Landscape Serving Education—Inspirations from Green School Yard in San Francisco

Peihao Tong, Shiao Wang

IIT Stuart School of Business, Chicago, IL, USA

ABSTRACT: This research paper was written as a requirement of LA 514 The Professional Practice of Landscape Architecture, Master of Landscape Architecture Program, Illinois Institute of Technology for Professor Mary Pat Mattson. In the course of my exploration, I realized that Miller’s design of Green school yards in San Francisco were a highly collaborative effort with schools, communities and organizations. The green schoolyards, including edible gardens, not only extend the outdoor classroom which has become more and more popular in the world, but also provide educational purpose, physical training, awareness of food resources and fresh food resources. This paper is going to figure out the following questions: what is the designer’s responsibility and role in the design process? How does the green schoolyard design influence the work? How is the collaboration between community, design team, school and Government? What are proposed politics and culture?

1. COMPANY INFORMATION

Principal Jeffrey Miller established Miller Company Landscape Architects in 1980. It focuses on providing creative and functional design solutions of outer environments, which support the ecological health of the surroundings. The company collaborates with variety of organizations and works on different types of projects from schools, parks, urban space, and non-profit service organizations. The company’s strategy features on active community participation and develops socially engaging environments by working with surroundings neighborhoods.

Jeffrey Miller States that: “We address the constraints of climate and environmental conditions as opportunities for innovative landscape design. Our projects have been recognized locally, nationally and internationally for sustainable design, with publications, LEED Certification, Green Point rating, and awards from the American Society of Landscape Architects, the American Institute of Architects, US Green Building Conference and other organizations.”

2. PROJECT INFORMATION

Miller Company began the project, San Francisco Unified School District Green School Yard, where Miller created more than 20 edible school gardens for elementary and middle schools in the San Francisco United School District.

The first work with SDUSD in 2006 was at Sherman Elementary School. The work is a unique edible school garden that is featured in the school’s setting, resources and the community’s interests. It improves the school’s educational facilities, involves children into the outer classroom and provides a unique experience of gardening knowledge and fresh food. In the project, community involvement helped increase the small budget significantly and supported the maintenance work, where the community gained a sense of pride and stewardship.

This project for the Sherman Elementary School increased the accessibility to a 1940’s concrete building on a sloped site. The design combined with the existing Romanesque Architecture improved the restrooms and travel path. The green edible schoolyard is an important component of the outdoor terraced play areas. It formed a gently sloping hill, an outdoor classroom, waterfall and pond.

“Developed through a collaborative process with 450 architects, environmental planner Sharon Danks, and landscape architect Jeff Miller, parents, teachers, staff, and the greater school community, the school yard allows nature play, gardening, and other creative outdoor activities.”

There is not enough green space in Sherman Elementary School. The asphalt covered the east side of the playground. In Miller's plan, a semicircle of hay bales will be built in the southeastern corner. His plan also including a bird and butterfly habitat, a school garden, a creek, a waterfall and a green house.
3. ROLE OF LANDSCAPE ARCHITECTURE

3.1 Initial

Sherman, a country school, enjoyed a huge area of open space that is graded and paved. A transformation into a green experience like a school garden can significantly improve Sherman Elementary School and provide interesting, healthy play for children to play and learn. The beauty of the green schoolyard can also benefit to the neighborhood.

Jeffrey Miller, landscape architect, came up with a preliminary conceptual plan of the Franklin Street Yard. The initial discussion with Green Schoolyard Committee was based on prior discussions and worked with 450 architects. In addition, the site plan was established by 450 architects, which helped Sherman Elementary School improve the ADA accessibility. The plan was regarded as a long-term plan for the street and a foundation for further development.

3.2 From 2005 to 2006

Green yard #6 (Green St. Yard) was not able to be part of green schoolyard since ADA restrictions. Instead, the Landscape designer proceeded to start a temporary edible garden that used planter boxes and functioned as an outdoor classroom. The students and faculty’s collaboration made this learning garden successful. Miller Company was hired by the Committee to plan the improvement in store for the Franklin Street Yard. Also, Sherman community was asked to provide input into desired features for the edible school garden. At the end of 2005, Miller Company worked with the committee and grew a preliminary site plan of the yard. During the summer, Miller Company helped to find what kind of features can be constructed and how to use the existing conditions.

The project received an additional $25,000 for work on the yard by the SFUSD Prop. A bond manager. The committee was working on how to use the funds. The budget was spent on plumbing and electrical works to maintain the irrigation system, facilities for the new concrete path, and permeable paving in the yard. So the additional funding allowed the company and the school to complete more. Also, Scott Mignola coordinated the delivery of 60 cubic yards of wood chips on the Franklin

Street yard.

Lynn Fuller and Laura Waitz wrote a successful grant request to SF Beautiful, so the project was awarded a grant of over $6000 by SF Beautiful. The grants were planned to plant trees and shrubs in the yard and to build the irrigation system.

A Sherman student’s grandparent donated $10,000 to the Green Schoolyard Project. These funds were used in making leaf imprinting in the concrete path, and the rest of funds were used for facilities like benches and tables in the yard.

3.3 January 2007 update

During the wintertime, the company kept working on installing Decomposed Granite Surface with the help of the Green Schoolyard Committee and Volunteers. Also, the company started the work of planting selection in the yard. The gardeners in the community helped through the winter into the spring. The school’s faculties and students were really excited in extending classroom and studying outside in a beautiful school green garden. In the meantime, the project received lots of support to form the community in countless volunteer hours since the district and the Green schoolyard Alliance wanted to show this project as guidance to other schools.

3.4 February 2007

The green schoolyard was under busy construction, and interested community groups were invited to join and build the yard. The main outdoor classroom and the decomposed granite play-surface were constructed. 2nd grader Aodomar’s father had helped to get work done for a couple of weekends. Landscape Architect, Jeff Miller, spent lots of time and effort to direct and assist the school in finishing the work.

The installation of a stone stairway from the path to the main area, the repairment of the damaged asphalt, the removal of the plantations, and the electrical work for the irrigation system were all paid by Proposition A funds.

Miller avoided using playground material and preferred to build a green path to create an outside
recreation area. During a tour, he pointed out examples of sustainable school yard plans, reusing discarded paving stones to build a creek, reusing the wood from old coops to build a fence and climbing trees decorated with colorful stripes.  

![Site Plan](http://www.shermanschool.org/greenschoolyard_archive.htm)

The company planned to start planting trees and shrubs after the contracted work and was working with the SFUSD to finish the planting list. The school hoped to plant trees by their students and faculties. Also, a school-wide competition was delivered out to create a design for a circular area in the main area.

3.4 August 2007

Miller Company finished the water feature with the help of Linda Myers and volunteers during the summer time according to the summer watering schedule. The stone stairs and remaining contract work is completed and most of the infrastructures were completed, so they could focus on “green” works. The company planned to finish the following works: assemble the picnic tables and umbrella’s for the Franklin Street Yard, Schedule several tree plantings through the year, hold a community open house for school neighbors; complete the design and installation of the ”labyrinth”, build the tool shed; install the remaining irrigation system and play structure.

3.5 January 2008

The school kids got training and were involved in water awareness sessions from Linda. A new member joined in the committee focusing on grant applications. At the second half of the year, a meeting was held to refine the goals of the rest time. Ideas were generated from the landscape company, community, students and school faculties. The following is a list of work that needed to continued focus: Maintenance Coordinator, Volunteer Coordinator Grant Writing, community house and Irrigation tool.

4. PROJECT ACHIEVEMENTS

The green Schoolyard project got involved in a high collaboration work. Engaged school faculties, community, students, Landscape Company, volunteers and organizations together built the new yard. It provided experience of spreading mulch, planting vegetables, and making attractive prints by using the leaves with poured concrete. The curriculum now includes learning ecology, biology, geology, and working for the yard’s plantings and animals.

The campus provided more consistent educational adjacencies. ADA improved stairs, elevator door rails, the drinking water system, washrooms and schoolyards. Also, life safety is taken into consideration by improving the main panel, alarm and irrigation system.

Green schoolyards also featured in creating and maintaining a proper manner that is kind to the nature. The garden projects recycled discarded materials. The new storm water was based on the removal of asphalt that allows rainfall to soak into the soil and plantings. Importantly, kids learn more about nature and became aware of the environment.

Children in the green schoolyard could know more about nature including plantings and animals, the relationship between the sun and the earth, awareness of food resources, knowledge about growing plantations and experience of learning outside where children can work on writing and art paintings. The schools grew nutritious plantings, such as lettuce and root crops. Students really liked to eat the school garden’s vegetables.

Because of the San Francisco Schoolyard projects, Miller Company has gained lots of experience in designing a sustainable schoolyard, an edible garden, and a green playground in Bay Area. Miller played an important role in the green schoolyard movement and related activates. He encouraged that different communities need to collaborate during the design process and take kids’ behavior into consideration. It actively helped to build “soft”, creativity playground that also would educate kids.

Miller’s company helped the school make plantings selection according to its educational function and nutrition need. In the Edible garden, Kids ate celery and saw how a purple cabbage spread its leaves. Kids not only learned science and nutrition, but also made poetry in the garden.
4.1 Before and after

Before pavement playground. Credit: Clare Watsky

After Playground with green path. Credit: Sharon Danks, Bay Tree Design

Before Construction. Credit: Clare Watsky

After Green Construction. Credit: Sharon Danks, Bay Tree Design

4.2 Idea generation

School’s idea: Phyllis Matsuno, Principal, Sherman Elementary School stated: “We are deeply grateful for your creative vision, great listening skills, help and support. You led us on a path to collectively and collaboratively dream about what our school community would like to see in the ‘greening of our yards.’ And now our school is beautifully transformed!”

Parents’ idea: Many parents expected to build a stronger community together. They thought that the green schoolyard could provide a great platform to acquire experience and confidence in building a city’s fundamental educational environment. The green school is a place where different communities in the area can study from each other and share the valuable experience that also helps kids to grow up healthily both in mentally and physically.

Teacher’s idea: That Green schoolyards with a garden educate students has a long history. It involves the nature as part of the overall education process, and helps to improve students’ life, increasing their interests in learning, encouraged them to communicate with different communities and achieving a sense of place.

Both schools and parents share the same value of increasing responsibility, to help kids understand the food resources, enforce the awareness of environment stewardship, get knowledge of nutrition and health and link kids with the nature. Miller Company helped to develop this idea from the initial discussions and spread them into the whole design part.

5. SUPPORTS

5.1 Funding

In November 2003, there was $2 million in funding for replacing asphalt pavement into Green schoolyards in San Francisco schools area. Funding for similar projects in this area came from bonds that were designed to raise $750 million to meet ADA requirements. Sherman Elementary School received $80,000 and came up with the idea of building a green schoolyard. In making application for more grant and funding, the school built a small parent committee that helped to make application and gather donations from different communities and organizations.

5.2 Policy

Over the past ten years, green schoolyard in California became more and more popular. It is exemplified by the 1997 reelection-campaign Promise of Delaine Easton, former state superintendent of schools, of “a garden in every school.” In 2003 and in 2006, local politicians
sensing a no-lose issue when they saw one, earmarked some $7 million to create natural playgrounds. There is a standard in California that for playground that per child have. However, few schools in San Francisco can reach this standard. Students are always limited through instructional spaces. In this context, people start thinking of regarding a garden as a playground.

6. DIFFICULTIES

There is huge need of volunteers and financial support every year in each season. This garden requires more labor to maintain it. Miller’s Company helped a lot in planting selection and how to correctly grow them. The local gardener provides non-profit training every month during weekends. Lots of initial funding was being spent on hard infrastructure, like irrigation system, plantings, ponds and grading. For example, Educational process in the school garden required teachers to improve their skills and knowledge. This training including how to integrate plantings into academic work needed to employ professional garden-education coordinator. Teachers and schools need to study differently to meet students' diverse needs. Also, they need to keep expending their knowledge to teach students more about ecology, biology and so on. The ongoing ground maintenance fee also needs to be taken into consideration that increases the annual budget.

REFERENCES