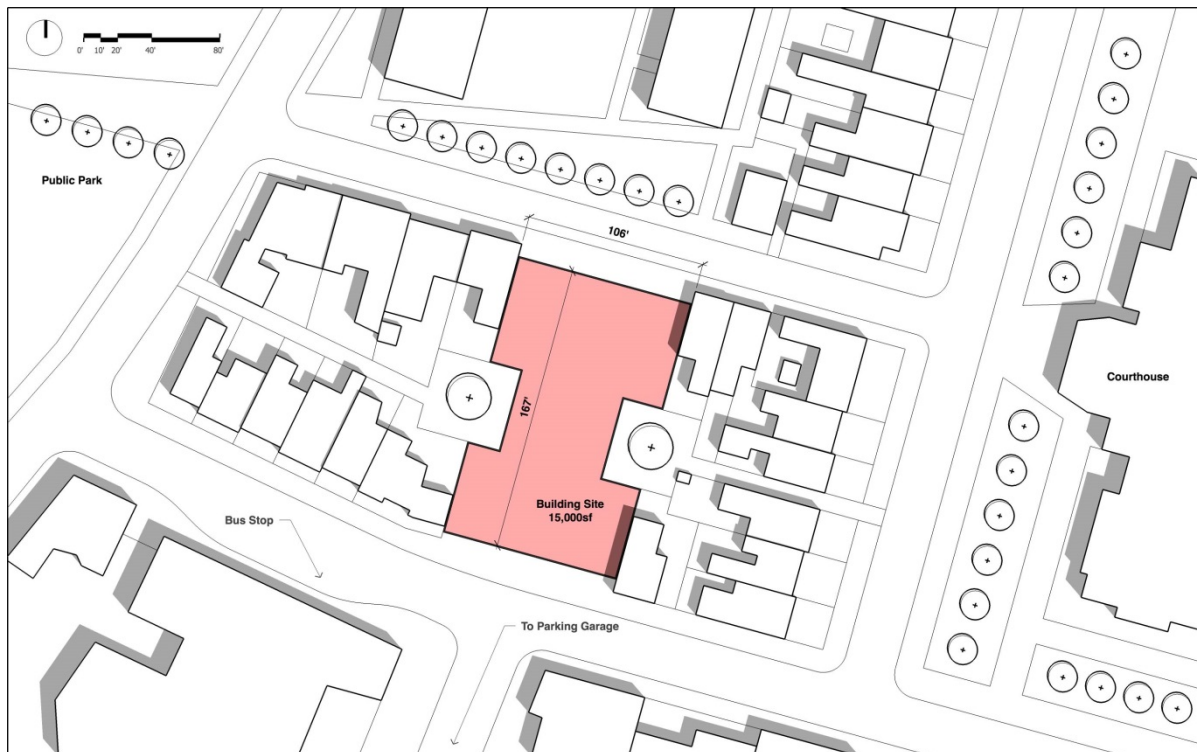


Sustainable Living and Education Center American Institute of Architects New Hampshire Chapter



2017 High School Design Competition Program

Educational Objectives

- To increase awareness of the relationships between space, human scale and function.
- To gain experience in recognizing the various challenges in planning and designing indoor and outdoor spaces for specific uses.
- To exercise your analytical abilities and creativity in solving the problems you have defined.
- To practice communicating your planning and design ideas utilizing scale drawings and models.

Participation Requirements

Every participant must be a current high school student in the state of New Hampshire or any high school student who is a resident of New Hampshire. Students may work individually or in teams. Teams may not consist of more than three students.

Registration

Teachers must register participating students by Friday January 13, 2017 with the attached form.

Introduction

This year's AIANH Competition will be to design a facility (Sustainable Living and Innovation Center) that will serve to educate, promote and test innovations in sustainable living and new green technologies. This building will not only showcase current green living trends and products but will introduce what is to come. This highly adaptable building aims to look at the future and inspire the public's imagination on how we live and interact with the environment. This forward thinking program demands a design that evokes excitement and a sense of exploration.

Sustainable Living and Innovation Center

This center will serve as a combination exhibition space, learning center, public resource, meeting place and research testing ground. The facility and surrounding site will provide a place open to the public that will foster a wide range of community activities and events related to sustainable living design and technology. It is expected to draw a wide range of people including the general public, researchers, students and individuals interested in learning or involved in green practices.

Site Plan available for download from:

<http://www.aianh.org/education/outreach/high-school-design> PDF, DWG and SketchUp

Note: PDF file contains height and dimensional information that are inherently available in DWG/SketchUp files

Sustainable and High Performance Design

A fundamental goal of this building is to embrace sustainability. In order to reduce the overall impact of the building in the environment, the pavilion will integrate innovative green building strategies such as:

- increase energy efficiency through the use of natural day lighting and smart shading systems
- water efficiency through the use of low flow fixture
- use of renewable energy to help achieve Net Zero energy consumption
- materials which will reduce consumption, pollution and waste
- materials that will be durable and do not require special maintenance

Sustainability Resources:

- NH State Energy Code info <http://www.puc.state.nh.us/EnergyCodes/energypg.htm>
- LEED – <http://www.usgbc.org>
- Green Globes – <http://www.greenglobes.com/>
- Whole Building Design Guide – <http://www.wbdg.org/design/sustainable.php>
- The Living Principles – <http://www.livingprinciples.org/>
- Sustainable Design forum – <http://www.sustainabledesignforum.com/>
- Energy Star – <http://www.energystar.gov>
- Northeast Sustainable Energy Association – www.nesea.org

Building Area Needs: The Sustainable Living and Innovation Center will be a one-story structure. There is no pre-determined height, however the height must respect the surrounding environment as well as complement the buildings' function and design.



Exterior Spaces:

- **Outdoor Exhibition Space:** This exterior space may include exhibitions, large mock-ups for green building systems and the latest alternative fuel cars on display.
- **Green Roof/Roof Garden Terrace:** This roof should be utilized to its maximum potential. This may include a green roof or vegetable garden that will grow produce for the center's café as well as outdoor space for visitors to sit, linger and have lunch. It will also showcase innovative roofing systems to the public.
- **Alternative Transportation:** Consideration should be given to adding amenities around the site that would promote the use of alternative transportation and fuel. This would include bike racks and electric car charging stations.

Interior Spaces:

- **Main Entrance & Lobby (250 sq. ft.):** This will serve as the gateway into the building from the exterior and must be easily visible to the public. The lobby includes a large digital display wall that will announce upcoming exhibits, events and information on the current installations occurring around the building. There will also be a small information desk for greeting and assisting visitors.
- **Exhibition Space (100 sq. ft.):** This space is where the latest exhibitions and event gatherings will occur. This space should be flexible for many uses. It should have an abundance of natural light. In addition to incoming exhibitions at least four integrated digital kiosks will provide visitors with information on the current exhibits. This space should be in close proximity to the lobby and have a connection to the exterior exhibition Space. The exhibition space should have high ceilings and may exceed one-story.
- **Lecture Hall (800 sq. ft.):** This small lecture hall will provide a meeting place for education lectures and presentations. A small elevated stage should be provided for guest speakers and presenters. This room should be able to seat at least forty people.
- **Resource Library (700 sq. ft.):** This library will provide educational facilities for visiting students and the public. This library will house printed material as well as a digital library of sustainable products and practices. This space should include book shelves, areas for reading and tables with computers.
- **Café (500 sq. ft.):** This organic café will serve food and drinks from local farms to the public as well as the organized events. It will also help to educate the public on sustainable agriculture and healthy eating. This space must have direct access to the exterior and seating should be provided at an adjacent outdoor space.
- **Food Preparation Area and Supply Room (150 sq. ft.):** This space is where food is prepared and must be adjacent to the Café. A supply room where stock food and supplies are stored must be adjacent to the food preparation area.
- **Public Circulation:** Interior circulation, corridors.
- **Administrative Office (100 sq. ft.):** This space is used for the day-to-day operations of the building including events and exhibit preparation.
- **Men's and Women's Restrooms (300 sq. ft.):** Provide one restroom for each gender located near the public circulation.
- **Janitor's Closet & Storage (25 sq. ft.):** This closet should be adjacent to the restrooms.

Accessibility

All public buildings must be fully accessible. This includes accessible parking spaces with an accessible route from the parking to the building entrances, an accessible route to all public spaces and staff work spaces, and public restrooms. Exterior spaces should also be accessible.

Accessibility Resources

- Americans with Disabilities Act http://www.ada.gov/2010ADAstandards_index.htm
- NH Governor's Commission on Disability <http://www.nh.gov/disability/>
- http://publicecodes.cyberregs.com/icod/ibc/2009/icod_ibc_2009_11_sec001.htm

Submission Requirements

- Design Boards should be 20" x 30" on ¼ inch foam core (required) and include the following: (see sample presentation layouts, attached)
 - Design sketches, design process and inspiration information
 - Site plan
 - Floor plan
 - Exterior and interior elevations
 - Building section(s)
 - Exterior and/or interior perspective(s)
- 1/16" Scale model - Model size limit is 20"x30" max. (Please no wooden bases; foam core preferred)
- Brief project narrative – Compose a thoughtful and concise text summary (approximately 150 words) describing your building design. This can include but not limited to:
 - The main ideas and goals behind your design
 - How the building is organized
 - How you envision people occupying the building

Timeline (specific dates to follow)

April 2017 Entries are due at the AIANH office by Friday, April 14, 2017, 5 pm.

Winners of the AIANH High School Design Competition will be invited to an AIANH event at which projects will be on display and awards will be presented. We are working on an event with the Keene State College Architecture Department at the TDS Building. The date will be confirmed and we will let you know as soon as possible.

Cash awards will be presented to the top two winners in each of the categories below:

- **Best Design, Overall Superiority, in all aspects of Design Solution, Model and Graphic Presentation**
- **Best Model describing Design Solution**
- **Best Graphic presentation describing Design Solution**
- **At the discretion of the judges, certificates will be presented to other submissions that are noteworthy.**



**The AIANH High School Design Competition is a program of the
New Hampshire Chapter of the American Institute of Architects.**



**American Institute of Architects New Hampshire Chapter
2017 High School Design Competition Program**

Registration Form

Use this form to register students for the competition.

Students may work individually or in teams. Teams may not consist of more than three students.

Please registration each individual working alone and each team. If registering a team, please include each team member's name, email, home address, and phone number. (We need emails to inform students of the results and the postal addresses to mail awards if not retrieved at the Awards Ceremony.)

Please send this form by email *or an email with all the required information* to:

Bonnie Kastel, Executive Director, bkastel@aianh.org

Receipt will be confirmed, so if you don't hear from us please check that your email was received.

Teacher/Instructor Name:

Teacher/Instructor Email:

Teacher/Instructor Telephone:

School:

School Address:

Please list name, address, email, and phone number of each student. Designate teams if appropriate.

Registrations should be received by the AIANH office by Friday January 13, 2017.

CRITIQUES: After the AIA New Hampshire office has received the participating High School/Academy's registrations, an AIANH architect will be available to critique the students' work. The earlier you contact us about arranging this, the more likely we will be able to come to your classroom for critiques. Please make arrangements through the AIANH office.