation, floor, wall and roof systems. Local snow, wind exposure, seismic, along with pertaining importance factors shall be considered.

3.2. A weather-tight roof that drains water positively off the roof and discharges the water off and away from the building. All roofs shall be installed by a qualified contractor approved by the roofing manufacturer to install the specified roof system and shall receive the specified warranty upon completion of the roof. The National Roofing Contractors Association (NRCA) divides roofing into two generic classifications: low-slope roofing and steep-slope roofing. Low-slope roofing includes water impermeable, or weatherproof types of roof membranes installed on slopes of less than or equal to 3:12 (fourteen degrees). Steep slope roofing includes water-shedding types of roof coverings installed on slopes exceeding 3:12 (fourteen degrees);

3.2.1 Low-slope roofing:

3.2.1.1 Built-up-Roofing (BUR);

3.2.1.2. Ethylene Propylene Diene Monomer (EPDM);

3.2.1.3. Poly Vinyl Chloride (PVC);

3.2.1.4. Co-Polymer Alloy (CPA);

3.2.1.5. Thermal Polyolefin (TPO);

3.2.1.6. Metal panel roof systems for low slope applications;

3.2.1.7. Polymer-modified bitumen sheet membranes;

3.2.1.8. Spray polyurethane foam based roofing systems (SPF) and applied coatings;

3.2.1.9. Restorative coatings.

3.2.2. Steep slope roofing systems:

3.2.2.1 Asphalt shingles;

3.2.2.2. Clay tile and concrete tile;

3.2.2.3. Metal roof systems for steep-slope applications;

3.2.2.4. Slate;

3.2.2.5. Wood shakes and wood shingles;

3.2.2.6. Synthetic shingles;

3.2.2.7. Restorative coatings.

3.3. A continuous and unobstructed path of egress from any point in the school that provides an accessible route to an area of refuge, a horizontal exit, or public way. Doors shall open in the direction of the path of egress, have panic hardware when required, and be constructed with fire rated corridors and area separation walls as determined by a Facility Code Analysis. The Facility Code Analysis shall address, at a minimum, building use and occupancy classification, building type of construction, building area

separation zones, number of allowed floors, number of required exits, occupant load, required areas of refuge and required fire resistive construction.

3.4. A potable water source and supply system complying with 5CCR 1003-1 "Colorado Primary Drinking Water Regulations" providing quality water as required by the Colorado Department of Public Health and Environment. Water quality shall be maintained and treated to reduce water for calcium, alkalinity, Ph, nitrates, bacteria, and temperature (reference, Colorado Primary Drinking Water Act and EPA Safe Water Drinking Act). The water supply system shall deliver water at a minimum normal operating pressure of 20 psi and a maximum of 100 psi to all plumbing fixtures. Independent systems and wells shall be protected from unauthorized access.

3.5. A building fire alarm and duress notification system in all school facilities designed in accordance with State and Local fire department requirements. Exceptions include unoccupied very small single story buildings, sheds and temporary facilities where code required systems are not mandatory and the occupancy does not warrant a system.

3.6. Facilities with safely managed hazardous materials such as asbestos found in Vinyl Asbestos Tile and mastic, acoustical and thermal insulation, window caulking, pipe wrap, roofing, ceiling tiles, plaster, lead paint and other building materials. Public schools shall comply with all AHERA criteria and develop, maintain and update an asbestos management plan kept on record at the school district.

3.7. Facilities equipped with closed circuit video and keycard or keypad building access.

3.8. An Event Alerting and Notification system (EAN) utilizing an intercom/phone system with communication devices located in all classrooms and throughout the school to provide efficient inter-school communications and communicate with local fire, police and medical agencies during emergency situations.

3.9. Secured facilities including a main entrance and signage directing visitors to the main entrance door. The main entrance walking traffic should flow past the main office area and be visibly monitored from the office either directly or via a video camera system. All other exterior entrances shall be locked and have controlled access. Interior classroom doors shall have locking hardware for lock downs and may have door sidelights or door vision glass that allow line of sight into the corridors during emergencies.

3.10. Safe and secure electrical service and distribution systems designed and installed to meet all applicable State and Federal codes. The electrical system shall provide artificial lighting in compliance with The Illumination Engineering Society of North America (IESNA) for educational facilities RP-3-00. Emergency lighting shall be available when normal lighting systems fail and in locations necessary for orderly egress from the building in an emergency situation as required by electrical code.

3.10.1 The material hereby incorporated by reference in these rules is the "RP-3-00, Recommended Practice on Lighting for Educational Facilities" produced by The Illumination Engineering Society of North America (IESNA). 2005 Update.

3.10.2. Later Amendments to the "RP-3-00, Recommended Practice on Lighting for Educational Facilities" are excluded from these rules.

3.10.3. The Director of the Division of Public School Capital Construction Assistance, 1525 Sherman St. Denver, Colorado will provide information regarding how the "RP-3-00, Recommended Practice on Lighting for Educational Facilities" may be obtained or examined.

3.10.4. A copy of "RP-3-00, Recommended Practice on Lighting for Educational Facilities" may be examined at any state publications depository library.

3.11 A safe and efficient mechanical system that provides proper ventilation, and maintains the building temperature and relative humidity in accordance with the most current version of ASHRAE 55. The mechanical system shall be designed, maintained and installed utilizing current State and Federal building codes.

3.11.1 The material hereby incorporated by reference in these rules is the "Thermal Environmental Conditions for Human Occupancy (ASHRAE Standard 55)" produced by the American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc. 1995 Update.

3.11.2. Later Amendments to the “Thermal Environmental Conditions for Human Occupancy (ASHRAE Standard 55)” are excluded from these rules.

3.11.3. The Director of the Division of Public School Capital Construction Assistance, 1525 Sherman St. Denver, Colorado will provide information regarding how the “Thermal Environmental Conditions for Human Occupancy (ASHRAE Standard 55)” may be obtained or examined.

3.11.4. A copy of “Thermal Environmental Conditions for Human Occupancy (ASHRAE Standard 55)” may be examined at any state publications depository library.

3.12. Healthy building indoor air quality (IAQ) through the use of the mechanical HVAC systems or operable windows and by reducing outside air and water infiltration with a tight building envelope.

3.13. Sanitary school facilities that comply with Colorado Department of Public Health and Environment, Consumer protection Division, 6 CCR 1010-6 “Rules and Regulations Governing Schools.”

3.14. Food preparation and associated facilities equipped and maintained to provide sanitary facilities for the preparation, distribution, and storage of food as required by Colorado Retail Food Establishment Rules and Regulations 6 CCR 1010-2.

3.15. Safe laboratories, shops and other areas storing paints or chemicals that complying with CDPHE 6CCR 1010-6 “Rules Governing Schools.”

3.15.1 In laboratories, shops, and art rooms where toxic or hazardous chemicals, hazardous devices, or hazardous equipment are stored, all hazardous materials shall be stored in approved containers and stored in ventilated, locked, fire resistive areas or cabinets. Where an open flame is used, an easily accessible fire blanket and extinguisher must be provided. Fire extinguishers shall be inspected annually. Where there is exposure to skin contamination with poisonous, infectious, or irritating materials, an easily accessible eyewash fountain/shower along with an independent hand washing sink must be provided. The eyewash station must be clean and tested annually. Master gas valves and electric shut-off switches shall be provided for each laboratory, shop or other similar areas where power or gas equipment is used;

3.15.2. All facility maintenance supplies, e.g. cleaning supplies, paints, fertilizer, pesticides and other chemicals required to maintain the school shall be stored in approved containers and stored in ventilated, locked and fire resistive rooms or cabinets.

3.16. A separate emergency care room or emergency care area shall be provided. This room shall have a dedicated bathroom, and shall be used in providing care for persons who are ill, infested with parasites, or suspected of having communicable diseases. Every emergency care room or area shall be provided with at least one cot for each 400 students, or part thereof, and be equipped with a locking cabinet for prescriptions and first aid supplies.

3.17. A facility that complies with the American Disabilities Act (ADA) providing accessibility to physically disabled persons.

3.18. A site that safely separates pedestrian and vehicular traffic and is laid out with the following criteria:

3.18.1 Physical routes for basic modes (busses, cars, pedestrians, and bicycles) of traffic should be separated as much as possible from each other. If schools are located on busy streets and/or high traffic intersections, coordinate with the applicable municipality or county to provide for adequate signage, traffic lights, and crosswalk signals to assist school traffic in entering the regular traffic flow. This effort should include planning dedicated turn lanes;

3.18.2. When possible, provide a dedicated bus staging and unloading area located away from students, staff, and visitor parking. Curbs at bus and vehicle drop-off and pick-up locations shall be raised a minimum of six inches above the pavement level and be painted yellow. Provide ‘Busses Only’ and ‘No entry Signs’ at the ends of the bus loop;

3.18.3. Provide an adequate driveway zone for stacking cars on site for parent drop-off/pick-up zones. Drop-off area design should not require backward movement by vehicles and be one-way in a counterclockwise direction where students are loaded and unloaded directly to the curb/sidewalk. Do not load or unload students where they have to cross a vehicle path before entering the

building. It is recommended all loading areas have “No Parking” signs posted;

3.18.4. Solid surfaced staff, student, and visitor parking spaces should be identified at locations near the building entrance and past the student loading area;

3.18.5. Provide well-maintained sidewalks and a designated safe path leading to the school entrance. Create paved student queuing areas at major crossings and paint sidewalk “stand-back lines” to show where to stand while waiting. Except at pick-up locations, sidewalks shall be kept a minimum of five feet away from roadways. There should be well-maintained sidewalks that are a minimum of eight feet wide leading to the school and circulating around the school;

3.18.6. Building service loading areas and docks should be independent from other traffic and pedestrian crosswalks. If possible, loading areas shall be located away from school pedestrian entries;

3.18.7. Facilities should provide for bicycle access and storage;

3.18.8. Fire lanes shall have red markings and “no parking” signs posted;

3.18.9. Consider restricting vehicle access at school entrances with bollards or other means to restrict vehicles from driving through the entry into the school.

3.19. A safe and secure site with outdoor facilities for students, staff, parents, and the community, based on the following criteria;

3.19.1 New school sites should be selected that are not adjacent or close to hazardous waste disposal sites, industrial manufacturing plants, gas wells, railroad tracks, major highways, liquor stores or other adult establishments, landfills, waste water treatment plants, chemical plants, electrical power stations and power easements, or other uses that would cause safety or health issues to the inhabitants of the school. Consider fencing around the perimeter of the school sites with gates to control access. Gates shall have the capability to be locked to restrict access if desired;

3.19.2. When possible, arrange site, landscaping, playgrounds, sports fields and parking to create clear lines of site from a single vantage point. Keep shrubbery trimmed so that it will not conceal people;

3.19.3. Locate site utilities away from the main school entrance and student playgrounds and sports fields whenever possible. Electric service equipment, gas meters and private water wells shall have fenced in cages to restrict access to unauthorized persons. Propane (LPG) tanks shall be installed in accordance with building and fire codes;

3.19.4. Access to building roofs shall be secured to restrict access;

3.19.5. Exterior buildings and walkways shall be lighted to protect and guide occupants during evening use of the school facility;

3.19.6. Playgrounds shall be protected by adequate fencing from other exposures such as ball fields, where injuries could occur due to flying balls. Play equipment shall be installed pursuant to the manufactures specifications and current industry safety and State of Colorado Insurance pool requirements. Provide play equipment that complies with the Americans with Disabilities Act. All playground equipment shall be purchased from an International Playground Equipment Manufacturers Association (IPEMA) certified playground equipment manufacturer with adequate product liability insurance. Each piece of equipment purchased shall have an IPEMA certification. Provide a firm, stable, slip-resistant, and resilient soft surface under and around the play equipment.

4. SECTION TWO - School facility programming and decision-making should be approached holistically involving all community stakeholders taking into consideration local ideals, input, needs and desires. Facilities will assist school districts, charter schools, institute charter schools, boards of cooperative services and the Colorado School for the Deaf and Blind to meet or exceed state model content standards by promoting “learning environments” conducive to performance excellence with technology that supports communities, families and students and provides the following:

4.1 Elementary, middle, high and PK-12 schools built with high quality, durable, easily maintainable building materials and finishes.

4.2. Educational facilities that accommodate the Colorado Achievement Plan for Kids (Cap4K), No Child Left Behind Act (NCLB) and the State Board's model content standards.

4.3. Educational facilities for individual student learning and classroom instruction, connected to the Colorado institutions of higher education distant learning networks "internet two", with technology embedded into school facilities; embedded technology to provide adequate voice, data, and video communications in accordance with the Building Industry Consulting Services International's (BICSI) Telecommunications Distribution Methods Manual (TDMM).

4.3.1 The material hereby incorporated by reference in these rules is the "Telecommunications Distribution Methods Manual (TDMM)" produced by Building Industry Consulting Services International (BICSI), 11th edition.

4.3.2. Later Amendments to the "Telecommunications Distribution Methods Manual (TDMM)" are excluded from these rules.

4.3.3. The Director of the Division of Public School Capital Construction Assistance, 1525 Sherman St. Denver, Colorado will provide information regarding how the "Telecommunications Distribution Methods Manual (TDMM)" may be obtained or examined.

4.3.4. A copy of "Telecommunications Distribution Methods Manual (TDMM)" may be examined at any state publications depository library.

4.4. School administrative offices should be provided with the technological hardware and software that provides control of web-based activity access throughout the facility; e-mail for staff; a school-wide telephone system with voicemail, a district hosted web site with secure parent online access linked to attendance and grade books.

4.5. Administrative software should include: Individual Educational Programs (IEP), Individual Learning Programs (ILP), Personal Learning Plans (PLP), sports eligibility records, immunization and health service management records, discipline and behavior records, transcripts, food services information, library resource management information, and assessment analysis management records.

4.6. The facility should be protected to maintain business continuity with emergency power backup, redundant A/C for data centers and data backup systems. Off site hosting of critical data to protect against loss of data should be explored;

4.7. School sites that meet the recommended school facility site size guidelines below. New school sites should take into consideration: topography, vehicle access, soil characteristics, site utilities, site preparation, easements/rights of way, environmental restrictions, and aesthetic considerations. Site size guidelines may vary based on local requirements, athletic programming or desired alternate planning models. Site requirements may differ for urban public schools with limited space. Local school site size guidelines will be followed in acquiring and developing school sites. If such guidelines are not provided in board policy and regulations, site criteria provided in paragraphs 3.18 and 3.19 shall be considered;

4.8. Elementary, middle, high, and PK-12 buildings that functionally meet the recommended educational programming set forth below, are not over capacity, and are located in permanent buildings. Each facility should have the potential, or be planned for, expansion of services for the benefit of the students for programs such as full-day kindergarten and preschool, and school based health services.

4.9. The Assistance Board recognizes that due to local educational programming, individual public school facilities may not include all items following in this section.

4.10. Elementary schools (grades PK-5) shall provide exciting learning environments for children along with associated teaching and administrative support areas. When possible, daylight with views shall be incorporated in all learning areas to supplement well-designed task oriented artificial lighting. Acoustical materials to reduce ambient noise levels and minimize transfer of noise between classrooms, corridors, and other learning areas should be utilized to create a learning environment that focuses the student's attention. The following uses should be incorporated in elementary educational facilities:

4.10.1 Depending on community needs and desires, public schools should consider sites that include playfields, age appropriate equipment, gardens, trees, non-traditional play features, shade structures, and a gateway to the community. The

objectives of the play areas include: reducing discipline issues on school grounds, providing better physical education and resources for outdoor classroom projects, establishing a gathering place for neighborhood families, and strengthening community-school partnerships;

4.10.2. Preschool and kindergarten classrooms with dedicated bathrooms. Suggested kindergarten classroom sizes range from 1000-1200 square feet;

4.10.3. Special education classroom;

4.10.4. Special program room;

4.10.5. Classrooms should accommodate a maximum of up to 25 students and provide 35 square feet/student with a minimum classroom size of 600 square feet. Ceiling heights in classrooms should not be lower than nine feet. The ideal classroom is rectangular in shape with the long axis 1.33 times longer than the short axis. Classrooms should have a source of natural light with a view, have conditioned well ventilated air, and provide all the necessary equipment, technology infrastructure, and storage to support the intended educational program;

4.10.6. Band/vocal music room with high ceilings, and acoustical wall coverings;

4.10.7. Art room with ample storage cabinets and counter sinks. Finish materials in art classrooms shall be smooth, cleanable and nonabsorbent;

4.10.8. Beginning computer lab with computer work stations or computer carts utilizing wireless connections whenever possible;

4.10.9. Library/multimedia center (LMC) should be the heart of the school, providing a flexible space for students, staff, and parents to read, write and draw. If possible the space should be designed with high ceilings, and exposed building structure and materials. The space should have abundant natural light, as well as well-designed artificial task lighting. Window shades should be incorporated to accommodate the use of audio visual equipment requiring darker environments;

4.10.10. Commercial kitchen, with cooking and refrigeration equipment, dry storage, and ware washing area unless food is prepared and delivered from another location;

4.10.11. Cafeteria/multipurpose room to support the school and community. Ceiling heights shall be higher in these areas and daylight shall be incorporated. A tiered stage for school productions shall be included. The tiered stage shall be provided with basic theatrical lighting and sound systems;

4.10.12. Small gym with basketball court, volleyball sleeves and standards, safety wall wainscoting and fiberglass adjustable basketball backstops;

4.10.13. Administrative offices, nursing area, bathrooms, conference, reception, and building support areas to accommodate the educational program.

4.11 Middle schools (grades 6-8). When possible daylight with views shall be incorporated in all learning areas to supplement well-designed task oriented artificial lighting. The facilities should be designed to provide a vibrant, cheerful, learning environment for students and scaled for teenage occupancy. Acoustical materials to reduce ambient noise levels and minimize transfer of noise between classrooms, corridors and other learning areas will create a learning environment that focuses the student's attention. The following uses should be incorporated in middle school educational facilities:

4.11.1 Based on local needs and desires, sports fields should be considered that include age appropriate equipment, gardens, shade structures and a gateway to the community. The objectives of the sports areas include: reducing discipline issues on school grounds, providing better physical education and resources for outdoor classroom projects and providing a gathering place for neighborhood families to watch sporting events. Based on local desired athletic programming, sports fields should be provided to accommodate track, football, soccer, baseball and softball sporting events along with basketball courts for school and community use;

4.11.2. Special education classroom;

4.11.3. Special program room;

4.11.4. Classrooms should accommodate a maximum of up to 25 students and provide thirty two square feet/student with a minimum classroom size of 600 square feet. Ceiling heights in classrooms should not be lower than nine feet. The ideal classroom is rectangular in shape with the long axis 1.33 times longer than the short axis. Classrooms should have a source of natural light with a view, have conditioned well ventilated air, and provide all the necessary equipment, technology infrastructure, and storage to support the intended educational program;

4.11.5. Library/multimedia center (LMC) should be the heart of the school providing a flexible space for students, staff, parents and the community to read, write, meet, study, and research topics. The space should be designed with high ceilings and exposed structure and materials. The space should have abundant natural light, as well as well-designed artificial task lighting. Window shades should be incorporated to accommodate the use of audio visual equipment requiring darker environments;

4.11.6. Computer lab with technology embedded in classroom to support interactive whiteboards utilizing wireless internet access whenever possible;

4.11.7. Distance learning lab should be centrally located in the interior of the school with no windows and isolated from sources of loud noise. To reduce acoustic effects, square rooms should be avoided, if possible. A cork shaped or rectangular room is a better shape, as it does not encourage standing waves (and thus echoes). Acoustic wall panels, heavy wall curtains and carpet flooring should be used in lieu of hard walls and floors to help acoustics. Labs should provide easy wireless access to computers and the internet. There should be at least two 20-amp electrical circuits on dedicated breakers for the interactive distance learning video equipment;

4.11.8. Science lab with teaching demonstration table, emergency shower/eyewash, wet student work stations, and equipped with adequate instrumentation;

4.11.9. Family Consumer Science Lab;

4.11.10. Band classroom with conducting podium, instrument storage room and acoustic practice room. Band classrooms shall be physically separated from other classrooms to prevent sound transmission between areas;

4.11.11. Vocal classroom with conducting podium and acoustic wall panels. Vocal classrooms shall be physically separated from other classrooms to prevent sound transmission between areas;

4.11.12. Art classroom with ample storage cabinets and counter sinks. Finish materials in art classrooms shall be smooth, cleanable and nonabsorbent;

4.11.13. Beginning shop, vocational, and agricultural Career and Technical Education (CTA) classrooms;

4.11.14. Performing arts support area to accommodate set design and building including dressing rooms with lockers, sinks, mirrors, and prop storage area;

4.11.15. Commercial Kitchen with cooking and refrigeration equipment, dry storage, and ware washing area, unless food is prepared and delivered from another location;

4.11.16. Cafeteria/multipurpose room to support the school and community. The cafeteria ceiling heights should be higher than other areas in the school and incorporate day lighting when possible. A raised stage for school productions should be provided with curtains and theatrical lighting and sound systems;

4.11.17. Gymnasium with a regulation basketball court and dividing curtain to create two smaller basketball courts. The following equipment should accompany the gym: Glass adjustable basketball backstops, volleyball sleeves and standards, safety wainscoting, chin-up bar, wrestling mat hoist, and scorer table;

4.11.18. Weight training area with free weights, wall mirrors, exercise machines, rubber flooring, and protective wainscoting;

4.11.19. Men and women's locker rooms with independent bathrooms, showers and locking metal lockers;

4.11.20. Administrative offices, nursing area, bathrooms, conference, reception and building support areas to accommodate the educational program.

4.12. High schools (grades 9-12) shall provide an environment that prepares students for higher education admittance or the workplace. When possible, daylight and views shall be incorporated in all learning areas to supplement well-designed task oriented artificial lighting. The facilities should be designed to provide vibrant, cheerful, learning environments for students and be scaled for adult occupancy. Acoustical materials to reduce ambient noise levels and minimize transfer of noise between classrooms, corridors and other learning areas will create a learning environment that focuses the student's attention. The following uses should be incorporated in high school educational facilities:

4.12.1. Based on local desired athletic programming, sports fields with associated equipment, gardens, trees, amphitheater, shade structures and a gateway to the community should be considered. The objectives of the sport areas include: reducing discipline issues on school grounds, providing better physical education and resources for outdoor classroom projects, establishing a gathering place for neighborhood families to watch sporting events, and strengthening community-school partnerships. Based on local programming, sports fields should consider accommodating track, football, soccer, baseball and softball sporting events as well as tennis and basketball courts for school and community use;

4.12.2. Classrooms should accommodate a maximum of up to 25 students and provide 32 square feet/student with a minimum classroom size of 600 square feet. Ceiling heights in classrooms should not be lower than nine feet. The ideal classroom is rectangular in shape with the long axis 1.33 times longer than the short axis. Classrooms should have a source of natural light with a view, have conditioned well ventilated air, and provide all the necessary equipment, technology infrastructure, and storage to support the intended educational program;

4.12.3. Special program room;

4.12.4. Library/multimedia center (LMC) should be the heart of the school, providing a flexible space for students, staff, parents, and the community to read, write, meet, study, and research topics. The space should be designed with high ceilings and exposed structure and building materials. The space should have abundant natural light, along with well-designed artificial task lighting. Window shades should be incorporated to accommodate the use of audio visual equipment requiring darker environments;

4.12.5. Distance learning lab should be centrally located in the interior of the school, with no windows, and isolated from sources of loud noise. To reduce acoustic effects, square rooms should be avoided if possible. A cork shaped or rectangular room is a better shape, as it does not encourage standing waves (and thus echoes). Acoustic wall panels, heavy wall curtains and carpet flooring should be used in lieu of hard walls and floors to help acoustics. Labs should provide easy wireless access to computers and the internet. There should be at least two 20-amp electrical circuits on dedicated breakers for the interactive distance learning video equipment;

4.12.6. Computer lab with technology embedded in classroom to support interactive whiteboards, utilizing wireless internet access whenever possible;

4.12.7. Science lab with a teaching demonstration table, emergency shower/eyewash, demonstration hood, student work stations provided with water and gas receptacles equipped with adequate instrumentation;

4.12.8. Family consumer science lab;

4.12.9. Band classroom with conducting podium, instrument storage room and acoustic practice rooms. Band classrooms shall be physically separated from other classrooms to prevent sound transmission between areas;

4.12.10. Vocal classroom with conducting podium and acoustic wall panels. Vocal classrooms shall be physically separated from other classrooms to prevent sound transmission between areas;

4.12.11. Art classroom with ample storage cabinets and counter sinks. At the high school level a kiln/ceramic storage area shall be provided. Finish materials in art classrooms shall be smooth, cleanable and nonabsorbent;

4.12.12. Performing arts support area to accommodate set design and construction, dressing rooms with lockers, sinks and mirrors and prop storage area;

4.12.13. Career and technical education (CTE) classroom that supports desired educational programs. The ideal CTA classroom should have 45 square feet/student with a minimum of 780 square feet of exclusive laboratory and storage space. The shop area shall have a minimum of 150 square feet/student with a tool and supply storage room that is at least 20 feet long with a minimum width of eight feet wide for the storage of long building materials. Each shop shall be equipped with welding booths, auto lift station, auto emissions evacuation system and required trade tools. A minimum 2400 SF outdoor patio area should be provided for storing or working on farm machinery, flammable materials, and large construction projects. If desired, a minimum 1880 SF greenhouse should be provided with heat and ventilation. CTA shops should have independent bathrooms with a group hand washing sink and lockers;

4.12.14. Commercial kitchen with cooking and refrigeration equipment, dry storage and ware washing area, unless food is delivered from another location;

4.12.15. Cafeteria/multipurpose room to support the school and community. Ceiling heights in cafeterias should be higher than other areas in the school, and incorporate daylight to provide a captivating dining environment to keep students on site during lunch hours;

4.12.16. Auditorium with a raised proscenium stage, curtains, orchestra pit, sloped floor with fixed seating, sound and project booth, acoustic wall and ceiling panels and professional lighting and sound systems. The auditorium shall be designed to accommodate the entire student body, school staff and as required for community-wide productions;

4.12.17. Gymnasium with two regulation basketball courts and dividing curtain. The following equipment should accompany the gym: Glass adjustable basketball backstops, volleyball sleeves and standards, safety wainscoting, chin-up bar, wrestling mat hoist, telescoping bleachers and scorer table;

4.12.18. Auxiliary gym (larger high schools) with a regulation basketball court and dividing curtain to create two smaller basketball courts. The following equipment should accompany the gym: glass adjustable basketball backstops, volleyball sleeves and standards, safety wainscoting, and chin-up bar;

4.12.19. Weight training area with free weights, mirror walls, exercise machines, rubber flooring and protective wainscoting;

4.12.20. Men and women's locker rooms with independent bathrooms, showers, and locking metal lockers;

4.12.21. Visiting team locker room with independent bathrooms, showers, and locking metal lockers;

4.12.22. Administrative offices, nursing area, bathrooms, conference, reception, and building support areas to accommodate educational programming.

4.13. PK-12 Rural Schools shall provide exciting learning environments for students as well as associated teaching and administrative support areas. The facilities should be designed to incorporate shared community uses, such as boys and girls clubs, and separate children, grades preschool to six, from older students, grades seven to twelve. When possible, daylight with views shall be incorporated in all learning areas to supplement well-designed task oriented artificial lighting. Acoustical materials to reduce ambient noise levels and minimize transfer of noise between classrooms, corridors and other learning areas will create a learning environment that focuses the student's attention. The following uses should be incorporated in PK-12 educational facilities:

4.13.1. Based on desired local programming, school sites should consider including sports fields, playfields, age appropriate equipment, gardens, trees, non-traditional play features, shade structures and a gateway to the community. The objectives of the play areas include: reducing discipline issues on school grounds, providing better physical education and resources for outdoor classroom projects, establishing a gathering place for neighborhood families to watch sporting activities and strengthening community-school partnerships. Based on local athletic programming, sports fields should be considered to accommodate track, football, soccer,

baseball and softball sporting events as well as tennis and basketball courts for school and community use;

4.13.2. Classrooms should accommodate a maximum of up to 25 students and provide 32-35 five square feet/student with a minimum classroom size of 600 square feet. Ceiling heights in classrooms should not be lower than nine feet. The ideal classroom is rectangular in shape with the long axis 1.33 times longer than the short axis. Classrooms should have a source of natural light with a view, have conditioned well ventilated air, and provide all the necessary equipment, technology infrastructure, and storage to support the intended educational program;

4.13.3. Computer lab with technology embedded in classroom to support interactive whiteboards, utilizing wireless internet access whenever possible. Computer labs should be located centrally in the school;

4.13.4. Special program room;

4.13.5. Distance learning lab should be centrally located in the interior of the school, with no windows, and isolated from sources of loud noise. To reduce acoustic effects, square rooms should be avoided if possible. A cork shaped or rectangular room is a better shape, as it does not encourage standing waves (and thus echoes). Acoustic wall panels, heavy wall curtains and carpet flooring should be used in lieu of hard walls and floors to help acoustics. Labs should provide easy wireless access to computers and the internet. There should be at least two 20-amp electrical circuits on dedicated breakers for the interactive distance learning video equipment;

4.13.6. Science lab should be located centrally in the school, and provided with teaching demonstration table, emergency shower/eyewash, demonstration hood and student work stations with water and gas receptacles. The lab should be equipped with adequate instrumentation;

4.13.7. Family consumer science lab;

4.13.8. Band classroom with conducting podium, instrument storage room and acoustic practice room. Band classrooms shall be physically separated from other classrooms to prevent sound transmission between areas;

4.13.9. Vocal classroom with conducting podium and acoustic wall panels. Vocal classrooms shall be physically separated from other classrooms to prevent sound transmission between areas;

4.13.9.1. Art classroom with ample storage cabinets and counter sinks. A kiln/ceramic storage area shall be provided. Finish materials in art classrooms shall be smooth, cleanable and nonabsorbent;

4.13.10. Performing arts support area to accommodate set design and construction, dressing rooms with lockers, sinks and mirrors and a prop storage area;

4.13.11. Career and technical education (CTA) classroom that supports desired educational programs. The ideal CTA classroom should have 45 square feet/student with a minimum of 780 square feet of exclusive laboratory and storage space. The shop area shall have a minimum of one hundred and fifty square feet/student with a tool and supply storage room that is at least 20 feet long with a minimum width of eight feet wide for the storage of long building materials. Each shop shall be equipped with welding booths, auto lift station, auto emissions evacuation system and required trade tools. A minimum 2400 SF outdoor patio area should be provided for storing or working on farm machinery, flammable materials, and large construction projects. If desired a minimum 1880 SF greenhouse should be provided with heat and ventilation. CTA shops should have independent bathrooms with a group hand washing sink and lockers;

4.13.12. Library/multimedia center (LMC) should be the heart of the school, providing a flexible space for students, staff, and parents to read, write and draw. The space should be designed with high ceilings, exposed structure and building materials. The space should have abundant natural light as well as well-designed artificial task lighting. Window shades should be incorporated to accommodate the use of audio visual equipment requiring darker environments;

4.13.13. Commercial kitchen with cooking and refrigeration equipment, dry storage and ware washing area;

4.13.14. Cafeteria/multipurpose/stage room to support the school and community. Ceiling heights in cafeterias should be a minimum of fifteen feet above the finished floor and incorporate day light. A raised stage for school and community productions should be incorporated. The stage shall be provided with curtains, theatrical lighting, and sound systems. The multipurpose room shall be designed to accommodate the entire student body, school staff, and as required for community-wide productions;

4.13.15. Gymnasium with two regulation basketball courts and dividing curtain. The following equipment should accompany the gym: Glass adjustable basketball backstops, volleyball sleeves and standards, safety wainscoting, chin-up bar, wrestling mat hoist, telescoping bleachers and scorer table;

4.13.16. Weight training area with free weights, mirror walls, exercise machines, rubber flooring, and protective wainscoting;

4.13.17. Men and women's locker rooms with independent bathrooms, showers and locking metal lockers;

4.13.18. Visiting team locker room with independent bathrooms, showers and locking metal lockers;

4.13.19. Administrative, offices, nursing area, bathrooms, conference, reception area and building support areas to accommodate the educational program.

5. SECTION THREE - Promote school design and facility management that implements the current version of "Leadership in Energy and Environmental Design" (LEED for schools) or "Colorado Collaborative for High Performance Schools" (CO-CHPS), green building and energy efficiency performance standards, or other programs that comply with the Office of the State Architects "High Performance Certification Program" (HPCP), reduces operations and maintenance efforts, relieves operational cost, and extends the service life of the districts capital assets by providing the following:

5 (1) The material hereby incorporated by reference in these rules is the "Leadership in Energy and Environmental Design (LEED for Schools)" produced by The United States Green Building Council version 2007 and the "Colorado Collaborative for High Performance Schools (CO-CHPS)" produced by the Governors Energy Office version 2009.

5 (2) Later Amendments to the "Leadership in Energy and Environmental Design (LEED for Schools)" or the "Colorado Collaborative for High Performance Schools (CO-CHPS)" are excluded from these rules.

5 (3) The Director of the Division of Public School Capital Construction Assistance, 1525 Sherman St. Denver, Colorado will provide information regarding how the "Leadership in Energy and Environmental Design (LEED for Schools)" and the "Colorado Collaborative for High Performance Schools (CO-CHPS)" can be obtained or examined.

5.1 Facilities that conserve energy through High Performance Design (HPD). A high performance building is energy and water efficient, has low life cycle costs, is healthy for its occupants, and has a relatively low impact on the environment. In new construction it is vital that actual energy performance goals are set for the entire building in terms of KBTU/SF/YR total building load by:

5.1.1 Establishing an integrated design team including school and community stakeholders, architects, engineers, and facility managers. Include an experienced LEED or CO-CHPS accredited professional as a member of the integrated design team to assist with the evaluation of existing facilities and with design of new schools;

5.1.2. Site locations that encourage transportation alternatives such as walking, bicycling, mass transit, and other options to minimize automobile use.

5.1.3. Facilities that reduce demand on municipal infrastructure by encouraging denser development, reducing water consumption, and by providing responsible storm water management and treatment design;

5.1.4. Reduced building footprints;

5.1.5. Minimizing parking to reduce heat island effect and discouraging use of individual automobiles:

5.1.5.1 Provide preferred parking totaling five percent of total parking spaces for carpools, vanpools, or low emission vehicles;

5.1.5.2. High schools – 2.5 spaces per classroom plus parking for 20 percent of students;

5.1.5.3. Elementary schools and middle schools –three spaces per classroom;

5.1.5.4. Provide parking in open grassy areas to accommodate overflow parking when required for large sporting events.

5.1.6. Facilities that utilize existing sites, buildings and municipal infrastructure;

5.1.7. Joint-use facilities;

5.1.8. Evaluating energy costs holistically by determining the cost of high performance strategies versus long term cost savings;

5.1.9. Utilizing passive solar techniques such as;

5.1.9.1 Positive building solar orientation and building massing;

5.1.9.2. Sun-shading;

5.1.9.3. Natural ventilation;

5.1.9.4. Green roofs.

5.1.10. Utilize energy efficient and or renewable energy strategies;

5.1.11. Metering of all utilities with the ability to sub meter selected systems to manage utility usage;

5.1.12. Evaluate necessary building materials and systems and consider holistic design solutions that serve multiple purposes;

5.1.13. Evaluation of utility bills to determine efficiency of facilities;

5.1.14. Investigating performance contracting potentials;

5.1.15. Replacement of old inefficient lighting with new energy efficient fixtures and lamps. Incorporate daylighting, and utilize professionally designed task oriented lighting concepts. Use occupancy sensors and natural light sensors to keep lights off when not needed, including emergency lighting when the building is unoccupied;

5.1.16. Design site lighting and select lighting styles and technologies to have minimal impact off-site and minimal contribution to sky glow. Minimize lighting of architectural and landscaping features and design interior lighting to minimize trespass light to the outside from the interior.

5.1.17. Replacement of old inefficient mechanical systems with new energy efficient systems. Provide controls that monitor the efficiency of the mechanical system and control temperature range of facilities during low/non-use periods and after operating hours.

5.1.18. Commission mechanical systems at completion of construction and retro-commission every five years. Pursue third party certification through CO-CHPS or LEED for schools;

5.1.19. Replacement of single pane inefficient windows with new double/triple pane hard coat low E glazing window units. Install windows to eliminate outdoor air and water infiltration;

5.1.20. Landscape school sites optimizing drought tolerant trees and plantings that reduce heat island effects. Place deciduous trees on the south side of buildings to shade the buildings in the summer and allow sun to penetrate the buildings in the winter. Place coniferous trees on prevailing wind side of the building to block and redirect prevailing winds away from the building. Utilize landscaping or a green roof to filter and manage onsite storm water treatment. Replace turf with native grasses where ever practical. Well-designed landscaping in conjunction with paved surfaces and school buildings will benefit the reducing of "heat island" effects;

5.1.21. Employ cool or green roofs to reduce heat island effects. The buildings cooling load should be considered when selecting roofing materials;

5.1.22. Identifying building wastes such as cooling condensate water, heat exhaust, and find a way to reuse it. Utilize heat recovery units whenever possible;

5.1.23. Providing a tight and well insulated building envelope with a minimum wall thermal value of R-19 and roof thermal value of R-30. Repair exterior building cracks, caulk building joints, and tuck-point masonry walls annually to maintain exterior shell in good condition;

5.1.24. Providing vestibules at main building entrances to minimize loss of conditioned air;

5.1.25. Utilizing, when possible, sustainable (green) building materials that are durable, easily maintained, resource efficient, energy efficient and emit low levels of harmful gases. Whenever possible utilize EPA Energy Star labeled systems and equipment. Colorado-based and local and regional material manufactures should be used whenever possible to reduce the impact of transportation costs and support regional and state economies.

5.1.26. Increase the schools community knowledge about the basics of high performance design using an educational display to serve as a three-dimensional textbook.

5.2. Analysis of existing school facilities or desired new school facility size against the required school facility size taking into account maintenance and operational costs of the existing or desired new larger facility compared against the costs savings associated with a reduced facility size. Achieve reduced school facility size by minimizing single use spaces, building circulation, and consolidating remote facilities, coupled with maximization of consolidated shared flexible facilities that are well scheduled, and utilize extended hours of operation.

5.3. A district-wide energy management plan.

5.4. Adoption of a goal of “zero waste” from construction of new buildings and operation and renovation of existing facilities through re-use, reduction, recycling, and composting of waste streams.

5.5. Training to establish district wide preventative maintenance tasks for all building systems to determine that systems are functioning as designed and clearly outline follow-up maintenance procedures to keep equipment and materials functioning as intended, extend life of equipment, and reduce operational costs.

6. SECTION FOUR – Nothing in these rules affects the Department of Education’s responsibilities pursuant to 24-80.1-101 through 108, C.R.S. Evaluate school facilities based on rehabilitation costs verses replacement costs or discontinuation with consideration given to historically significant facilities by determining:

6.1. The school district’s desired facilities life span e.g. fifty, one hundred, two hundred years, construction costs for the desired life span based on the districts location and available labor force, and the districts five year population growth trends;

6.2. The facility’s relative importance in history based on: notable Colorado architects, historical building materials, styles and forms, and thus determine associated costs to preserve, rehabilitate, restore, or reconstruct the facility to its original condition;

6.3. Building code, health, and safety deficiencies at school facilities as compared to SECTION ONE and associated costs to bring deficiencies up to current code;

6.4. Educational programming and green building deficiencies at school facilities as compared to SECTIONS TWO and THREE and associated costs to cure deficiencies;

6.5. Divide costs identified in items 2, 3 and 4 above “rehabilitation costs” by item 1 above “replacement cost” taking into consideration population growth trends and historical significance. When rehabilitation costs are more than 70% of replacement costs, with a shorter facility life span and no historical significance, replacement of the facility should be considered. If population trends do not support school facilities then discontinuation and consolidation of facilities with neighboring districts should be considered;

6.6. Based on the above evaluation determine the viability of facilities for rehabilitation, replacement or discontinuation. Apply evaluation to guide review of financial assistance grants for recommendation of award to the State Board.

6.7. (Rehabilitation costs ÷ Replacement costs = % of cost to rehabilitate).

Special Thanks to
Mr. Ted Hughes
Director of Public School Capital Construction Assistance (BEST)
Colorado Department of Education

Tel: 001 303 866-6948
Fax: 001 303 866-6186

<http://www.cde.state.co.us/cdefinance/CapConstMain.htm>

Providing the above guidelines!

Index

3DR**eid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

3D**Reid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

3DR**eid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

ABD Architetti
Via Saleri 18, 25135, Brescia, Italy
T: +39 030 3367323
F: +39 030 3648008

aNC arquitectos
Atelier Novais Carvalho
R.do Duque da Terceira, 403
1 Frente/4000-537 Porto, Portugal
T: +351 225 189 884
F: +351 225 189 885

André Espinho
Lisboa, 1500-235
Portugal
www.andrespinho.com

Alsop Sparch
Parkgate Studio
41 Parkgate Road
London, SW11 4NP, UK
T: +44 (0)20 7978 7878
F: +44 (0)20 7978 7879

Arkkitehtitoimisto Lahdelma & Mahlamäki Oy
Tehtaankatu 29 a,
FI-00150 Helsinki, Finland
T: +358 9 2511 020
F: +358 9 25110210

Art'ur Architects
31, rue Saint-Didier
75116 Paris, France
T: +33 01 47 27 53 90
F: +33 01 47 27 19 30

Bassetti Architects
Seattle Office
71 Columbia Street, Suite 500
Seattle, Washington 98104, USA
T: +1 206 340 9500

Bekkering Adams Architecten
Pelgrimsstraat 1
3029 BH Rotterdam, Netherlands
T: +31 10 425 81 66
F: +31 10 425 89 46

Böttger Architekten BDA Köln
Probsteigasse 34
D-50670 Köln, Germany
T: +49-221-9128910
F: +49-221-91289115

C+S ASSOCIATI
Piazza San Leonardo 15
31100 Treviso, Italy
T/F: +39 0422 591796

Lightwave Architectural/Chris Collier
Kingscliff Office: Suite 27, Level 2, 11-13
Pearl Street
PO Box 1609, Kingscliff NSW 2487, Australia
T: + 61 (0)2 6674-2833
F: + 61 (0)7 3009-9930

3DR**eid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

3D**Reid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

3DR**eid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

COOP HIMMELB(L)AU
Office Vienna: Wolf D. Prix/W. Dreibholz & Partner ZT GmbH
Spengergasse 37, 1050 Vienna, Austria
T: +43 1 546 60-0
F: +43 1 546 60-600

Daniel Bonilla Arquitectos
Avenida (calle) 127 # 18A-39 Of. 202
Bogota, Colombia
T: +57 1 6208601
F: +57 1 6208602

Div.A Arkitekter
Industrigaten 52
0357 Oslo, Norway
T: +47 22 85 38 00
F: +47 22 85 38 01

Dorte Mandrup Arkitekter
St. Kongegade 66, 1, 1264 København K,
Denmark
T: +45 33937350
F: +45 33935360

Drost + van Veen Architecten
Dunantstraat 4 | 3024 BC Rotterdam
The Netherland
T: +31 (0) 10 477 49 64
F: +31 (0) 10 477 62 59

3DR**eid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

3D**Reid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

Forte, Gimenes & Marcondes Ferraz Arqitetos
Mourato Coelho Street, 923
Sao Paulo/SP
Brazil
T: +55 11 3032 2826
F: +55 11 3032 1394

Gracia Studio
6151 Progressive Ave. suite 200
San Diego CA. 92154
Mexico
T: +52 (619) 795 7864
F: +52 (619) 269 3103

Gray Puksand
4 / 26 Commercial Road, Fortitude Valley,
QLD 4006, Brisbane, Australia
T: +61 (07) 3839 5600
F: +61 (07) 3839 5622

Hertl Architeckten
Österreich, 4400 Steyr
Pachergasse 17, Austria
T: + 43 7252 46944
F: + 43 7252 47363

HVDN Architecten
Krelis Louwenstraat 1 B28,
1055 ka, Amsterdam, The Netherlands
T: +31(0)20 688 5025
F: +31(0)20 688 4793

Khosla Associates
No. 18 17th Main HAL 2nd A Stage
Indiranagar, Bangalore, 560 008, India
T: +91 80 5116 1445
F: +91 80 2529 4951

3DR**eid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

3D**Reid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

Martin Lejarraga
C/Muralla Del Mar 1, Bajo
30202, Cartagena
T: +34 968 520 637
F: +34 968 320 731

NOW**architecture**
1 Linthorpe Road,
Poole, Dorset, BH15 2JS
T: 01202 672656

N+B Architectes
2 Rue Saint Côme
34000 Montpellier, France
T: +33 04 67 92 51 17
F: +33 04 67 92 51 77

Pitágoras Arquitectos
Rua João Oliveira Salgado -5c
4810-015 Guimarães, Portugal
T: +351 253 419523
F: +351 253 518749

RAU
KNSM-Laan 65
1019 LB Amsterdam, The Netherlands
T: +31 (0)20 419 02 02

Rogers Marvel Architects
145 Hudson Street, Third Floor
New York, NY 10013, USA
T: +1 212 941 6718
F: +1 212 941 7573

Ron Fleisher Architects
Tel Aviv, Israel
T/F:+972 03-6814285

3DR**eid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

3D**Reid**
The Belfast Business Centre, Cathedral House
23-31 Waring Street
Belfast BT1 2DX, UK
T: +44 (0)289 043 6970
F: +44 (0)289 043 6699

Ross Barney Architects
10 West Hubbard Street
Chicago, Illinois 60610, USA
T: +1 312 832 0600
F: +1 312 832 0601

Shin Takamatsu +Shin Takamatsu
Architect and Associates Co., Ltd.
195 Jonodaiin-cho Takeda Fushimi-ku
Kyoto, Japan
T: +81 75 621 6002
F: +81 75 621 6079

Spillman Farmer Architects
1720 Spillman Drive Suite 200
Bethlehem, Pennsylvania 18015
T: +1 610 865 2621
F: +1 610 865 3236

Studio B Architecture
501 Rio Grande Place, Suite 104
Aspen, CO 81611, usa
T: +1 970 920 9428

Vector Architects + CCDI
Rm 1903 South Tower, SOHO Shangdu,
No. 8 Dongdaqiao Road, Beijing, China
T: +86 10 58699706
F: +86 10 58698319

Wingårdh Arkitektkontor AB
Kungsgatan 10 A
SE 411 19 Goteborg, Sweden
T: +46 (0) 31 743 7000
F: +46 (0) 31 711 9838

WILLIAMS BOAG architects - WBa
Level 7/45 William Street Melbourne 300
Australia
T: +61 3 8627 6000
F: +61 3 8627 6060

