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YouthBuild Providence Sustainability Learning Center Design

Renee Bilodeau
Jake Bochese
Marisa Bottai
Boris Dafov
Matt Diack

See next page for additional authors

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YouthBuild Providence
Sustainable Learning Center Design

Community Partner:
YouthBuild Providence

Academic Partner:
The School of Architecture, Art and Historic Preservation

Spring 2014
The Roger Williams University
Community Partnerships Center

The Roger Williams University (RWU) Community Partnerships Center (CPC) provides project-based assistance to non-profit organizations, government agencies and low- and moderate-income communities in Rhode Island and Southeastern Massachusetts. Our mission is to undertake and complete projects that will benefit the local community while providing RWU students with experience in real-world projects that deepen their academic experiences.

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Community Partnerships Center
Roger Williams University
One Old Ferry Road
Bristol, RI 02809
cpc@rwu.edu
http://cpc.rwu.edu
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Introduction

In the spring of 2013, YouthBuild Providence applied to the Community Partnerships Center at Roger Williams University for project assistance in creating concepts and a vision for a proposed sustainable learning center in Providence, Rhode Island. During the spring of 2014, students in ARCH 413 - Advanced Design Studio worked in collaboration with staff and participants from the YouthBuild Providence program to develop a program and concepts for a proposed new building.

YouthBuild Providence (YBP) is an organization that serves young people who have either dropped out of public high school or are on the verge of doing so. The program provides them with opportunities for academic advancement, personal growth, leadership, career development and construction training. YBP continues to expand its current programs and to develop new ones. Unfortunately, their current space does not allow for additional expansion and restricts YBP from having simultaneous classes and adding students to the program.

The two YBP directors, Anthony Hubbard and Robert Nyahkoon, gave their time generously and worked closely with the Advanced Design Studio on the project, explaining their vision for YouthBuild’s future. YBP asked students to integrate the new technical center and academic building into one building on one site, rather than the two separate buildings it maintains currently. YBP worked with students to explore design options that included sustainability, practicality, a modern aesthetic that fit within the Olneyville section of Providence and program elements such as office space, classrooms, meeting space, an outdoor garden and access for the public.

Proposed building design by Colin Pottbecker.
Site Selection

Currently, YouthBuild programs are housed in two buildings in the Olneyville neighborhood of Providence. Some of their programs, such as the culinary program, are housed off-campus. The intention of the design studio project was to provide YouthBuild with a signature building in Olneyville, which would combine all of their programs and services into one central location.

The Director and Assistant Director of YouthBuild Providence, Anthony Hubbard and Robert Nyahkoon, identified a potential site on Plainfield Street, bordered by Dike and Atwood Streets, for the proposed building. The proposed building needs to accommodate a program that would expand from 50 to 150 youth.

The site is located in the Olneyville section of Providence with access to public transportation and access to Route 6 and Route 95 in Providence.
Program

Typical features of the YouthBuild facility include administrative and faculty offices, classrooms, a media lab, library space (either as a series of small study/library areas or as a full library) and a cafeteria. Features unique to the program are a special meeting space or “Dugout” as it is called by YouthBuild. This is where the students begin the day by meeting in their houses (groups) and is where they build community and leadership skills. Other special program elements include two distinct areas for the primary career skills taught at YouthBuild: a construction facility and culinary arts area.

YouthBuild holds a special place in the Olneyville section of Providence; the directors consider YouthBuild a community beacon. Many of the YouthBuild students have built new affordable housing in the neighborhood. Having special community rooms or even a separate community facility is an integral part of the design. YouthBuild had a request for the incorporation of an athletic facility for their basketball team; this facility can serve as a place of assembly and also as an exercise facility for the Olneyville community. A garden or outdoor meeting space was also included in the design request; this could be on-site or designed as a green roof area.

The owner’s original requirements and goals for the project were:

- Sustainable design.
- Modern aesthetic.
- Design that captures the historic and industrial side of Olneyville.
- Educational and construction programs in a collaborative environment.
- Offices, classrooms and labs equipped with innovative technologies.
- Community meeting and gathering spaces.
- An outdoor garden space that will be used as an educational and community-building tool.

As the project progressed, culinary teaching spaces and athletic facilities were added.
Studio Process

The students began the process by meeting with Anthony Hubbard and Robert Nyahkoon at the YouthBuild facility in Olneyville. They toured the current spaces and learned how the students inhabited those spaces.

That first meeting illustrated the variety of needs that would need to be considered when designing the new site. Classrooms were important, of course. But the students realized they also needed to provide individual and small group space in or near the classrooms for individual and small group work. They needed to understand what made a successful teaching kitchen and how a cafeteria and kitchen needed to be designed. Students learned what was needed to accommodate the construction classes and work spaces.

Two aspects of the project drove most of the student designs. Unlike traditional high schools, the sense of community between YouthBuild faculty and students was palpable. Every school morning begins with a meeting and an affirmation of community spirit in what YouthBuild calls the “Dugout.” The Dugout space was key to the success of the building. The other consideration was the importance of YouthBuild as a symbol and a central gathering space for the Olneyville community. The design would need to project a respect for Olneyville and its residents.

Students worked diligently to achieve an understanding of what was necessary to pull this unique building together. This was not a typical high school, and the students investigated the specialized spaces that had to be woven together with more traditional ones. The success of the YouthBuild student experience and how the new building would foster that success was foremost in the design deliberations.

In addition, students researched appropriate building materials and construction methods to propose contemporary buildings that would both project the status of YouthBuild’s accomplishments and also respect the Olneyville neighborhood.
Student Designs
Renee Bilodeau

From Professor Roseann Evans: The design goal was to successfully create an organization that echoed throughout the entire building by having floors that repeat a familiar plan layout. Openings at each level allow for a triple height main stair and a double height Dugout space.

Renee integrated coarse stucco and horizontal corrugated metal in white and black as a pattern signifying the major spaces. Over the entry and in the main construction space, she played with patterns in the curtain walls by replacing some glass panels with metal panels that are orange, the YouthBuild school color. The orange color is very prominent in the main entry and the construction facility, emphasizing the importance of construction to the YouthBuild philosophy.

Driving forces of the building are circulation and light penetration, allowing light to create a connection and flow between the three floors.

This sleek building communicates a place of forward improvement for the students and for the Olneyville community.
1. Lower level floor plan includes: gym, workout and locker rooms, mechanical, storage, lecture hall, construction loading dock, training room and outdoor work space.

2. First floor plan includes: Dugout space, senior lounge, cafeteria, construction space, woodshop, conference room, culinary space and administrative offices.
1. Perspective of meeting space.

2. Second floor plan includes: Dugout, library, biology lab, classrooms, art room, study lounge, computer lab, family learning room, and a greenhouse.

3. Section.
1. Perspective of entry.
2. Exterior perspective.
3. South elevation.
Student Designs
Jake Bochese

From Professor Roseann Evans: Jake created a central Dugout space around which everyone moves on all floor levels. This maintains communication among students and teachers and emphasizes the importance of the common meeting space. Classrooms and multipurpose rooms flow into each other with ample views into the centralized Dugout. A series of open study spaces invite both study and interaction.

The centralized Dugout acts like a pleasant atrium, a place where light pours in and where formal and informal encounters can occur. From the Dugout, the wings of the building revolve in pinwheel fashion, clearly laying out the gymnasium, the construction spaces, community rooms and the culinary arts spaces. From the Dugout, one can also view outdoor garden and meeting space.

1. Perspective of open study spaces offering views into the central Dugout below.
2. First floor plan includes: reception, administrative offices, gym, culinary and construction space, locker rooms, storage, demo area, IT room and a courtyard.
1. Second floor plan includes: classrooms, kitchenette, offices, library, conference room, computer lab, senior lounge, biology lab, art room, cafeteria and weight room.

2. Third floor plan includes counseling center, nurse's office, family room, administrative offices and rooftop terrace

3. Perspective of entry into Dugout space.
Exterior perspective.
1. Cafeteria perspective.
2. Dugout perspective.
3. Section.
Student Designs
Marisa Bottai

From Professor Roseann Evans: Marisa gave herself the mission to design a building that would unleash the intelligence and positive energy of the YouthBuild students through active, collaborative learning. With interlocking spaces that flow in and out of each other, she moves away from the traditional institution to explore innovative ways of learning.

Sustainable strategies allow this contemporary building to relate to Olneyville's roots and remain humble in its surroundings while symbolizing the students’ aspirations to rebuild their lives. This building will serve as a hub for the Olneyville community while providing a home away from home for the students.

The design strategy involves a main street that moves from the building’s entry to the exterior gathering space. Along the way, this busy street is activated by clear placement of the building’s program parts, allowing the personality of each part to animate the street and its inhabitants and to provide opportunities for learning and discussion.
1. First floor plan includes gym, locker rooms, kitchen, cafeteria, stage, administrative offices, construction academy, job center, cafe, family learning center and storage.

2. Perspective of family learning center.

3. Atwood Avenue elevation.
1. Second floor plan includes: classrooms, conference rooms, offices, media and science labs, art room, counseling center, multipurpose rooms and green room.

2. Sub-level floor plan includes: demo area, offices, classrooms, mechanical, storage and woodshop.
1. Exterior perspective.

2. Perspective of gym where clerestory windows and skylights provide maximum daylight.

3. Cafeteria perspective.
From Professor Roseann Evans: This building fuses modern architecture with the landscape to create an unfolding experiential structure. The new school engages Plainfield, Dike and Arwood streets, transforming the Olneyville site into a new landmark. The program of the building includes traditional classrooms plus a construction academy, culinary academy, science labs and an athletic facility.

The merging of landscape, architecture and art was inspired by the street intersections in Olneyville and was executed to achieve a dynamic and supportive relationship between the school environment and the neighborhood’s context.

As students and faculty members move throughout the spaces in the building, they experience a flow of light, art and architecture with views from one level to another and from inside to outside. The movement between the new building and the landscape creates a fluid dynamic based on a sensitive relationship to its context.
1. First floor plan includes: administrative offices, gym, cafe, culinary space, community space, counseling room, IT and storage.

2. Mezzanine floor plan includes: classroom, offices, lounge, weight room and conference room.
1. Second floor plan includes: Dugout, offices, classrooms, science lab, art room, media lab, library, family learning center, senior lounge and greenhouse.

2. Perspective of senior lounge.

3. Exterior perspective.
1. Perspective of front entrance.
2. Lobby perspective.
3. Section.
Student Designs
Matt Diack

*From Professor Roseann Evans:* This project approaches the program requirements in a unique manner. Matt chose to create a campus with three buildings that address each of the three streets surrounding the site. The edge placement of the buildings creates an interior space that belongs to YouthBuild, although it also creates a welcoming view to the Olneyville neighborhood. The interior space doesn’t preclude neighbors from its use, but its enclosure does signify that it belongs to those who participate in the YouthBuild academic environment.

Each building houses a component of the YouthBuild program. The administrative and academic building includes the Construction Academy with space at the lower level for outdoor building. The gymnasium and the culinary arts spaces are each housed in their own buildings. Each building opens onto the campus square, emphasizing a connection between the outdoors and the spaces where large numbers of students would be gathering. This serves to activate all of the large spaces in the composition.

The material for each of the buildings is a sleek metal panel with operable louvers to maintain view, sun and glare control.
1. First floor plan.

2. Lower floor plan includes: outdoor construction area, storage and mechanical.
1. Gym perspective.
2. East elevation.
1. Section.
2. Exterior perspective.
From Professor Roseann Evans: Alison chose to create a multi-height central atrium around which the program components aggregate. Vertical circulation occurs in the atrium space, animating the atrium with student movement. The atrium is flooded with light and all of the program blocks face the atrium with glass walls or open lounge/study areas.

Alison has used traditional materials to fit the building into the Olneyville neighborhood, and she has chosen a warm interior palette to complement the sun-filled atrium.

The Dugout adjoins the atrium on the first level, and the space flows into a cafeteria that looks into terraced gardens. Alison has created green roofs (one of which contains a greenhouse) that overlook the terraced gardens. The southern exterior composition is a welcoming respite from the urban scene that otherwise surrounds the building.
1. Basement floor plan includes: gym, locker rooms, mechanical, storage, woodshop, IT room and demo area.

2. First floor plan includes: Dugout, cafeteria, kitchen, administrative offices, counseling center, nurse’s room and training area.

3. Dugout perspective.
1. Second floor plan includes: science lab, art room, family learning center, classrooms and a green roof.

2. Perspective of rear side of building.

3. Third floor plan includes: library and study lounge.
From Professor Roseann Evans: The strategy for this design is to wrap the building around the garden space at the southern part of the site and to allow the interior spaces visual and circulatory access to it. One moves around or through these spaces to access vertical circulation as well as the other programmatic parts of the building.

The wrapping proceeds through the three floors of the building and is anchored at each end by the largest programmatic spaces: the gymnasium and the construction facilities. This organization works to minimize the mass of the building at the street edges by placing the largest and highest masses at the back. These masses are then modulated by the graceful terrace and gardens.

Entry is at the corner of Plainfield Street and Dike Street. The entry lobby is met by a slightly skewed hexagonal space that contains the major gathering places in the building: the Dugout and the cafeteria. This gives these areas visual access to a huge terrace accessible from the cafeteria that leads to the celebrated garden.
1. Perspective of Dugout flowing into the cafe.

2. Basement floor plan includes: gym, locker rooms, training room, mechanical and storage.

3. First floor plan includes: Dugout, cafeteria, cafe, kitchen, classrooms, library, multipurpose room, media lab and construction space.
1. Second floor plan includes: classrooms, administrative offices, science lab, art room, senior lounge, family learning center and outdoor terrace with greenhouse.

2. Dugout perspective.
1. Exterior perspective.
2. Section.
Student Designs
Andrea Krefsky

From Professor Roseann Evans: The Providence YouthBuild project is designed to be a home away from home for the students as well as a place for learning and growing. The design of this school is built around the three major spaces, the construction academy, the gymnasium and the culinary arts space, with academic and community space interspersed.

The program is held together by the centralized atrium, which also serves as a multipurpose Dugout. The greenhouse and the atrium feel less like a traditional school and create a comfortable place for students. The flow and interaction of the spaces creates an atmosphere that encourages students to work together to achieve their goals.

The chosen materials are clean and crisp, with white aluminum panel walls in composition with vertical wood panels. The clean palette works throughout the building, creating an environment where bright light and the softness of the plantings create a pleasant, home-like atmosphere.
1. Second floor plan.
2. Perspective of atrium Dugout.
3. East elevation.
1. Lobby perspective.
2. Perspective of south entrance.
3. Section.
Student Designs
Phil Lane

From Professor Roseann Evans: This project was driven by the belief that the educational environment plays a critical role in the quality of learning. A traditional school typically gathers students together in small spaces. The goal of the new YouthBuild facility in Olneyville is to create opportunity and freedom within its walls. Shifting to a more open and untraditional school atmosphere will encourage better learning and engagement.

Opening the main space of the school horizontally and vertically allows for this stronger participation. An adjacent community center encourages local residents to become more involved and to interact with students in a unique space.

The main entrance is on Plainfield Street, the Community Center entrance is placed on Dike Street, and the construction program and service is placed on Atwood Street. A secondary bar, rotated to match the angle of Dike Street, allows a large amount of the site to be protected. Site terraces allow for multipurpose areas that include meeting places with seating, community gardens and green space, social gathering space and exterior construction work areas.

This design creates some wonderful moments. The circulation moves smoothly from the entry point with its celebrated library through to the Dugout and cafeteria that face the protected outdoor spaces. The program is well placed around this clear circulation.
1. Basement floor plan includes: storage, mechanical, locker rooms and training room.

2. Ground floor plan includes: classrooms, administrative offices, library, culinary space, multipurpose room, gym, family learning center and demo area.

3. Perspective view from exterior construction work area.
1. Second floor plan includes: classrooms, science lab, art room, administrative offices and storage.

2. Perspective of interior space.
1. Exterior perspective.
2. Library perspective.
3. Section.
Student Designs
Kelly Papa

From Professor Roseann Evans: Kelly’s goals for this project were: to set the structure back from Plainfield Street; to create a clear circulation; to have a separate community entrance; to base the landscape off of building geometries; to create unique spaces for the lounge areas; to create a sustainable building; to separate staff parking from community parking; and to create an active area for outdoor activity.

These goals led her to a unique approach, which was to create an outdoor street that flowed from the main access street (Plainfield Street) to the rear garden and parking areas. The buildings flank the new pedestrian street, and users can see the interior action. Lounge study areas have a view of the pedestrian street; lecture halls also look into it. Some spaces move into the street to access outdoor meeting space.

Kelly created a material palette of corten steel, polished steel and textured steel for mullions and panels, with corrugated metal panels and black slate flooring. The orange of corten steel and the black slate were to represent the orange and black YouthBuild colors.
1. Exterior perspective.
2. First floor plan.
4. Basement floor plan.
1. Section perspective.
2. Perspective of main entrance.
3. Cafeteria perspective.
4. East elevation.
Student Designs
Colin Pottbecker

From Professor Roseann Evans: In his scheme, Colin groups all academic spaces (including the main Dugout meeting area), the culinary arts program and cafeteria into one large wing of the building and groups the construction academy and athletics into the other wing. He connects the two wings with a large community gathering space.

The main entrance is placed on Atwood Street. Upon entry, the large gathering space is activated by skylights and by a view into the glass-walled gymnasium and the large lecture room at the end. People in the building also have views of a large roof garden that is placed above the construction space.

The building’s orientation toward Atwood Street provides parking access from Dike Street, which allows the odd-shaped southern part of the site to be successfully utilized as garden space. It also provides a large outdoor construction area next to the indoor building workshops.
1. First floor plan and program.

2. Second floor plan and program.
Exterior perspective of main entrance.
1. North elevation.
2. Dugout perspective.
3. Roof terrace perspective.
Student Designs
Dominic Skrajewski

From Professor Roseann Evans: This project envisions a unique structure that is designed to achieve YouthBuild's expansion goals for 150 students. The building includes public and private spaces on the site and emphasizes key student activities in relation to the mind and body. The building caters to the student's education, the staff's passion for teaching and to a community looking to get more involved.

Dominic chose materials of: gray brick for its strength, durability, easy maintenance, thermal performance and fire resistance; metal siding also for its strength, durability, ease of maintenance, fire resistance and availability of recycled forms; and copper for its unique color, light weight, durability, recyclability and low maintenance. He blends the materials to create a building symbolizing YouthBuild with prominence on the site.

Dominic has provided ample interior spaces united by a street that moves from the entry on Plainfield Street to rear parking facilities. An outdoor construction area, accessed via large garage type access doors, shares the space at the back of the site. A south-facing green roof provides outdoor gathering space.
1. Front elevation.

2. Basement floor plan includes: cafeteria, kitchen, mechanical and storage.

3. First floor plan includes: administrative offices, Dugout, gym, locker rooms, IT, training area, demo area, conference rooms and storage.
1. Second floor plan includes: classrooms, science lab, art room, weight room, flex space and storage.

2. Third floor plan includes: senior lounge, student lounge, library, family learning center, daycare and outdoor terrace and classroom.
1. Section.
2. Dugout perspective
3. Green roof perspective.
Conclusion

The students and faculty in this advanced design studio are grateful for having had the opportunity to work with YouthBuild’s Director Anthony Hubbard and Assistant Director Robert Nyahkoon as well as the students from YouthBuild who attended project reviews.

We want to express our great appreciation for the assistance that Stephany Hessler of Roger Williams University’s Community Partnerships Center provided. We also thank all those who reviewed student presentations for their wise comments and suggestions.

Working with an exciting, real-life project that had the potential to influence future building decisions was a welcome challenge the students eagerly accepted. The interesting buildings and spaces that resulted from the students’ work is a testament to their talent and to their commitment and intensity in working on this project.