



«Harmony with environment»

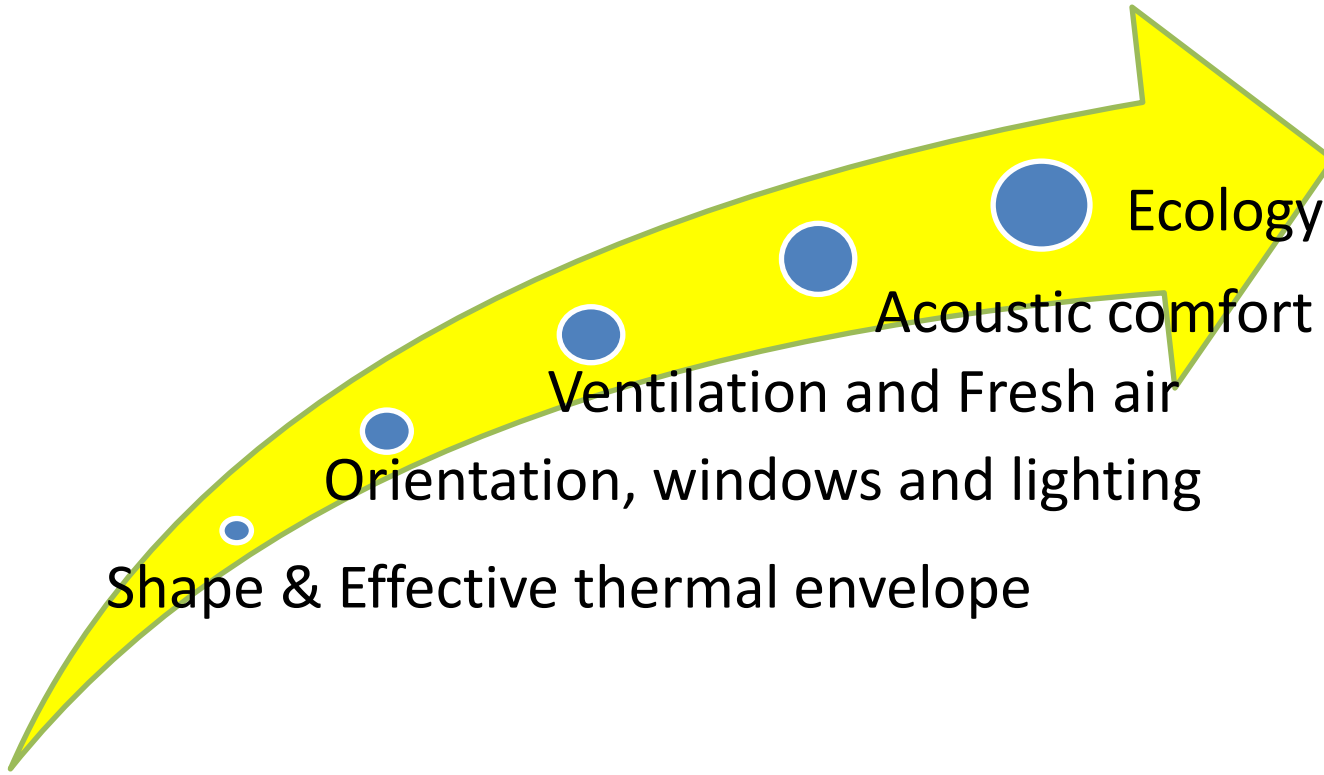
School in Gaziantep

Kazakhstan

Fedyanin Anton

1st prize

Multi-Comfort House main factors



Concept development

The site plan illustrates the proposed development for the 'Vali Konağı' project. It shows three distinct building footprints highlighted in red, orange, and purple. The plan includes existing infrastructure such as the 'İdari Tesis' (Administrative Facility) and 'Orta Öğretim Tesis Alanı' (Secondary Education Facility Area). Key features include a 'Park' area, a 'Yol' (Road), and various elevation markers (10.00, 15.00, 22.00) and dimensions (171.89, 167.73, 60.91) that define the layout and scale of the proposed buildings. The plan also indicates the 'E=1.00' and 'Hmax=Serbest' (Maximum Height Free) zones for the proposed structures.

Concept development

The diagram illustrates the concept development for a site plan. It features three main building footprints: a red one on the left, an orange one in the center, and a purple one on the right. A central triangular area is also marked. The plan includes various labels and dimensions:

- İdari Tesis (Lojman):** E=1.00, Hmax=24.50
- Orta Öğretim Tesis Alanı:** E=1.00, Hmax=Serbest
- (Vali Konağı):** E=1.00, Hmax=Serbest
- Dimensions and Angles:** 10.00, 15.00, 22.00, 171.89, 167.73, 60.91, 16.00

Concept development

The site plan illustrates the concept development for a school complex. It features three main areas:

- İdari Tesis (Administrative Facility):** Located in the top left, it includes a 'Lojman' (Dormitory) area. The elevation is $E=1.00$ and the maximum height is $H_{max}=24.50$. It is surrounded by a 10.00m wide zone.
- Park:** A central green space area.
- Orta Öğretim Tesis Alanı (Secondary Education Facility Area):** Located in the bottom right, it has an elevation of $E=1.00$ and a maximum height of $H_{max}=Serbest$. It is surrounded by a 22.00m wide zone.

The plan is overlaid with a grid and various colored lines (red, orange, purple) indicating different development zones or boundaries. Key dimensions and labels are provided for each area:

- Top left area: 10.00m wide zone, 171.89m length.
- Bottom left area: 22.00m wide zone, 167.73m length.
- Bottom right area: 22.00m wide zone, 16.91m width.

[illegible][illegible]

Concept development

The diagram illustrates the concept development for a site plan. It features three main building footprints: a red one on the left, an orange one in the center, and a purple one on the right. A central triangular area is also marked. The plan includes various labels and dimensions:

- İdari Tesis (Lojman):** E=1.00, Hmax=24.50
- Orta Öğretim Tesis Alanı:** E=1.00, Hmax=Serbest
- (Vali Konağı):** E=1.00, Hmax=Serbest
- Dimensions and Angles:** 10.00, 15.00, 22.00, 171.89, 167.73, 60.91, 16.00

[illegible][illegible][illegible]

Concept development

The site plan illustrates the concept development for three facilities:

- İdari Tesis (Lojman):** E=1.00, Hmax=24.50. Dimensions: 10.00m x 10.00m. Area: 100.00.
- Park:** Dimensions: 10.00m x 10.00m. Area: 100.00.
- Orta Öğretim Tesis Alanı:** E=1.00, Hmax=Serbest. Dimensions: 10.00m x 10.00m. Area: 100.00.

Surrounding roads and speed limits are indicated: 10⁰⁰, 15⁰⁰, and 22⁰⁰.

Concept development

The site plan illustrates the concept development for a school complex. It features several key areas and dimensions:

- İdari Tesis (Administrative Facility):** Located in the upper left, it includes a 'Lojman' (Dormitory) area. Dimensions: $E=1.00$, $H_{max}=24.50$.
- Park (Park):** Located in the upper center, with a dimension of 15^{00} .
- Orta Öğretim Tesis Alanı (Secondary Education Facility Area):** Located in the lower center, with dimensions $E=1.00$ and $H_{max}=Serbest$.
- Other Dimensions and Labels:**
 - Top left: 10^{00}
 - Bottom left: 22^{00}
 - Bottom right: 22^{00}
 - Center: 171.89
 - Right side: 16.91
 - Bottom center: 167.73
 - Right side: 10.00
 - Right side: 10.00
 - Right side: 10.00

Concept development

The site plan illustrates the conceptual development of three main facilities:

- İdari Tesis Alanı (Lojman)**: Located in the upper left, featuring a rectangular building footprint and associated parking area.
- Park**: Situated between the administrative facility and the middle school, containing a triangular green space.
- Orta Öğretim Tesis Alanı**: Located in the lower right, featuring a large rectangular building footprint and extensive parking area.

Key details from the plan include:

- Speed Limits**: Indicated by circular signs at 10⁰⁰, 15⁰⁰, and 22⁰⁰.
- Elevation and Height**: E=1.00 and Hmax=Serbest are noted for several areas.
- Dimensions**: Various measurements are provided, such as 171.89m, 167.73m, 60.91m, and 16.00m.
- Overlays**: Blue lines represent proposed access routes or boundaries across the site.

[illegible]

Concept development

The site plan illustrates the concept development for a school complex. It features several key areas and dimensions:

- İdari Tesis (Administrative Facility):** Located in the upper left, it includes a 'Lojman' (Dormitory) area. Dimensions: $E=1.00$, $H_{max}=24.50$.
- Park (Park):** Located in the upper center, with a dimension of 15^{00} .
- Orta Öğretim Tesis Alanı (Secondary Education Facility Area):** Located in the lower center, with dimensions $E=1.00$ and $H_{max}=Serbest$.
- Other Dimensions and Labels:**
 - Overall site dimensions: 10^{00} (width), 22^{00} (depth), and 167.73 (length).
 - Internal dimensions: 171.89 (width of the central area), 60.91 (width of the right side), and 16.91 (width of the bottom right section).
 - Other labels include 'Park', 'Orta Öğretim Tesis Alanı', and 'İdari Tesis Alanı'.

[illegible][illegible][illegible]

Concept development

The site plan illustrates the conceptual development of three main facilities:

- İdari Tesis Alanı (Lojman)**: Located in the upper left, with E=1.00 and Hmax=24.50.
- Park**: A central green space area.
- Orta Öğretim Tesis Alanı**: Located in the lower right, with E=1.00 and Hmax=Serbest.

The plan also shows surrounding infrastructure, including roads with speed limits (10⁰⁰, 15⁰⁰, 22⁰⁰) and various dimensions (e.g., 171.89, 167.73, 60.91, 10.00).

Concept development

The site plan illustrates the concept development for a school complex. It features several key areas and dimensions:

- İdari Tesis (Administrative Facility):** Located in the upper left, it includes a 'Lojman' (Dormitory) area. Dimensions: $E=1.00$, $H_{max}=24.50$.
- Park (Park):** Located in the upper center.
- Orta Öğretim Tesis Alanı (Secondary Education Facility Area):** Located in the lower center. Dimensions: $E=1.00$, $H_{max}=Serbest$.
- Vali Konağı (Governor's Residence):** Located in the upper right. Dimensions: $E=1.00$, $H_{max}=Serbest$.
- Dimensions and Grid:** The plan is overlaid with a grid. Key dimensions include 10.00 , 15.00 , 22.00 , 171.89 , 167.73 , 60.91 , and 16.91 .

Concept development

The site plan illustrates the concept development for a school complex. It features several key areas and dimensions:

- İdari Tesis (Administrative Facility):** Located in the upper left, it includes a 'Lojman' (Dormitory) area. Dimensions: $E=1.00$, $H_{max}=24.50$.
- Park (Park):** Located in the upper center.
- Orta Öğretim Tesis Alanı (Secondary Education Facility Area):** Located in the lower center. Dimensions: $E=1.00$, $H_{max}=Serbest$.
- Vali Konağı (Governor's Residence):** Located in the upper right. Dimensions: $E=1.00$, $H_{max}=Serbest$.
- Dimensions and Grid:** The plan is overlaid with a grid. Key dimensions include 10.00 , 15.00 , 22.00 , 171.89 , 167.73 , 60.91 , and 16.91 .

Concept development

The site plan illustrates the concept development for a school complex. It features several key areas and dimensions:

- İdari Tesis (Administrative Facility):** Located in the upper left, it includes a 'Lojman' (Dormitory) area. Dimensions: E=1.00, Hmax=24.50.
- Park (Park):** Located between the administrative facility and the secondary education area.
- Orta Öğretim Tesis Alanı (Secondary Education Facility Area):** The central area, with dimensions E=1.00 and Hmax=Serbest.
- Vali Konağı (Governor's Residence):** Located in the upper right, with dimensions E=1.00 and Hmax=Serbest.
- Dimensions and Grid:** The plan is overlaid with a grid. Key dimensions include 10.00, 15.00, 22.00, 171.89, 167.73, 60.91, and 16.00.
- Concept Development Lines:** Red, orange, and purple lines are drawn across the plan, indicating different development zones or boundaries.

Concept development

The site plan illustrates the concept development for a school complex. It features several key areas and dimensions:

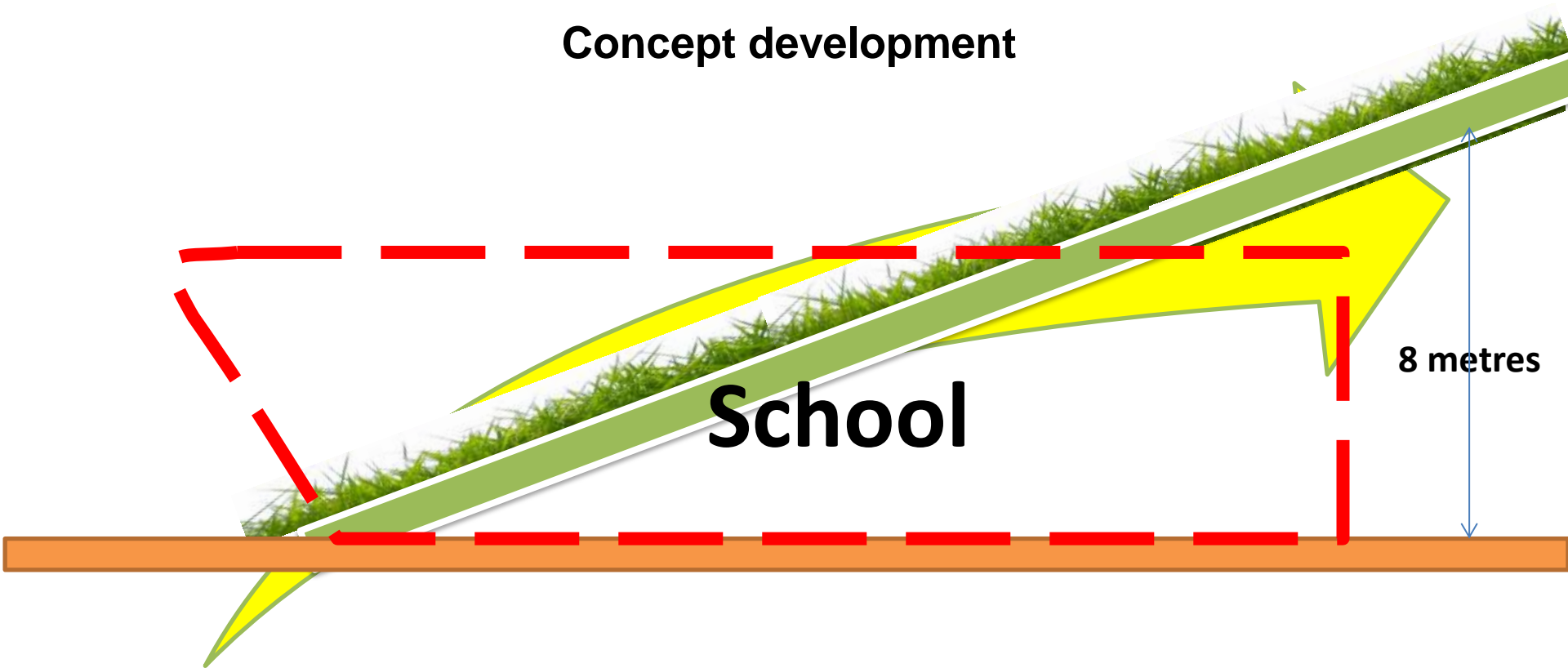
- İdari Tesis (Administrative Facility):** Located in the upper left, it includes a 'Lojman' (Dormitory) area. Dimensions: E=1.00, Hmax=24.50.
- Park (Park):** Located in the upper center, with a dimension of 171.89.
- Orta Öğretim Tesis Alanı (Secondary Education Facility Area):** Located in the lower center, with dimensions E=1.00 and Hmax=Serbest.
- Other Dimensions and Labels:**
 - Top right: 15⁰⁰
 - Bottom left: 22⁰⁰
 - Bottom right: 22⁰⁰
 - Left side: 10⁰⁰
 - Right side: 16.91
 - Bottom center: 167.73
 - Top center: 10.00
 - Left side: 10.00
 - Right side: 10.00
 - Bottom left: 10.00
 - Bottom center: 10.00
 - Bottom right: 10.00

Concept development

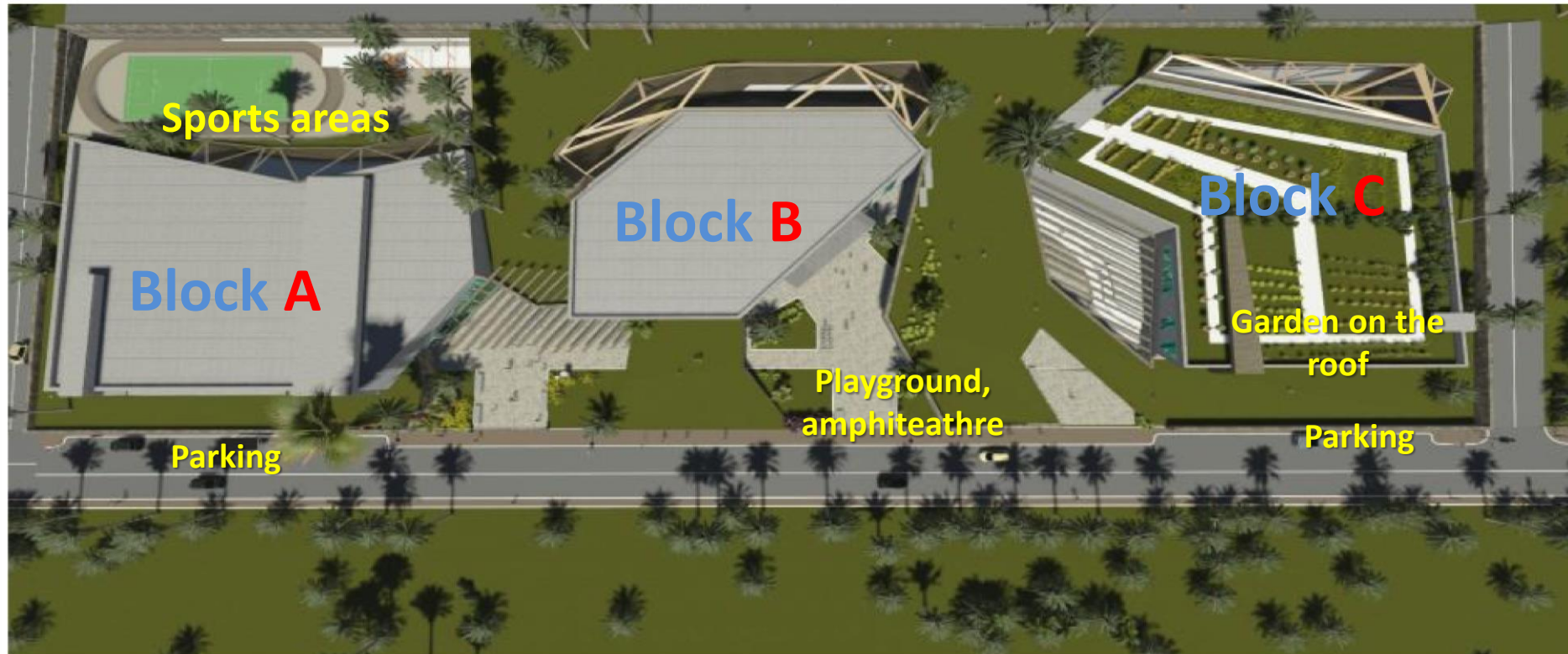
The site plan illustrates the concept development for a school complex. It features several key areas and dimensions:

- İdari Tesis (Administrative Facility):** Located in the upper left, it includes a 'Lojman' (Dormitory) area. The dimensions are $E=1.00$ and $H_{max}=24.50$.
- Park (Park):** Located in the upper center, with a dimension of 15^{00} .
- Orta Öğretim Tesis Alanı (Secondary Education Facility Area):** Located in the lower center, with a dimension of 22^{00} .
- Other Dimensions and Labels:**
 - 10^{00} (top left)
 - 171.89 (top center)
 - 167.73 (bottom center)
 - 60.91 (right side)
 - 10.00 (bottom left)
 - 10.00 (bottom center)
 - 10.00 (right side)
 - 10.00 (bottom right)
 - 22^{00} (bottom right)

Concept development



Final composition



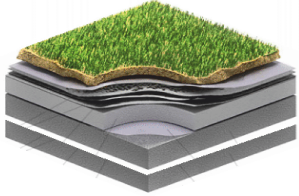
3D - Visualization



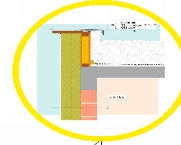
MCH Criterias – thermal envelope

Cuts & Plans

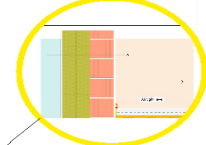
Green roof scheme



"Green roofs»



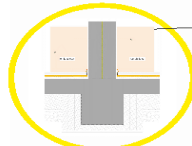
Exterior wall



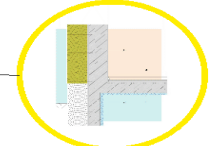
Solid construction with CIS Basement ceiling

Stucco facade insulation: Isover Facade 250 mm
Flat Roof insulation: XPS 350 mm
Basement insulation
Basement ceiling insulation: XPS 500 mm

Floors



Partition wall, floor slab

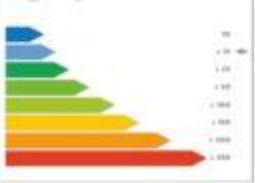


Exterior wall to basement ceiling

CALCULATIONS

Calculations		
Transmission Heat Losses	59976.29	66000
Ventilation Heat Losses	49207.22	66000
Total Heat Losses	61814.28	66000
Internal Heat Gains	64702.06	66000
Automatic Total Heat Gains	127581.21	66000
Total Heat Demand	59832.02	66000
Annual Heat Demand	66716.00	66000
Specific Annual Heat Demand	12.31	66000(m²)

Energy efficiency class



Specific Annual Heat Demand

Heat Demand: Energy Reference Area: Specific Annual Heat Demand:

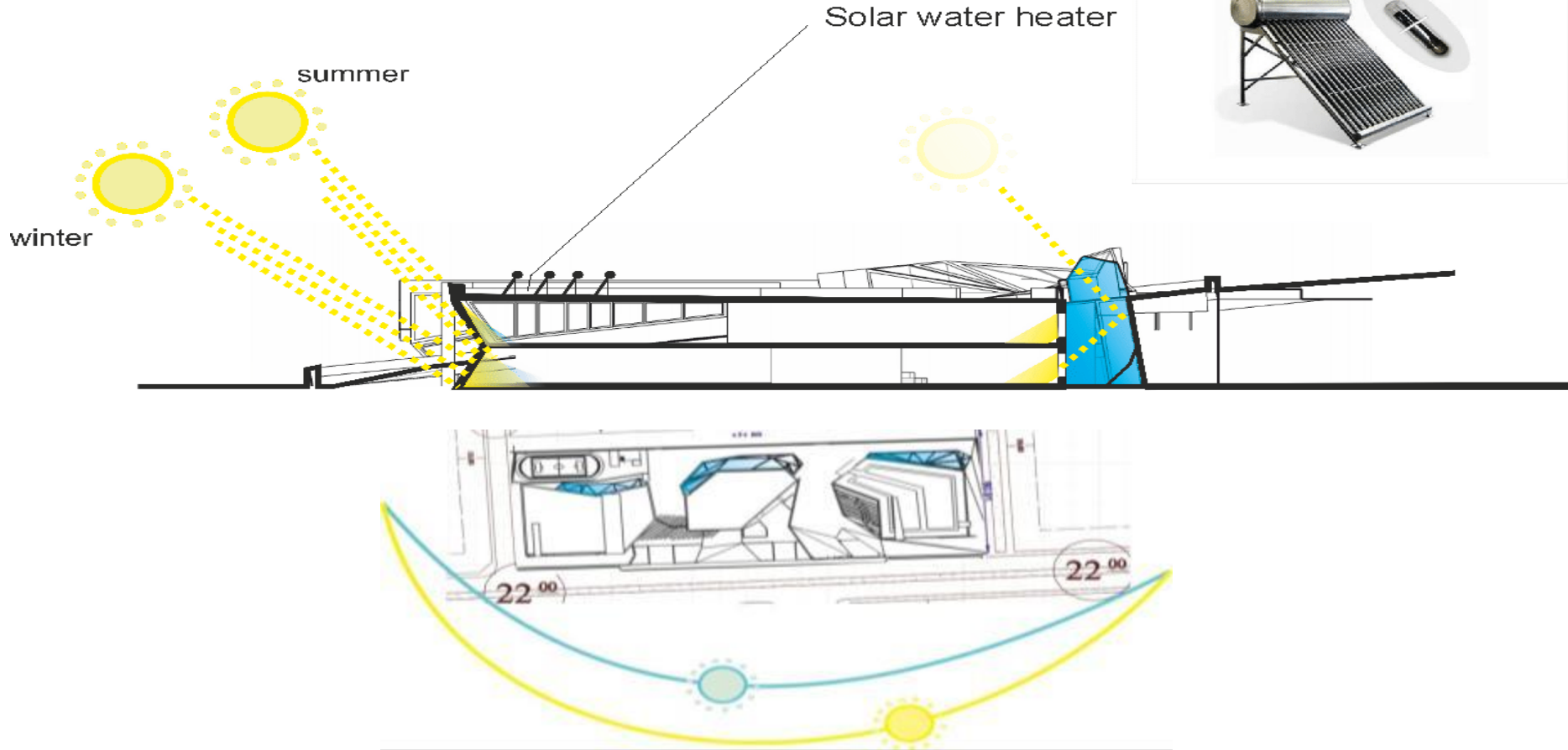
Specific Annual Heat Demand: **65,730.03** / **5,339.00** = **12.31** kWh/(m²a)

Specific Annual Heat Demand: < 15 kWh/(m²a) achieved: Yes

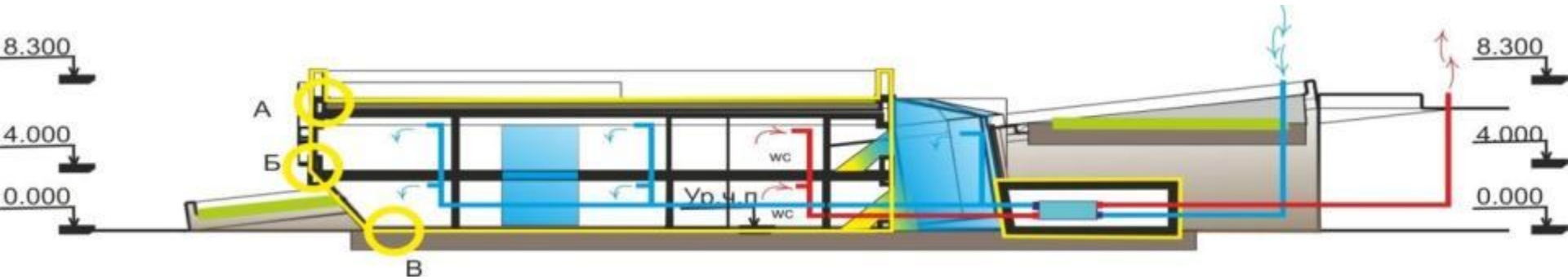


Calculate

MCH Criterias – windows & lightning

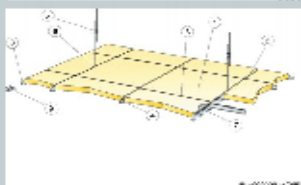
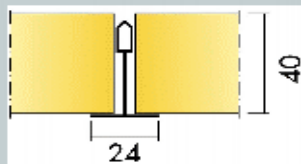


MCH Criterias - Ventilation and Fresh air

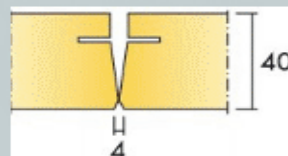
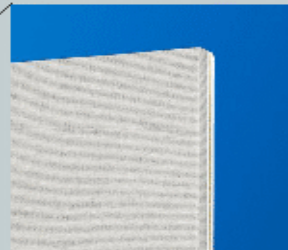


MCH Criterias - Acoustic comfort

Ecophon Master™ A



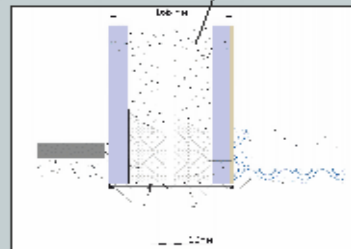
Ecophon Wall Panel™ A



Sound insulation between classrooms & corridors:

64 dB GB Partition - 2 layer Gyproc + Isover Sound Protect

37 dB Floating Floor

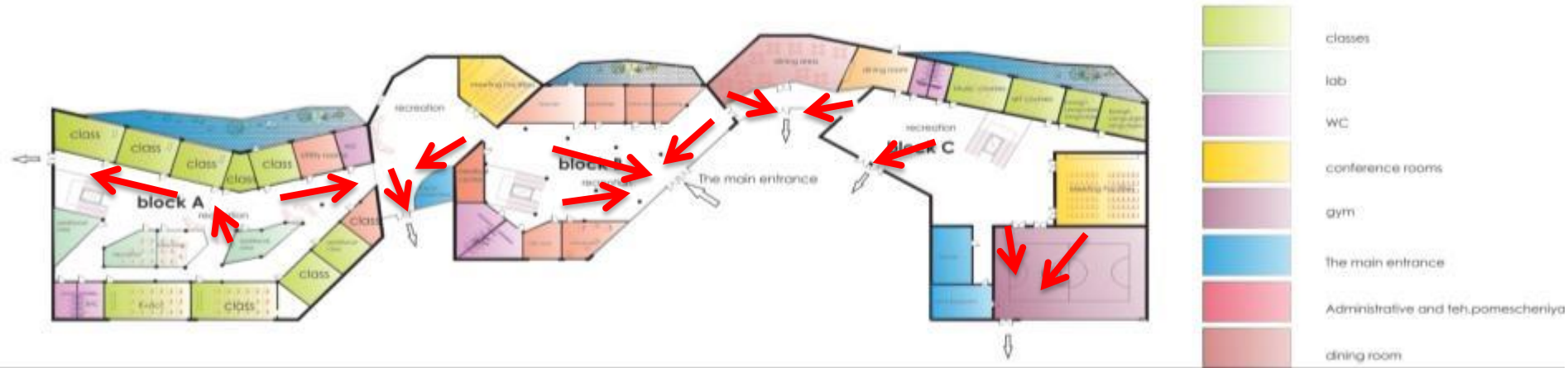


MCH Criterias – Ecology



Access easiness & emergency exits

Plan of the 1st floor lev.0.000



Estimated school evacuation time = 4-6 min.

Harmony with environment



Thermal, Hygienic, Acoustic, Ecological Comfort = Body, Eyes, Ears, Mental Comfort

Harmony with environment

