

The Riverside Center for Urban Agriculture and Community Health
1 Cabot St. Holyoke, Massachusetts
N.E.S.E.A. Student Design Competition
Keene State College
Ethan Seaman
Bill Preskenis

a. a brief mention of the competition overall and its objectives

The N.E.S.E.A. Student Design Competition objectives were to design new, or (in our case) renovate an existing structure with the intentions of making it a net-zero building. There were four divisions for competition: two new construction and two renovations, with one each being residential and the other commercial. The buildings needed to be designed to be high performing with major conservations in energy usage.

b. your purpose in entering and participating in the competition

Our purpose was mainly to stay busy over winter break and have another project to add to the portfolio. Once we saw division IV - Riverside - 1 Cabot St. we jumped at the opportunity to compete. With both of us majoring in Architecture and minoring in Environmental Studies it only seemed natural to apply what we learn in both disciplines to the adaptive re-use of an already existing building. We agree that mill buildings are something that we have in great abundance here in New England, but unfortunately many are in the condition that Riverside currently resides in. Some may see these old buildings as a waste of space that just lowers property values, but we choose to see them as an opportunity to revive the many cities who manufacturing jobs have sadly emigrated across seas. It just so happens that we will be working on a very similar project, revitalizing an old mill for urban farming, in the town of Troy, NH for our senior project, so this competition acted as a great segway into our senior capstone.

c. the challenge of the specific project you chose, including perhaps an enumeration of the nature of its challenges and opportunities

In the beginning there was not enough information to work with; this really delayed us in getting started. Once we got an adequate amount of information the ball started rolling, but with not a lot of time left for designing. Once school was back in session the project seemed to progress like wild fire, but it more-so had to because we only had 3 weeks until the submission deadline.

d. the solution your team came up with for the site, first again in general, and then as represented by key elements and features of your design.

The solution we came to that we saw most appropriate for the city of Holyoke is to use the Riverside Mill as an urban farm and community health center to encourage better

lifestyle choices and promote activity within the urban neighborhood. The building will function as: a Marketplace, Urban Farm, Restaurant, Education Center, and Retail. The theme of the building is local and sustainable food, products, and activities. The building will educate the community of the importance of eating healthy, of knowing where your food comes from, and valuing a local economy and local entrepreneurs. Since parking is limited the building will go further by promoting bicycling, and could perhaps function as the main station for a bicycle exchange program that could potential be implemented around the city of Holyoke. If parking remains a persistent issue we suggest that the lot across from Cabot St. on the corner of Middle Water St. be annexed for additional parking, which could potentially be shaded with a photovoltaic system structure. All businesses in the complex are scalable and can grow until they reach their maximum economic output.

e. include energy and cost profiling and data at a high level, if that helps you telling of your designs story

One-third of our energy power will be generated on site from the photovoltaic system on the roof top. The remaining two-thirds of our power supply will be generated by hydropower consistently year round. Algae biomass can be grown and converted to biodiesel which will be burned through out the winter when the photovoltaic system in less efficient. We will not waste CO2 gas into the atmosphere but rather harvest it and introduce it to the plants during their growth cycle to facilitate photosynthesis.

f. whatever else that you think will make for a complete picture and story of the site and your design

It is very important that these buildings function together as an interconnected and closed loop system for maximum functionality and economic output. By reducing the energy demand and creating a high performance building we feel comfortable stating that with all the renewable energy generation on site this complex can achieve net-zero energy. If it was to run at maximum efficiency we see nothing stopping the building from potentially obtaining net-plus energy status, especially if the adjacent lot can be annex and exploited for its renewable energy potential.

g. any reference you would include at the end of your narrative

The majority of information came from several great books that I would recommend to anyone. The most influential in conceiving this development would be

The Vertical Farm by Dr. Dickson Despommier

The Green Studio Handbook by Alison G. Kwok, AIA

Residential Energy by Krigger and Dorsi

Sustainable Urban Design edited by Randall Rhomas