

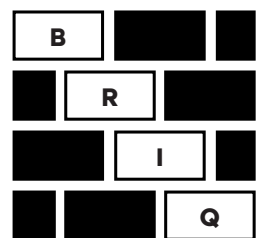
SUNFLOWER 46: REBUILDING HOPE

2024 Solar Decathlon Design Challenge, Educational Building Division

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School #46 of Kharkiv, Ukraine is an endeavor to revitalize a ground zero site into a net-zero center of education. Based on our design principles of human-centric program, sustainable ecology, biophilic comfort, material recovery, and regenerative community, we seek to rebuild hope through the adaptive reuse of the existing wings and new construction of the South wing in a collaboration between traditional building systems and appropriate innovative technologies. These strategies manifest in various adaptive learning environments, eco-technic aesthetics, healing through proximity to nature, the recycling of rubble from the remains of shelling, and honoring Ukrainian resilience towards rebuilding the city by supporting its people first. As a response to the devastation of war and the promise of a peaceful future, we aim to integrate sustainable practice through high performance passive and active systems and civic engagement through academic and collective action.



Project Data










Location	Kharkiv, Ukraine
Climate Zone	5A
Square Footage	104,121 sqft (w/o green roofs)
Lot Size	20601 m2 or 5 Acres
Levels	3
Students	~1,200
Classrooms	42
EUI Target	16-1v8 kBtu/sqft/yr

Technical Specs

Wall Assembly	R60
Slab Assembly	R30
Roof Assembly	R69
Heating Load	TBD
Cooling Load	No Cooling
Peak Heating Load	TBD
Peak Cooling Load	No Cooling
Ventilation Load	TBD

“ But the walls are not a school, the school is its children, parents and teachers, it is the indestructible fire of love for knowledge that our lyceum has been carrying since the first days of its creation. [...] Only with our children we will go to Victory! Only with our children we are strong, we are united, we are Ukraine! ”

DESIGN HIGHLIGHTS

-  Architecture
-  Engineering
-  Envelope
-  Efficiency
-  Grid-Interactivity
-  Life Cycle
-  Health
-  Market
-  Community

