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# 2011 RUDY BRUNER AWARD PROJECT DATA



# PROJECT DATA

Please answer questions in space provided. Answers to all questions should be typed or written directly on the forms. If the forms are not used and answers are typed on a separate page, each answer must be preceded by the question to which it responds, and the length of each answer should be limited to the area provided on the original form.

NOTE: This sheet and a selected image will be sent to the Committee in advance.

Project Name Greening Greenfield, Phases I, II, and III Location Albert M. Greenfield School, Philadelphia  
Owner Albert M. Greenfield Home and School Association and School District of Philadelphia  
Project Use(s) SchoolYard- teaches children about environment while they play & provides green open space to community  
Project Size School Yard: 106' x 274' =28,872 Sq. Ft , Roof: 22,746 SF Total Development Cost \$615,000 + soil remediation  
Annual Operating Budget (if appropriate) N/A  
Date Initiated March 2006 Percent Completed by December 1, 2010 phs 1-3, 100%  
Project Completion Date (if appropriate) Phase IV, The Green Roof is in the planning stages - projected completion 12/2011  
Attach, if you wish, a list of relevant project dates \_\_\_\_\_

## Application submitted by:

Name Beth Miller Title Executive Director  
Organization Community Design Collaborative (nominator) for Greening Greenfield (nominee/beneficiary of award)  
Address 1216 Arch Street, First Floor City/State/Zip Philadelphia, PA 19107  
Telephone ( 215 ) 587.9290 Fax ( 215 ) 587.9277  
E-mail beth@cdesignc.org Weekend Contact Number (for notification): 215.681.4138

## Perspective Sheets:

Organization	Name	Telephone/e-mail
Public Agencies	<u>1) Philadelphia Water Department (PWD), 2) Philadelphia Activities Fund of City Council,</u>	
	<u>3) PA Department of Environmental Protection</u>	
Architect/Designer	<u>1) SMP Architects (w/ Viridian Landscape Studio, and Meliora Environmental Design)</u>	
Developer	<u>1) Greening Greenfield (501c3) in partnership with the School District of Philadelphia</u>	
Professional Consultant	<u>1) Community Design Collaborative 2) Kling/Stubbins (pro bono design team)</u>	
Community Group	<u>1) Center City Resident's Assoc, 2) Conestoga Bank, 3) Center City District</u>	
Other	<u>1) Philadelphia Orchard Project, 2) Pennsylvania Horticultural Society,</u>	
	<u>3) The Albert M. Greenfield Foundation, 4) Head Count/The Disco Biscuits, 5) Partnership for the Delaware Estuary</u>	

Please indicate how you learned of the *Rudy Bruner Award for Urban Excellence*. (Check all that apply).

Direct Mailing     Magazine Announcement     Previous Selection Committee member     Other (please specify)  
 Professional Organization     Previous RBA entrant     Online Notice  
 Bruner/Loeb Forum

Brandy Brooks, email

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Signature \_\_\_\_\_

Date 12.10.10

Organization	Name	Telephone/e-mail
<b>Public Agencies</b>		
Philadelphia Water Department	Glen Abrams	215.685.6039 <a href="mailto:glen.abrams@phila.gov">glen.abrams@phila.gov</a>
Philadelphia Activities Fund of City Council	City Councilwoman Anna Verna	215.686.3412 <a href="mailto:anna.verna@phila.gov">anna.verna@phila.gov</a>
PA Department of Environmental Protection	David Burke	484.250.5822 <a href="mailto:daburke@state.pa.us">daburke@state.pa.us</a>
<b>Architect/Designer</b>		
SMP Architects	David Ade, AIA, LEED AP	215.985.4410 <a href="mailto:dma@smparchitects.com">dma@smparchitects.com</a>
<b>Developer</b>		
Greening Greenfield Committee with School District of Philadelphia**	Lisa Armstrong, AIA, LEED AP	215.977.8516 <a href="mailto:larmstrong@greeninggreenfield.net">larmstrong@greeninggreenfield.net</a>
<b>Professional Consultants</b>		
Community Design Collaborative	Beth Miller	215.577.9290 <a href="mailto:beth@cdesignc.org">beth@cdesignc.org</a>
Kling Stubbins ( Pro bono team)	Jill Lavine/Jonathan Weiss	215.569.2900 <a href="mailto:jlavine@klingstubbins.com">jlavine@klingstubbins.com</a> <a href="mailto:jweiss@klingstubbins.com">jweiss@klingstubbins.com</a>
<b>Community Groups</b>		
Center City Residents' Assoc	Tim Kerner	215.546.6719 <a href="mailto:zoning@centercityresidents.org">zoning@centercityresidents.org</a>
Conestoga Bank	Patrick Mullen	215.790.9000 <a href="mailto:pmullen@conestogabank.com">pmullen@conestogabank.com</a>
Center City District	Nancy Goldenberg	215.440.5548 <a href="mailto:ngoldenberg@centercityphila.org">ngoldenberg@centercityphila.org</a>
<b>Other</b>		
Philadelphia Orchard Project (POP)	Phil Forsyth	215.724.1247 <a href="mailto:phil@phillyorchards.org">phil@phillyorchards.org</a>
Pennsylvania Horticultural Society	Michael Leff	215.988.8795 <a href="mailto:mleff@pennhort.org">mleff@pennhort.org</a>
The Albert M. Greenfield Foundation	Priscilla M. Luce	215.354.0604
Head Count (The Disco Biscuits)	Andrew Bernstein	646.674.2382 <a href="mailto:andyb@headcount.org">andyb@headcount.org</a>
Partnership for the Delaware Estuary	Thomas J. Davidock	302.655.4990 <a href="mailto:tdavidock@delawareestuary.org">tdavidock@delawareestuary.org</a>

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**2011**  
**RUDY BRUNER AWARD**  
**PROJECT**  
**AT-A-GLANCE**



# PROJECT AT-A-GLANCE

Please answer questions in space provided. Answers to all questions should be typed or written directly on the forms. If the forms are not used and answers are typed on a separate page, each answer must be preceded by the question to which it responds, and the length of each answer should be limited to the area provided on the original form.

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Project Name Greening Greenfield: Transforming An Asphalt School Lot into an Outdoor Green Learning Lab

Address Albert M. Greenfield School, 2200 Chestnut S City/State/ZIP Philadelphia, PA19103

1. Give a brief overview of the project.

On October 8, 2010, the occasion of Albert M. Greenfield School's fortieth anniversary, the Greenfield Home and School Association presented the Philadelphia School District and the Greenfield School community with the gift of a newly green school yard poised to change the way all Philadelphia School yards will look and function over the next twenty years.

Demonstrating that schools can be environmentally responsible, can provide healthy places to learn and play, and can take an active role in community improvement, a group of parents, teachers, students, and school administrators, with the help of the Community Design Collaborative and the Philadelphia School District, started to develop this plan in 2006 to transform the exterior of the Greenfield School property. The school yard, which was a sparsely landscaped asphalt yard referred to as the "parking lot," is now a vibrant green space designed to exemplify ecological stewardship.

Greening Greenfield not only offers Greenfield students a rich opportunity to learn the important lessons of environmental responsibility but also gives them and the surrounding community a green open recreation space in the heart of the city. The master plan focuses on the transformation of the school's urban site into an outdoor laboratory that teaches children about micro-climates, indigenous plants, rain water absorption, non-point source pollution, drinking water protection, energy conservation and harvesting, and their symbiotic relationship to the environment.

2. Why does the project merit the *Rudy Bruner Award for Urban Excellence*? (You may wish to consider such factors as: effect on the urban environment; innovative or unique approaches to any aspect of project development; new and creative approaches to urban issues; design quality.)

As the dominant land owner in Philadelphia of impervious asphalt-covered property, the Philadelphia School District has incredible potential, with the support of the Philadelphia Water Department, (PWD), to lead Philadelphia in creating a green legacy for future generations through the implementation of PWD's green stormwater infrastructure strategy. Developed with the input of the Capital Programs Office of the Philadelphia School District (SDP), Greening Greenfield is a model approach to sustainable site improvement, community involvement, and environmental service learning and curriculum enrichment which can be replicated at other Philadelphia public schools.

This project is truly a grassroots initiative, with all of the funding being raised privately through the volunteer efforts of the Greening Greenfield Committee of the Greenfield Home and School Association. The Greening Greenfield Committee has overseen the planning and fundraising for the Greening Greenfield program, coordinated the design and construction team in implementation of the plans, continues to support teacher training and curriculum enrichment in environmental education, and facilitates student exposure to opportunities to lead and serve in environmentally responsible initiatives.

From September 2008 through February 2009, the Greenfield community participated in a design visioning process to establish the goals and priorities for the project. Students, parents, teachers, representatives from the School District of Philadelphia and community partners collaborated in four vision workshops during which they walked the site, sketched and brainstormed, presented their ideas to the other participants for feedback. The Philadelphia School District and the Philadelphia Water Department both tout Greening Greenfield as a model project that can be repeated at other public schools. They are developing a new funding program for public schools which will provide capital grants to schools which follow the Greenfield School community involvement process to define the environmental and educational goals and priorities of their school community. See the story at this link: <http://vimeo.com/15231400>

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# 2011 RUDY BRUNER AWARD PROJECT DESCRIPTION



# PROJECT DESCRIPTION

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1. Describe the underlying values and goals of the project. What, if any, significant trade-offs were required to implement the project?

This project was started with three goals - to complete physical improvements to the school yard which reintroduce natural indigenous ecosystems to the site, to teach our students and community about environmental stewardship, and to provide a green open recreation space for the neighborhood.

The top priority is the commitment to protecting the environment and reinforcing this commitment with education. Increasing the engagement of the Greenfield School students with their natural environment is key. The long-term success of the project hinges on the students taking ownership of the "greening" of Greenfield School.

Because of the energy generated among our students by this initiative, Greenfield School was chosen as the Middle School Winner of the Schuylkill Action Network's 2010 Drinking Water Scholastic Awards. Our students also participated in the Delaware Valley Earth Force Youth Leadership Summit, presenting their video work as student ambassadors for Greening Greenfield.

With the support of the Community Design Collaborative, the Greening Greenfield Committee has initiated in 2010 the Green School Advocates' Roundtable Discussions with the goal of organizing a large green school and stormwater management forum. The objective of the forum is to bring together Green School Advocates with public and private partners to jumpstart a comprehensive effort to pool intellectual resources and funding streams to expedite the greening of Philadelphia's school yards.

Significant funds were required to complete the school yard improvements including the installation of a storm water management system with two indigenous Pennsylvania woodland forest rain gardens, porous pavement, permeable recycled play surface, an agriculture zone, and solar shading. Focussing so many resources on one urban open space when there is a need to equitably distribute green open spaces throughout Philadelphia is a trade-off that is justified by the potential for the success of this project to be a model that is repeated in other communities. +

2. Briefly describe the project's urban context. How has the project impacted the local community? Who does the project serve? How many people are served by the project?

Occupying a city block at 22nd and Chestnut Street, Greenfield School currently serves a lively and diverse student population, from kindergarten to eighth grade. The West Center City catchment area for this neighborhood school fills 30% of the student spots. 70% students are admitted to Greenfield School through a public lottery system, creating a unique mixture of geographic, cultural, and economic demographics. Students are bussed to Greenfield School from almost every Philadelphia neighborhood – 35 different zip codes are represented by our students. With an enrollment of 500 students, the racial diversity of the student population is well balanced with 57.2% African American, 31.4% Caucasian, 5.1% Asian, 3.2% Latino, and 3.2% other students. The school provides special education programs to 19.5% of the student population identified with special needs. Half (50.1%) of the students at Greenfield qualify for free or reduced cost lunch.

The sustainable site improvements completed by the Greening Greenfield project team address many of the Pennsylvania Nonpoint Source Management Program implementation provisions and the Keystone Principals. Located in the dense urban center of Philadelphia, fronting Chestnut Street, one of Philadelphia's main public transportation arteries, the site is ideally located to strengthen existing infrastructure and transportation investments, while also being only half a block from the Chestnut Street ramp access down into Schuylkill River Park (thereby enhancing that recreation resource). Also, because of the one block vicinity of the Schuylkill River to the original impervious paved play yard, the change to porous surfaces and infiltration plant beds significantly reduced the pollution which flows into the Schuylkill River when there is a rain event that results in the combined sewer overflow system unloading raw sewage into the river.

Greening Greenfield serves and benefits the school community and the surrounding neighborhood by improving the physical health of our community through reduction of urban heat island effect, reduction of water pollution through storm water management, and improved air quality and thermal comfort through indigenous landscaping and pervious ground cover which provide shading and cooling through prolonged evaporation. New play equipment and integrated play opportunities that promote active recreation are included in the site improvements which were constructed as part of this project.

3. Describe the key elements of the development process, including community participation where appropriate.

The Greening Greenfield project is the result of four years of intensive community collaboration, bolstered by the active support of Greenfield parents, the local design community, and School District of Philadelphia officials. In spring 2006, the Albert M. Greenfield Home and School Association enlisted the support of the Community Design Collaborative, a volunteer organization that provides preliminary design services to nonprofit organizations. The Community Design Collaborative worked with the Philadelphia-based design firm of KlingStubbins to create the conceptual master plan. The design and documentation of this plan was provided through a \$30,000 service grant. KlingStubbins received the 2007 AIA Philadelphia Community Design Collaborative Outstanding Firm Award for Architecture for its conceptual master plan for sustainable outdoor space for Greenfield School.

The Center City Residents' Association, Pennsylvania Horticultural Society, Center City District, Philadelphia Water Department, and local business community were involved in the refinement of this plan. Greening Greenfield has taken a comprehensive approach to the creation of educational components to help the community understand how sustainable choices benefit our local and global environment for present and future generations. Partnerships with PHS Tree Tenders Program, Delaware Valley Earth Force, Philadelphia Orchard Project, and PECO have provided training to teachers, parents, and students to ensure continuity for the project.

4. Describe the financing of the project. Please include all funding sources and square foot costs where applicable.

GREENING GREENFIELD is a unique private/public partnership. The School District of Philadelphia is the land owner. All of the funding has been raised privately through the volunteer efforts of the Greening Greenfield Committee of The Greenfield Home and School Association. The Greening Greenfield Committee oversees the planning for the Greening Greenfield project, coordinates the design and construction team in implementation of the plans, and then gifts the improvements to the School District when the construction is complete. The budget spent to date by The Greenfield Home and School Association on the completed School Yard Improvements and the installation of the Solar Panel Array on the school roof is \$615,000 including project soft costs (design fees, survey, accounting, etc.) and construction costs. This budget amount does not include the funds contributed by the Philadelphia School District for conducting soils investigations and remediation. Also, an additional \$90,000 has been raised by the Greening Greenfield Committee to go towards Phase IV, the green roof.

The Greening Greenfield project is supported by grants from The Albert M. Greenfield Foundation, the Pennsylvania Department of Environmental Protection, the Schuylkill River Restoration Fund, the Disco Biscuits, HeadCount, the Philadelphia Water Department, GreenPlan Philadelphia, PA Dept. of Community and Economic Development made possible by Rep. Babette Josephs, Pennsylvania Horticultural Society Tree Tenders, PA Dept. of Conservation and Natural Resources TreeVitalize, Philadelphia Activities Fund sponsored by Council President Anna Verna, US Fish and Wildlife Service, Conestoga Bank, and CSX. In kind service contributors are the Community Design Collaborative with volunteer firm KlingStubbins, Mercury Solar Systems, Delaware Valley Earth Force, and the Philadelphia Orchard Project.

5. Is the project unique and/or does it address significant urban issues? Is the model adaptable to other urban settings?

This project is unique because it is the first Philadelphia Public School Yard to be greened with multi-function storm water best management practises that provide indigenous rain gardens, integrated play space, shading, an outdoor classroom, agricultural food production, and educational resources and opportunities. The goals and priorities for the design of the project were established by an intensive community visioning process which included four charrette working sessions involving students, parents, teachers, School District of Philadelphia representatives, and community partners, ensuring that the community is invested in maintaining the project. In 2001, the Academy of Natural Sciences Patrick Center, the Natural Lands Trust, and the Conservation Fund, collaborated to prepare the Schuylkill Watershed Conservation Plan for the PA Department of Conservation and Natural Resources. Redevelopment of urban/brownfield sites was identified as an implementation tool for restoring water resources. Increasing greenspace was recommended as another implementation tool to promote sustainable landscapes. Greening Greenfield is one part of a much larger incremental solution to the Schuylkill watershed conservation needs. However, Greening Greenfield is positioned to have a major impact in the promotion of urban greenspace redevelopment as it demonstrates that, through private/public partnering and environmental advocacy, the school yards of the Philadelphia public school system should be improved to provide community green open space, to reduce non-point source pollution, reduce impervious cover, and reduce runoff as a percentage of precipitation. This project has been a catalyst for two city-wide efforts, PWD's "Green City, Clean Waters" and Green2015, respectively, to help restore and protect our Philadelphia drinking water supply and to provide green open space within a ten minute walk of every Philadelphian.

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# 2011 RUDY BRUNER AWARD AWARD USE



# AWARD USE

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Please separate this page from the rest of the application. Award Use should be submitted in a sealed envelope along with the application materials. It will not be used in judging entries or be seen by members of the Selection Committee.

Please describe how *Award* monies will be used to benefit the project. (The *Award* check will be made out to the Applicant unless otherwise specified.)

As part of the Greening Greenfield agreement between The Albert M. Greenfield Home and School Association and the School District of Philadelphia, The Greening Greenfield Committee of the Home and School Association has committed to raise a \$100,000 endowment for the long-term maintenance costs for the Greening Greenfield Improvements. So far \$50,000 in committed funds have been raised for the endowment. If Greening Greenfield is selected to receive a Rudy Bruner Award, the award money will be devoted towards completing the \$100,000 Greening Greenfield Maintenance Endowment. This endowment will be invaluable in ensuring the sustained health and condition of the rain gardens, agricultural zone, and porous pavement improvements.

If Greening Greefield is selected to receive a Rudy Bruner Award, the award check should be made out to The Albert M. Greenfield Home and School Association.

\*\* This statement should be signed by the applicant. Photocopies or facsimile copies of the statement with original signature is acceptable. Award Use statement should be submitted in a sealed envelope along with the application materials.

Lisa Armstrong, AIA + Pat Toy, Co-Chairs GG Committee

12.8.10

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Name and Title

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Date

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**2011**  
**RUDY BRUNER AWARD**  
**COMMUNITY**  
**REPRESENTATIVE**  
**PERSPECTIVE**



# COMMUNITY REPRESENTATIVE PERSPECTIVE

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This sheet is to be filled out by someone who was involved, or who represents an organization that was involved, in helping the project respond to neighborhood issues.

Name	Timothy Kerner	Title	Chair, CCRA Zoning Committee
Organization	Center City Residents' Association	Telephone	( 215 ) 546-6719
Address	1616 Walnut Street #705	City/State/ZIP	Philadelphia, PA 19103
Fax	( 215 ) 546-5110	E-mail	zoning@centercityresidents.org

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Signature	Timothy Kerner	Date	December 8, 2010
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Digitally signed by Timothy Kerner  
DN: cn=Timothy Kerner, o=Center City Residents' Association, ou=  
email=timkerner@ccra-studio.com, c=US  
Date: 2010.12.08 21:12:52 -0500

1. How did you, or the organization you represent, become involved in this project? What role did you play?

The Center City Resident's Association (CCRA), a volunteer organization that promotes quality of life issues within our neighborhood, has been involved in the Greening Greenfield project from its outset. CCRA is deeply committed to both the Albert M. Greenfield Elementary School as well as the improvement of public open space. In fact, the founding of the school itself grew out of a CCRA initiative in the 1960s. In 2006, CCRA developed a Neighborhood Plan which identified the improvement of public space as a primary objective and the Greenfield playground as a public space in need of improvement. Naturally, when the representatives of the Greening Greenfield Committee presented their initial ideas to the CCRA Board of Directors, we fully endorsed the project.

The CCRA Zoning Committee is involved in most neighborhood land use issues and, as the committee chair, I have participated in various stages of the Greening Greenfield planning and implementation. My involvement has included reviewing and commenting on the preliminary design completed through the Community Design Collaborative, participating in the series of visioning workshops with the professional design team, as well as planting trees and moving cobblestones. I also helped obtain financing commitments for the long-term maintenance fund from adjacent business concerns.

2. From the community's point of view, what were the major issues concerning this project?

The design and construction of quality open space that can meaningfully benefit the community was the major issue of concern. The project directly addressed this concern throughout the planning and implementation process. Another issue of concern was finding an appropriate balance between safety for the children and access for the public. This issue seems to have worked out in a seamless and natural manner, which shows that the best urban environments for all inhabitants are those that are obviously cared for. An issue which continues to be a concern is the maintenance over time of the new plants and trees. Only the continued care and attention by the community will be able to address this concern.

## COMMUNITY REPRESENTATIVE PERSPECTIVE (CONT'D)

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3. Has this project made the community a better place to live or work? If so, how?

The Greening Greenfield project has improved the community by taking an asphalt lot that was often used as an ad-hoc parking area and turning into a green and attractive place for neighborhood activities. By bringing natural beauty to the school's outdoor play environment, the project has improved the every day lives of our children. By creating a place of repose within the city, the project has lessened the burden of urban life. By reducing rainwater run-off, the project has diminished the possibility of flooding. By increasing awareness of ecological issues, the project has helped produce a new generation of environmental stewards who can continue the work of improving our surroundings well into the future.

4. Would you change anything about this project or the development process you went through?

The project transformed the exterior of the school in rich and dynamic ways. If more funding were available, it would have been great to find ways to modify the building to create more pleasant and functional connections between the interior spaces and the exterior, such as at the building entrance. In this manner, the exterior improvements could have contributed to an improved interior environment as well.

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**2011**  
**RUDY BRUNER AWARD**  
**COMMUNITY**  
**REPRESENTATIVE**  
**PERSPECTIVE**



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This sheet is to be filled out by someone who was involved, or who represents an organization that was involved, in helping the project respond to neighborhood issues.

Name	Patrick Mullen	Title	Assistant Vice President/Business Development
Organization	Conestoga Bank	Telephone	( 215 ) 790-9000
Address	1632 Walnut St	City/State/ZIP	Philadelphia PA 19103
Fax	( 215 ) 790 5207	E-mail	pmullen@conestogabank.com

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Signature	CONESTOGA*****n30	Date	12/9/2010
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Digitally signed by CONESTOGA\*\*\*\*\*n30  
DN: serialNumber=1274197965620, cn=CONESTOGA\*\*\*\*\*n30  
Date: 2010.12.09 12:07:26 -05'00'

1. How did you, or the organization you represent, become involved in this project? What role did you play?

Conestoga Bank serves the community where Greenfield Elementary School is located. The Home and School Association contacted us early on in the planning stages of their Greening Greenfield initiative to request an opportunity to present their project to us to see how Conestoga Bank might like to get involved. We were very impressed with the organization and very impressed with the scope of the project. We saw it as a great opportunity for Conestoga Bank to help out and give back to the community.

We awarded Greening Greenfield a grant that was paid out over three years. We participated in the design visioning workshops and have been included in ground breaking ceremonies and ribbon cutting celebrations.

2. From the community's point of view, what were the major issues concerning this project?

From the community's perspective the major issues concerning the project were raising the funds necessary to move the project forward and getting the work completed in the allotted time. Once the funds were secured the challenge was the time constraint since the demolition and construction could not begin until the end of the school year and needed to be completed in the summer months before the new school year began.

## COMMUNITY REPRESENTATIVE PERSPECTIVE (CONT'D)

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3. Has this project made the community a better place to live or work? If so, how?

This project has definitely made the community a better place to live and work. Greenfield Elementary School which sits on one square block in Center City Philadelphia has been transformed from a concrete paved playground to a beautiful green space with gardens, benches, and active play equipment. It is a wonderful place to relax and enjoy nature, as well as a fun area for active play and recreation. It is attractive and inviting not only for the students and members of the school community, but it is also an asset for those who live or work in the neighborhood.

4. Would you change anything about this project or the development process you went through?

There is nothing that I would change about this project or the development process. The volunteer group that spearheaded the initiative was very well organized, professional, and responsible. They were inclusive of us throughout the process. It was very gratifying to be a part of this project.

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2011  
RUDY BRUNER AWARD  
COMMUNITY  
REPRESENTATIVE  
PERSPECTIVE



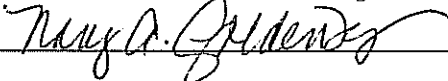
# COMMUNITY REPRESENTATIVE PERSPECTIVE

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This sheet is to be filled out by someone who was involved, or who represents an organization that was involved, in helping the project respond to neighborhood issues.

Name	Nancy Goldenberg	Title	Vice President of Planning
Organization	Center City District	Telephone	( 215 ) 440-5548
Address	660 Chestnut Street	City/State/ZIP	Philadelphia, PA 19106
Fax	( 267 ) 440-4448	E-mail	ngoldenberg@centercityphila.org

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Signature		Date	12.8.10
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1. How did you, or the organization you represent, become involved in this project? What role did you play?

The Greenfield School is immediately adjacent to the downtown business improvement district of Philadelphia, known as the Center City District (CCD). The CCD supplements municipal services by providing maintenance, public safety, hospitality and promotional programs for the central business district and adjacent areas, and works in partnership with other civic organizations and stakeholders to ensure the competitiveness of downtown Philadelphia. The CCD retains a professional staff of planners, landscape architects and related professions who understand the need to attract and retain young families with children and the importance of being able to offer and deliver high-quality educational options. For these primary reasons, we were delighted to be invited to join the community advisory committee during the development of the design for Greenfield School. As part of this process, a representative of the CCD attended all meetings during the design development process.

2. From the community's point of view, what were the major issues concerning this project?

From the beginning there was strong community support for this project. The original schoolyard was essentially a raised asphalt area with rundown play equipment which, while well-used during school hours, was inaccessible at other times and not considered a neighborhood amenity.

The major issues raised during the design development period seemed to center around safety, versatility and maintenance. Safety was addressed by a thoughtful lighting plan. Versatility was successfully achieved by improving the recreational capacity of the space, and by incorporating a multitude of sustainable features which contribute to making this an effective living laboratory and outdoor learning experience for the children. A low-maintenance landscape was designed using native plantings and simple materials. In addition, by involving both school and external community members from the beginning, a sense of inclusion and ownership immediately developed that has translated into a natural stewardship of the area. The incorporation of the landscaped areas into the school curriculum also helped create an ongoing means of caretaking.

## COMMUNITY REPRESENTATIVE PERSPECTIVE (CONT'D)

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3. Has this project made the community a better place to live or work? If so, how?

Yes. The original asphalt lot has been transformed into a beautiful, playful, interactive, sustainable, educational and well-used community amenity. It is an outdoor space that can be enjoyed not only by the students, but by all residents of the neighborhood. In a neighborhood which has a dearth of open spaces for play, Greenfield School has naturally become a destination, and its increased foot traffic will contribute to the safety of the neighborhood and increase retail opportunities. It has also shown the entire community and city-at-large how collaboration can result in the thoughtful design of successful public spaces, providing an encouraging example for future development and improvements within the Philadelphia School District.

The Center City District believes the resulting design fulfills all aspects of our mission and represents an investment that will improve the quality of life of school children and residents.

4. Would you change anything about this project or the development process you went through?

The space that has been created fulfills the original goals of the advisory committee and works well for the school and the community. While the designers obviously play an important role in the process, the community and other stakeholders, aided by well-organized volunteers, ensured the success of the work. Community input was taken seriously and incorporated thoughtfully into the design. Communication throughout the process was timely and the meetings with the design team were collaborative, engaging and informative. For these reasons, we believe the process worked exceptionally well.

685-6039

*John A. ...*



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**2011**  
**RUDY BRUNER AWARD**  
**PUBLIC AGENCY**  
**PERSPECTIVE**



# PUBLIC AGENCY PERSPECTIVE

Please answer questions in space provided. Answers to all questions should be typed or written directly on the forms. If the forms are not used and answers are typed on a separate page, each answer must be preceded by the question to which it responds, and the length of each answer should be limited to the area provided on the original form.

This sheet is to be filled out by a staff representative of a public agency directly involved in the financing, design review, or public approvals that affected this project.

Name Anna Verna Title City Council President  
Organization Philadelphia City Council Telephone ( 215 )  
Address City Hall, Room 405 City/State/ZIP Philadelphia, PA 19107-3290  
Fax ( 215 ) 686-1932 E-mail anna.verna@phila.gov

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Signature  Date December 10, 2010

1. What role did your agency play in the development of this project? Describe any requirements made of this project by your agency (e.g., zoning, public participation, public benefits, impact statements).

Greenfield Home and School Association completed an application to receive a grant from the Philadelphia Activities Fund, Inc. through the office of the 2nd Council District where the school is located. The organization met all of the requirements and were successful in receiving a grant. They comply with the Non-Discrimination Policy guidelines and have a student population that comes from neighborhoods throughout Philadelphia. They also meet the requirement for an educational benefit to be derived from their project by creating educational components to help the school and community understand how sustainable choices benefit the local and global environment.

2. How was this project intended to benefit your city? What trade-offs and compromises were required to implement the project? How did your agency participate in making them?

The project is intended to benefit the students of Greenfield School during school hours and is to benefit the general public after school hours. The students will benefit from curriculum enrichment in environmental education, the opportunity for hands-on learning in an outdoor "classroom", and more active recreation with new play equipment. Also, the project provides a green open space for relaxation and recreation for an under-served area of the City.

There is one compromise in implementing this project in that the school grounds are not open to the general community during school hours. The school yard is only open to the public after school hours and on the weekends.

Our agency participated by attending design visioning workshops and by providing funds through a Philadelphia Activities Fund grant.

## PUBLIC AGENCY PERSPECTIVE (CONT'D)

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3. Describe the project's impact on your city. Please be as specific as possible.

This project will improve the environmental sustainability of a major piece of property which is one city block in the heart of Center City Philadelphia. It will improve the physical health of the community through reduction of urban heat island effect, reduction of water pollution through storm water management, and improved air quality and thermal comfort through indigenous landscaping and pervious ground cover.

4. Did this project result in new models of public/private partnerships? Are there aspects of this project that would be instructive to agencies like yours in other cities?

This project can serve as a model of a successful public/private partnership. The work accomplished by this group of parent volunteers who came together to advocate for their school is something that parent groups in other schools can do as well. The role that our agency took in helping to secure funds and in participating in the planning sessions is something that agencies like ours in other cities can do.

5. What do you consider to be the most and least successful aspects of this project?

The most successful aspects of this project are the long term effects it will have on the students. The students will hopefully learn the importance of being environmentally responsible and they will become environmentally responsible adults. Another successful aspect of the project is that the students will learn that they can (and should) take an active role in improving their community.

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**2011**  
**RUDY BRUNER AWARD**  
**PUBLIC AGENCY**  
**PERSPECTIVE**




# PUBLIC AGENCY PERSPECTIVE

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This sheet is to be filled out by a staff representative of a public agency directly involved in the financing, design review, or public approvals that affected this project.

Name David Burke Title Watershed Manager  
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Signature  Date 12.2.10

1. What role did your agency play in the development of this project? Describe any requirements made of this project by your agency (e.g., zoning, public participation, public benefits, impact statements).

Pennsylvania DEP administers a grant program known as the Growing Greener - Watershed Protection Grant program. These grants are intended to assist eligible organizations to implement projects that will have a positive impact on water quality, particularly in areas where regulatory initiatives do not allow for sufficient control to cause necessary water quality improvement. The Albert M. Greenfield Home and School Association submitted an application to our grant program in 2009, and in June 2010 was awarded \$200,000 to assist with the construction of stormwater management elements in Phase 2 and Phase 4 of the "Greening Greenfield" program.

2. How was this project intended to benefit your city? What trade-offs and compromises were required to implement the project? How did your agency participate in making them?

Pennsylvania DEP was attracted to the Greening Greenfield project for three reasons: 1) It will reduce the wet weather runoff from a portion of the highly impervious watershed in which the school is located; 2) It will demonstrate that converting pervious surface in an urban landscape is feasible, providing an example to others; and 3) It will educate and motivate students and parents, building a constituency for stormwater management improvements. Reducing runoff has numerous water quality benefits. In this location (Greenfield School is in Center City, Philadelphia), it reduces the volume of stormwater that enters the combined sewer system, and consequently it reduces the frequency and volume of discharges from the combined sewer system. To have a measurable effect, it will be necessary for many properties to be modified as Greenfield School is being modified. We are at the beginning of a historic shift in the way urban landscapes are designed and managed, and Greenfield School is providing us with a valuable example of how it can be done. For DEP's Growing Greener grant program, the trade-off here is in the fact that we had to select grantees from a large group of applicants in a competitive process, and by funding the Greenfield School project we had to, in effect, deny funding to other worthy applicants. Performing stormwater retrofits in an urban area is relatively expensive. The stormwater management costs per unit (of land area) tend to be high in the City, so this project is relatively expensive in terms of dollars per unit area. However, the nature and visibility of this project made it worthy of our support.

## PUBLIC AGENCY PERSPECTIVE (CONT'D)

3. Describe the project's impact on your city. Please be as specific as possible.

DEP expects that the Greenfield School project will reduce the wet weather runoff entering the combined sewers in Center City, and reduce the frequency and volume of overflows in its sewer-shed. Also, we expect that it will provide a valuable example of a stormwater retrofit, so people can see that renovating urban property to provide stormwater benefits can be done without negative impacts to the people who use that land. In addition, we hope that students and others who visit Greenfield School will be educated to the issue of stormwater, which represents a challenge to virtually all American communities, but which is not yet well understood by the general public.

4. Did this project result in new models of public/private partnerships? Are there aspects of this project that would be instructive to agencies like yours in other cities?

This project is an excellent example of what was envisioned when the Growing Greener grant program was created in 1999. In the years since it began, the grant program has been involved in a wide variety of projects, some of which turned into successes, and some disappointments. The Greenfield School project is on the way to becoming one of our proud successes.

5. What do you consider to be the most and least successful aspects of this project?

From a personal perspective, I will attest to the aspect of this project about which I am most pleased, and that is the efficiency and professionalism shown by the volunteers who are managing and administering this grant (officers and members of the Albert M. Greenfield Home and School Association). Considering the wide variety of things I have seen in seven years with Growing Greener, and considering that many grant-funded projects run into various kinds of difficulties, it has been particularly satisfying to work with the Greenfield project team, because of their ability to get things done. As for the "least successful aspect," I cannot think of a challenge or a problem associated with this project that is worth mentioning at this time.

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**2011**  
**RUDY BRUNER AWARD**  
**DEVELOPER**  
**PERSPECTIVE**



# DEVELOPER PERSPECTIVE

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This sheet is to be filled out by the person who took primary responsibility for project financing or is a representative of the group which did.

Name Lisa Armstrong Title Co-Chair, Greening Greenfield Committee  
Organization The Albert M. Greenfield Home and School Association Telephone ( 215 ) 977 8516  
Address The Albert M. Greenfield School, 2200 Chestnut Street City/State/ZIP Philadelphia, PA 19103  
Fax ( ) E-mail larmstrong@greeninggreenfield.net

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Signature Lisa J. Armstrong Digitally signed by Lisa J. Armstrong  
DN: cn=Lisa J. Armstrong, o=Greenfield Home and School, ou=Greening Greenfield  
Committee, email=larmstrong@greeninggreenfield.net, c=US  
Date: 2010.12.10 15:57:44 -0500 Date 12.10.2010

1. What role did you or your company play in the development of this project? Describe the scope of involvement.

I have been the Co-Chair of the Greening Greenfield Committee since it was formed in September of 2007. The Greening Greenfield Committee oversees the planning and fundraising for the Greening Greenfield program, coordinates the design and construction team in implementation of the plans, supports teacher training and curriculum enrichment in environmental education, and facilitates student exposure to opportunities to lead and serve in environmentally responsible initiatives.

In spring 2006, the Albert M. Greenfield School was awarded a Campus Park Initiative Grant of \$100,000. I volunteered as the parent point person to apply on behalf of the The Greenfield Home and School Association to the Community Design Collaborative, a volunteer organization that provides preliminary design services to nonprofit organizations, for a service grant for pre-design to determine the best use of the grant. The Community Design Collaborative enlisted the architecture and engineering firm of KlingStubbins to create the conceptual master plan.

The Center City Residents' Association, Pennsylvania Horticultural Society, Center City District, Philadelphia Water Department, and the immediate school community were involved in the refinement of this plan. The report, "The Greening of Greenfield School," Campus Parks Initiative Conceptual Master Plan for Sustainable Outdoor Space," identified five phases of construction. The phases of "Greening Greenfield" include improving the environmental sustainability of the south play yard (east and west side), redesigning the school's "Secret Garden" (a walled garden at 23rd and Chestnut Streets) to be an outdoor classroom shade garden, installing a green roof on the school building, and installing photovoltaic and solar water panels on the roof and south face of the building. +

2. What trade-offs or compromises were required during the development of the project?

In spring 2007, Greenfield Home and School Association was notified that due to budget constraints, the School District put the Campus Park Program with its associated funding on indefinite hold. Initially loss of this funding seemed to compromise the feasibility of the project. However, with the encouragement of the School District, the Greenfield Home and School Association continued to define the project and develop a fund-raising plan. Mr. Pat Henwood, Director of Capital Programs for the School District of Philadelphia, wrote a letter of endorsement of, "The Greening of Greenfield School," and devoted staff time in support of the Greenfield Home and School Association's planning of this project.

As a guide to the development process for this private capital campaign, Mr. Steven Gaschet, AIA, of the School District of Philadelphia, Office of Capital Programs, prepared a written evaluation of the Greening Greenfield Conceptual Master Plan, and provided the Greenfield Home and School Association with the document, Donation of Gifts to the School District of Philadelphia, dated 06-07-07.

In the fall of 2007, the Greening Greenfield Committee was formed to oversee the planning and fundraising for the Greening Greenfield project. In spring 2008, Pat Toy, Greenfield Home and School Association President, and the Greening Greenfield Committee Co-Chairs, Lisa Armstrong, AIA, and Brett Webber, AIA, met with representatives of the Office of Capital Programs of the School District. This initial discussion of how the Greenfield Home and School Association proposed to gift these capital improvements to the School District of Philadelphia (SDP) led to an understanding of how the Greenfield Home and School Association would meet the School District's requirements for insurance and department approvals. A SDP Capital Programs Coordinator was assigned to our project to help the Greenfield Home and School Association meet all School District of Philadelphia requirements.

### 3. How was the project financed? What, if any, innovative means of financing were used?

The project has been financed with a combination of public and private funds garnered by the Greening Greenfield Committee through applying for grants.

Stage I, Design, Planning, and Construction Preparation, 4/2006 - 12/2008. Total Budget \$113,675  
Government \$5,000 (4%), Corp.Found \$80,667 (71%), Private \$28,108 (25%)

Stage II, Phase I Construction, South School Yard, West Side, 9/2008 - 12/2009  
Total Budget \$249,978  
Government \$181,500 (72%), Corp.Found \$51,667 (21%), Private \$16,811 (7%)

Stage III, Phase II Construction, South School Yard, East Side, 9/2009 - 8/2010  
Total Budget \$225,000  
Government \$141,500 (63%), Corp.Found \$61,666 (27%), Private \$21,834 (10%)

Stage IV, Phase III Installation of the Rooftop Solar Panel Array and Lobby Display Monitor, 9/2009 - 8/2010  
Total Budget \$25,000  
Government \$0 (0%), Corp. Found \$15,000 (60%), Private \$10,000 (40%)

Stages I, II, III Combined Total Budget \$613,653  
Government \$328,000 (53%), Corp.Found \$208,900 (34%), Private \$76,753 (13%)

Taking ownership of their role in "Greening Greenfield," Greenfield students completed the first step of the project, a weather station, in the spring of 2008. Starting in January of 2008, the students of Greenfield raised \$2,774.12 needed to buy the weather station through a penny drive. Spring 2009, students competed to design the graphic for the Greening Greenfield tee-shirt which they are sold as part of their on-going fund-raising contribution to the project. Spring 2010, students sponsored another penny drive, "Money for Mounds" for the integrated play surface mounds. The students are particularly proud of their contribution to the project.

### 4. What do you consider to be the most and least successful aspects of the project?

The five most successful aspects of the project are:

- 1) The greening ethic has begun to permeate the school culture and is a thematic focus of many school projects and assemblies. Our students are on their way to being the next generation of ecological stewardship leaders.
- 2) Completion of the physical improvements which accomplish all of the original goals (except green roof which is still in planning) of the conceptual master plan:
  - Reduce storm water runoff and its impact on site safety and municipal storm sewer systems,
  - Provide solar shading (trees) and a green roof to reduce the Urban Heat Island effect,
  - Provide local and drought-resistant plantings that will improve air quality without the need for potable water irrigation,
  - Provide energy through renewable energy sources with photo-voltaic panels,
  - Use recycled content materials where possible.
- 3) Providing a green open recreation space for the community.
- 4) Providing a model of sustainable site improvement which can be repeated at other schools.
- 5) Affecting public policy by showing the school communities can successfully advocate for their students and environment. The Philadelphia Water Department, School District of Philadelphia, and Philadelphia Green 2015 initiatives all refer to Greening Greenfield as a pilot project which will promote capital investment in green stormwater infrastructure and green open space.

We wish we could be more successful in expediting and inspiring increased investment in urban green open space in using school yards as the existing land that will most effectively bring equity of distribution of the green open space to all. Our Green School Advocates group is an effort to jump start this process.

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**2011**  
**RUDY BRUNER AWARD**  
**PROFESSIONAL**  
**CONSULTANT**  
**PERSPECTIVE**



# PROFESSIONAL CONSULTANT PERSPECTIVE

Please answer questions in space provided. Answers to all questions should be typed or written directly on the forms. If the forms are not used and answers are typed on a separate page, each answer must be preceded by the question to which it responds, and the length of each answer should be limited to the area provided on the original form.

This sheet is to be filled out by a professional who worked as a consultant on the project providing services other than physical design or planning (e.g., legal services).

Name	Beth Miller	Title	Executive Director
Organization	Community Design Collaborative	Telephone	( 215 ) 587-9290
Address	1216 Arch Street, First Floor	City/State/ZIP	Philadelphia, PA 19107
Fax	( 215 ) 587-9277	E-mail	beth@cdesignc.org

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**Signature** Beth Miller

Digitally signed by Beth Miller  
DN: cn=Beth Miller, c=US, o=Community Design Collaborative, ou=Director,  
email=beth@cdesignc.org  
Reason: I am the author of this document  
Date: 2010.12.09 11:37:35 -0500

Date

1. What role did you or your organization play in the development of this project?

The Community Design Collaborative provided pro bono preliminary design services to Greenfield's Campus Parks Project Committee in 2006 to develop a conceptual master plan for sustainable outdoor space. The Collaborative is a community design center that facilitates the pro bono involvement of architects and other design professionals in community development projects led by nonprofit organizations. We arrange and manage opportunities for architects and other design professionals to volunteer their expertise at the early stages of community development projects, when little or no funding is available.

The Collaborative helped Greenfield originate its vision for Greening Greenfield through a participative design process that engaged a broad group of constituents and potential partners. We facilitated the initial discussions and decision making about how Greenfield's campus park should look and function. Our pro bono preliminary design services included working with a community task force, documenting existing conditions, conducting an analysis of the site to inform key design decisions, developing a phased conceptual master plan, and estimating probable costs.

Our preliminary design products equipped Greenfield's Campus Park Project Committee to present their vision to key funders, serving as a catalyst to obtain their first major grants.

2. Describe the project's impact on its community. Please be as specific as possible.

Greenfield Elementary School's campus park used to be a parking lot! The new green space now offers urban children a safe, attractive place to appreciate nature and play. It has added much-needed green space in Center City Philadelphia, a major central business district with one of the highest residential populations in the nation. But the impact of Greening Greenfield extends beyond the school community and the immediate neighborhood.

Greening Greenfield is providing a model for implementing two citywide initiatives that grew out of Greenworks Philadelphia, Philadelphia's sustainability plan. The Philadelphia Water Department's new, federally-mandated stormwater management plan requires the city to convert 3,200 acres of asphalt into fully pervious land by 2015. This innovative plan will reduce stormwater runoff and sewer overflows through incremental greening projects rather than building more underground catch basins. In addition, the Philadelphia Parks and Recreation Department's Green 2015 Action Plan is designed to add 500 acres of park space to residents who currently live within a half-mile walk of a park.

Thanks to Greening Greenfield's highly visible success, Philadelphia's public school campuses are being viewed a key strategy for realizing these goals. Leaders of other public schools are now taking the lead on similar projects. Over 20 parents and administrators have started convening to hear Greening Greenfield's story in detail, share their ideas and plans for campus greening projects, and meet key partners such as the Philadelphia Water Department and Penn Praxis, authors of Green 2015.

### 3. How might this project be instructive to others in your profession?

Designers can learn much from Greening Greenfield's story—what makes an effective pro bono client, the value of community engagement early in the design process, and how to present an unfamiliar approach (in this case, sustainable design) to the broader community. All of these were important elements all the way through the project, including during the preliminary design phase.

Greenfield was effective because they understood that new programming does not begin with a construction project. The Home and School Association and administration had already done extensive work to bring sustainability and environmental awareness into the curriculum through partnerships with Delaware Valley Earth Force and NetworkArts. These programs helped students observe their schoolyard closely and think about its future—and familiarized educators and parents with the principles of sustainability.

Greenfield also took care to engage a broad constituency—students, parents, teachers and administrators, as well as neighborhood leaders and residents—from the beginning of the project. This early involvement gave participants a shared vocabulary and vision for Greening Greenfield and allowed them to act as ambassadors for the project during design development and fundraising. In addition, its community task force included public agencies and intermediary partners such as the Center City District, the Center City Residents' Association, the Pennsylvania Horticultural Society, and the Philadelphia Water Department, preparing them to provide significant support in implementing the project.

Finally, a sustainable landscape looks different and has to be managed differently than a more traditional landscape. The logic and elements of this approach, unfamiliar to most Philadelphians in 2006, needed to be introduced and illustrated in the preliminary design phase through diagrams, design precedents, and even a native plant palette.

### 4. What do you consider to be the most and least successful aspects of this project?

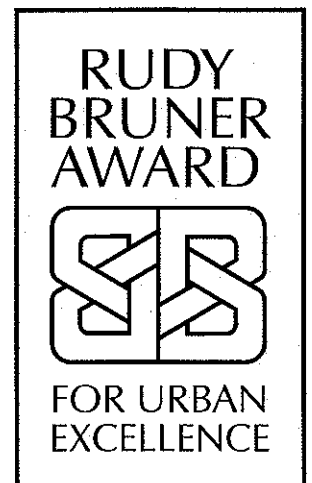
The most successful aspect of Greening Greenfield relates to the Campus Park Project Committee's intelligent use of preliminary design. The priorities, phasing, and layout established during the preliminary design phase served as a framework for implementing the project. And, as described above, the preliminary design process enhanced or created working partnerships that proved essential to realizing the project.

Greening Greenfield has also been very successful in integrating urban greening strategies with operational needs on a small site that faces busy public sidewalks on three sides. The project ingeniously addressed practical matters like what to do with the garbage dumpster, where students should line up to enter the school, and how to protect planting beds from stray basketballs. Greenfield's leaders also recognized that sustainability went beyond the built elements of Greening Greenfield to building operations and parental stewardship. For example, Greening Greenfield is changing how the staff handles waste during the school year and has encouraged students, parents, and residents engage year-round with its new native and edible landscape.

The least successful aspect of the project is that it is not a model that every public school in Philadelphia can replicate. The design elements are applicable, but Greening Greenfield demanded a high degree of grassroots energy and, more importantly, expertise to accomplish. While Greenfield's students represent a socio-economic cross-section of Philadelphia families (25% of all students are eligible for a discounted or free lunch), its Home and School Association has a remarkably high organizational capacity and had implemented several ambitious fundraising and construction projects in the recent past. Nevertheless, Greenfield's campus park has spurred an enthusiastic response from public, charter, and private schools throughout the city. Over the five years that Greening Greenfield was getting off the ground, other communities have developed a similar interest in green space, sustainability, and healthy urban lifestyles. Greening Greenfield's success will be imitated, but on a more modest scale.

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**2011**  
**RUDY BRUNER AWARD**  
**PROFESSIONAL**  
**CONSULTANT**  
**PERSPECTIVE**



# PROFESSIONAL CONSULTANT PERSPECTIVE

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This sheet is to be filled out by a professional who worked as a consultant on the project providing services other than physical design or planning (e.g., legal services).

Name Jill Lavine / Jonathan Weiss Title Project Architect / Director of Sustainability  
Organization Kling Stubbins Telephone ( 215 ) 569-2900  
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Fax ( 215 ) 569-5963 E-mail jlavine@klingstubbins.com / jweiss@klingstubbins.com

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Signature  Date December 07, 2010

1. What role did you or your organization play in the development of this project?

Kling Stubbins was the volunteer Architecture and Engineering firm who the Philadelphia Community Design Collaborative paired with the Greenfield Home and School Association to assist them in creating an exciting and viable plan to transform the exterior of Greenfield School into an environmentally sustainable atmosphere in order to create a more complete educational experience for the students, and to demonstrate the school's dedication to becoming a leader in the Philadelphia Community for sustainable practices that can enhance both education and recreation. Kling Stubbins documented the current state of the four main areas that were to be renovated, the West Side of the school yard, the East side of the school yard, the Secret Garden and the Roof. Through meetings with the Home and School Association, parents, teachers, students, and other contributing organizations, including the Philadelphia Water Department, we developed an initial concept for improvements to these areas that would reduce stormwater runoff, provide solar shading to reduce the site's urban heat island effect, provide drought resistant plantings to improve the air quality without the need for potable water irrigation, utilize recycled materials, harvest solar energy for the school's consumption, all while creating an exciting environment for the students.

The intent of the volunteer effort was to develop sufficient pre-design materials to allow the Greening Greenfield group to approach potential funders and organizations to fund the full design and construction services. This effort was a great opportunity for us to learn from these vital organizations about how careful and strategic efforts can play a big part in improving the life of the students and the community, and can help the environment as well. The founder of our firm, Vincent Kling, had designed the original school in the 1960s, so it was particularly meaningful for us to have the chance to revisit and invigorate his original designs!

2. Describe the project's impact on its community. Please be as specific as possible.

While the intent of the project is about water and energy - generating energy through solar panels, reducing stormwater runoff and reducing the amount of impervious paving in the city - the real success of the Greening Greenfield project has been to transform this area from a wholly paved parking lot with kids, into a truly child-focused space. The interventions were all done with educational goals in mind - a weather station on the roof, a display showing the effectiveness of the photovoltaic panels, the beautiful rain garden and edible garden, the exciting play spaces - each of them has a transformational effect on the kids who play there. As neighbors of the school, we can see how enlivened the space is during the week and on weekends the neighborhood children often come back to take advantage of wonderful new play yard.

The Greenfield school has become a leader to the community, demonstrating the possibilities for other schools and neighbors to take the initiative in reducing their contributions to the overburdened Philadelphia storm water system. As a school, they have shown that teaching our children about sustainability is a very important aspect of education. They've also demonstrated to the community that it is possible to generate electricity on site which reinforces the idea of "clean energy".

### 3. How might this project be instructive to others in your profession?

The practice of architecture and engineering is one field that is crucial to the development of sustainable building practices. It is important that we as a profession are leading the efforts to create buildings and sites that are more sensitive to their environments. This project is a shining example of a positive grass roots movement and will hopefully encourage our peers and colleagues to get involved in their own communities with projects that minimize environmental impact while creating great spaces and improving quality of lives.

On a personal level, one of our frequent professional duties is talking to clients about sustainability and green building design concepts. One very valuable aspect of this whole project has been several different school assemblies and meetings where we have needed to attend and discuss the sustainable goals of the project. If you think talking to a board of directors about green building is hard, try a room full of kindergarten to 4th grade students! That effort really made us come to the point and forgo any jargon or confusing explanations.

### 4. What do you consider to be the most and least successful aspects of this project?

In our opinion, the most successful aspect of this project has been it's positive impact on the neighborhood, the students, and the city. The Greenfield School has become an example to many other schools in this area who are interested in bettering their facilities in ways that will positively affect the daily activities and education of the students. This process has taught other organizations that no matter how large or small the budget, great things can come from motivated and creative individuals who care about the environment. In addition, the clear integration of the sustainable goals with the educational goals of the project have been exceptional - infusing a sense of pride and ownership in the school for its community of students, families and community members.

The only real unsuccessful aspect of this project is that it has yet to be completed! The Greenfield Home and School Association is always working towards new goals, one of which is incorporating a green roof into the project. This is a large and costly endeavour that no doubt will come to fruition thanks to the constant dedication of the individuals involved. Should this part of the project be completed, it will only further reduce the stormwater runoff from the property. It will also help to reduce the temperature of the roof, in turn reducing the urban heat island effect and contributing to a more temperate atmosphere inside which can help to lower the school's utility bills. Like many successful projects of this type, the success of the project is largely based on a galvanizing force of some key people who kept pushing and coordinating to get the process moving in the right direction. As a demonstration project it is a huge success. To find out whether it can be duplicated or scaled will require similar key people at other schools to make these types of changes possible. It has already made a big impact on this neighborhood. There are many schools throughout Philadelphia that look like the 'before' pictures at Greenfield. Hopefully seeing the possibilities will draw out the counterparts to the Greenfield Home and School Association to work with city agencies and private groups to revitalize their schools as well.

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**2011**  
**RUDY BRUNER AWARD**  
**ARCHITECT**  
**OR DESIGNER**  
**PERSPECTIVE**



# ARCHITECT OR DESIGNER PERSPECTIVE

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This sheet is to be filled out by a design professional who worked as a consultant on the project, providing design, planning, or other services.

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Signature		Date	12/07/10
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1. Describe the design concept of this project, including urban design considerations, choice of materials, scale, etc.

The design concept is based upon the following project considerations:

- Development of a participatory design process that includes all stakeholders: students, teachers, faculty, parents, and community members.
- Transformation of a bleak asphalt play yard into a welcoming green oasis for the school and surrounding community.
- Creation of a working landscape that teaches about sustainability through active demonstration of stormwater best management practices.
- Compliance with the Philadelphia Water Department regulations for capturing the first inch of rainfall.
- Understanding of the durability, maintenance, and security considerations inherent in the design of public space.

Through extensive planted areas, salvaged stone materials, curved and rolling rubber play surfaces, the working landscape is integrated with play areas to surround users in opportunities for engaging the sustainability strategies. Stakeholders involved in the design process are able to experience the results of their efforts in the completed project, thereby realizing, first hand, how their efforts have had an environmental impact.

\* Architect/Designer Perspective Note: SMP Architects teamed with Viridian Landscape Studio and Meliora Environmental Design in the design of this project.

2. Describe the most important social and programmatic functions of the design.

The key achievements of the design are the process by which it was produced, the educational purpose that it serves, and the example that it sets for the community and other urban schools in the region.

**Design Process:** Through a series of participatory design workshops, the school and surrounding community were invited, in small groups, pen and paper in hand, side by side with design team members, to walk the site and analyze the opportunities and challenges of designing this transformation. Small group design concepts, including student participation, were then presented back to the larger group at visioning discussions that led to the final concept.

**Teaching Landscape:** From early in the design process, it was important that this project serve as a teaching tool for the school and surrounding community. Not only does the design serve to manage stormwater, it actively engages users in a variety of ways: Whether it is a simple pattern in the rubber play surface where younger children can "follow the river" through an abstract watershed, or stepped ponding areas where older kids can learn about recharging stormwater locally, or native plant species that parents can embrace in their own backyard gardens, the goal is always to educate about ecological stewardship.

**Pilot Project:** The strategies, systems and materials utilized in the project are readily available and may be easily replicated throughout other urban sites and schools in the region.

## ARCHITECT OR DESIGNER PERSPECTIVE (CONT'D)

3. Describe the major challenges of designing this project and any design trade-offs or compromises required to complete the project.

The two primary design challenges for in this project are inherent in most any public work and are not unique to the Greening Greenfield design process: managing the expectations of varied stakeholders and establishing budget priorities.

As noted earlier in this narrative, the design process included several early community visioning workshops in which various stakeholder groups explored potential opportunities and challenges for the project. As the design was developed, not everyone's ideas could be integrated into the final project. Because the project had a pre-defined documentation, bidding and construction schedule that was based on the academic calendar, and because the design team's services were based on a specific scope of work, there was not always the opportunity to gather everyone together for additional discussion and exploration as often as may have been the ideal. Although general consensus on the end product is that of great success, in the midst of the development and construction, the management of questions and concerns from the larger community, at times, became a challenge for all involved.

The other primary challenge relates to budgeting constraints. Although the Greening Greenfield Committee, a volunteer organization, was extremely successful in raising significant funds to realize Phase I and Phase II, there were other project components for enclosures to recycling and trash collection areas that were value engineered and could not be constructed as part of recently completed phases of work. These components were designed to illustrate, at the level of the play yard, the benefits of a vegetated roof system and were envisioned as way for kids to study the performance of the green roof that is currently planned four stories above the play yard - on top of the school building. This compromise in no way detracts from the extremely successful fundraising efforts, but rather illustrates the potential that this projects still holds for future phases of work.

4. Describe the ways in which the design relates to its urban context.

This project relates to its urban context by considering the surrounding community on a number of levels. Conceptually, through its planning and realization, various community partnerships played vital roles in the development and success of the project. Programmatically, although the play yard is defined by partial height perimeter walls, there are no fences or gates, and the community is welcomed at five different entry locations. Physically, the perimeter raingardens include numerous large canopy trees, whose reach enhances the public sidewalk areas that wrap the school, in addition to the improving the quality of spaces within the play yard itself.

Besides enriching the public space in and around the school, the design successfully manages the stormwater that falls on this very urban site, thereby reducing the load on the City's combined stormwater and sewer system. As detailed elsewhere in this narrative, the design serves as teaching tool and demonstration project for the community at a number of different levels.

In addition to the primary green initiatives of stormwater management, other sustainability strategies consider the urban environment as well. The native planting palette illustrates the type of forest that once stood on this site prior to development. By reintroducing green space, the urban heat island effect is reduced, thereby providing more comfortable space for people, but also reintroducing green space where birds, insect and small animals are able to re-establish natural ecosystems. These developing natural ecosystems become yet another learning opportunity for students and neighbors – and the design further enhances the urban context by "growing" outside the physical constraints of the project. Another benefit to the urban context is the introduction of local materials. The design includes salvaged stone from the Philadelphia Zoo, Independence Visitor Center and Schuylkill River Park connecting the school to other civic institutions. These project elements provide yet another layer of interest that further enhances the overall "story" that is the Greening of Greenfield.

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**2011**  
**RUDY BRUNER AWARD**  
**OTHER**  
**PERSPECTIVE**



# OTHER PERSPECTIVE

Please answer questions in space provided. Answers to all questions should be typed or written directly on the forms. If the forms are not used and answers are typed on a separate page, each answer must be preceded by the question to which it responds, and the length of each answer should be limited to the area provided on the original form.

Name	Phil Forsyth	Title	Orchard Director
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DN: cn=00195EC9D00E, c=US, o=Motorola, Inc., ou=WIMAX Device, Motorola PKI Center  
Reason: I attest to the accuracy and integrity of this document  
Date: 2010.12.08 17:24:04 -0500

Date 12/8/10

1. What role did you play in the development of this project?

The Philadelphia Orchard Project (POP) assisted with installation of the new agricultural zone, one aspect of the the Greening of Greenfield project. POP had previously worked with the school on planting some berry bushes in their Secret Garden and was invited back to help implement a food-producing garden in the redesigned schoolyard. The agricultural zone bed is approximately 30' long by 7' wide and located on the north end of the schoolyard. POP designed an Edible Forest Garden for the space, with fruit trees, berry bushes, and a wide variety of perennial herbs and flowers.

In fall 2009, the Greenfield Orchard was planted in the agricultural zone bed. POP provided the plant materials and POP staff and volunteers helped organize teachers, parents and over 50 students from the school on planting day. Proper planting techniques were demonstrated and supervised. The Edible Forest Garden concept was explained to the students and the edible and ecological values of the different plants were explored. Students smelled and sampled the many herbs planted.

In spring 2010, POP supervised a follow-up planting event at Greenfield on Earth Day. Strawberries, asparagus, and a few additional herbs were added to the Edible Forest Garden. Another 50 students participated, along with teachers, parents, and volunteers. Again, all participated in a tour of the plantings and sampled the herbs.

An orchard care & pruning training session is planned for February 2011 and another planting event for Earth Day.

2. Describe the impact that this project has had on the your community. Please be as specific as possible.

The Greenfield Orchard (Agricultural Zone) provides an interactive and living example of food production right in the schoolyard. The orchard includes a fig, persimmon, and Asian pear tree, each of which will produce dozens of pounds of fruit when mature. It also includes raspberries, strawberries, asparagus, perennial onions, a wide variety of culinary & medicinal herbs, and perennial flowers of ecological value. Produce from the orchard will provide healthy, fresh snacks for students in the school. The experience of observing and helping the plants grow provides students with a tangible connection to nature and a better understanding of their food system. This direct connection encourages students to try foods that they were previously unfamiliar with.

The garden also serves as an opportunity to study ecology in action. As an Edible Forest Garden, the orchard is designed to have a self-supporting ecology. Besides producing healthy food for students, the garden plants have functions including nitrogen-fixing, nutrient accumulation, attracting pollinators, and providing habitat for beneficial insects. Birds, butterflies, and other insects visit the space and the soil supports worms and a diversity of soil life. Exploring these ecological interactions provides a unique educational opportunity for Greenfield students.

3. What trade-offs and compromises were required during the development of the project? Did you participate in making them?

No compromises were made in development of the agricultural zone, other than choices determined by the limited size of the space.

4. What do you consider to be the the most and least successful aspects of this project?

The Greening of Greenfield has succeeded in a remarkable transformation. Prior to the project, the only greenery at the school was on the shady and inaccessible north side of the school. The project has well accomplished its purpose, enhancing the schoolyard in terms of usability, ecological function, educational value, and beauty. The Philadelphia Orchard Project is well pleased with the development of the Greenfield Orchard and agricultural zone. The trees and plants are thriving, the space is beautiful, and students have been very enthusiastic about sampling the herbs and berries. We eagerly anticipate the first significant fruit production next year! The next challenge for the partnership is building use of the space more directly into the curriculum and cultivating more direct involvement by teachers and students in the space.

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**2011**  
**RUDY BRUNER AWARD**  
**OTHER**  
**PERSPECTIVE**



# OTHER PERSPECTIVE

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**Signature** Michael Leff

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DN: cn=Michael Leff, o=PHS, ou, email=mleff@pennhort.org, c=US  
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Date 12/6/10

1. What role did you play in the development of this project?

As TreeVitalize Program Manager at the Pennsylvania Horticultural Society, I was involved in approving and supplying trees for the Greenfield School plantings. Our staff provided PHS Tree Tenders training to the community volunteers who coordinated and participated in those tree plantings. PHS staff, including myself, also worked alongside those volunteers during the plantings. In addition, I was involved in helping make the match between the Greening Greenfield project and CSX rail's "Trees for Tracks" initiative, which aims to plant a tree for each of its 20,000 miles of tracks in various cities across the country. When the Alliance for Community Trees (ACT) contacted us for a possible CSX planting site in Philadelphia, I immediately thought of Greenfield School, because I knew that the stellar Greening Greenfield collaboration and well-designed project would provide a perfect site for that event. And it did.

2. Describe the impact that this project has had on the your community. Please be as specific as possible.

The transformation at the Greenfield School has hit a number of important targets: It provides much-needed green space where previously there had been an asphalt "playground." In addition to creating an entirely different experience for the school children, it also offers inviting open space to the surrounding community. The project successfully models attractive, multi-purpose "green infrastructure" for stormwater management, which can be replicated at other properties, especially school sites, across the city. Similarly, it shows what can be done to achieve some measure of ecological restoration within the context of a heavily urbanized environment. With its vibrant volunteer corps, the entire Greening Greenfield initiative demonstrates the power of community activism to change neighborhoods. For those and other reasons, the Greenfield School has become a popular stop on field trips and site visits organized by groups such as the Pennsylvania Horticultural Society. And the project is frequently highlighted during presentations on the importance of urban greening, including the current goal of creating 500 acres of new green space in the city.

3. What trade-offs and compromises were required during the development of the project? Did you participate in making them?

While I imagine that compromises were needed to achieve success, I am not familiar with those aspects of the project. My experience, however, is that the Greening Greenfield organizers are highly capable of meeting the inevitable challenges encountered in such as broad-ranging initiative. As for the tree plantings facilitated by the Pennsylvania Horticultural Society, the trade-offs might have involved some species substitutions based on availability, but those were easily accomplished within the context of the site design and objectives.

4. What do you consider to be the the most and least successful aspects of this project?

It's difficult for me to address either of those extremes. I consider all of the benefits noted under question 2 above to be highly successful. To summarize them all, I would say that the overall impact of the Greening Greenfield initiative is most successful in that it demonstrates what is possible to a broad audience. That enables its impact to be felt far beyond the school boundaries. Least successful? In my experience with the project, perhaps only that there were so many partners and sponsors that it was difficult to adequately acknowledge them all during public events. Not a bad problem to have!

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2011  
RUDY BRUNER AWARD  
OTHER  
PERSPECTIVE

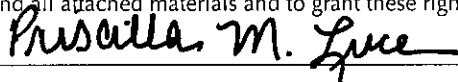


## OTHER PERSPECTIVE

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Name	Priscilla M. Luce	Title	President
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Signature		Date	12/8/10
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1. What role did you play in the development of this project?

The Albert M. Greenfield Foundation provided funds for the first and second phases of the project's development. This funding helped the Greenfield School secure additional funding and assistance from public sector partners.

2. Describe the impact that this project has had on the your community. Please be as specific as possible.

See attached.

## **2. Describe the impact that the project has had on your community. Please be as specific as possible.**

Students, teachers and parents are extremely proud of their accomplishment. They transformed an uninviting, blacktop covered space that appeared to be a parking lot behind the school into a new, literally "green" area that is warm, welcoming and environmentally safe for play, learning and gathering for school events and activities. Students have been sensitized to environmental issues through learning about water runoff, drainage, horticulture and other concerns that were addressed in the planning for the project. The school's focus on the environment will continue and grow as the project moves into another phase to place solar panels on the school roof.

It would be impossible to overestimate the positive effect of the project on the school. The entire school community was galvanized in support of the project. Parental involvement was extraordinary and the school administration appeared to work well with the parents' group that led the project, taking advantage of their many professional skills in architecture, project management and other areas.

The face that the school presents to the community has been dramatically changed. Instead of a sea of blacktop next to the school, the school now offers neighbors and passersby a pleasing vista of trees, plantings and open green space that takes up an entire city block.

The "greening" of this area has had an important impact on the city overall. For all of Philadelphia's beautiful parks system and the Benjamin Franklin Parkway, the heart of center city has few open, green spaces. This project not only added a new such area, but it also demonstrated what can be done to transform an ugly urban landscape into something beautiful and useful. This sort of creative leadership is sorely needed in our city.

## OTHER PERSPECTIVE (CONT'D)

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3. What trade-offs and compromises were required during the development of the project? Did you participate in making them?

I was not involved at the level of detail in the planning for the project that would have given me a perspective on this.

4. What do you consider to be the the most and least successful aspects of this project?

This project is such a win-win that I cannot answer this question adequately.

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2011  
RUDY BRUNER AWARD  
OTHER  
PERSPECTIVE



## OTHER PERSPECTIVE

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Signature  Date 12/9/10

1. What role did you play in the development of this project?

HeadCount - a non profit that works with musicians to encourage participation in democracy - teamed up with a Philadelphia-based rock band called The Disco Biscuits to stage "Bisco Power Mission." The project aimed to provide an area school with solar panels by staging a special benefit concert.

Specifically, we did the following:

- Posted a grant application for potential recipients
- Selected Greenfield Elementary School as the recipient
- Staged a concert and raised \$15,000 toward the project
- Set Greenfield up with Mercury Solar, the company which installed the panels and provided pro bono labor

2. Describe the impact that this project has had on the your community. Please be as specific as possible.

Our community is the music community, and this project has shown what we are capable of when working together. We expect to stage other Bisco Power Mission concerts and do similar work with other artists. The photos of the solar panels on the roof of Greenfield Elementary School inspires us all.

In addition, we were all pleased to learn that this was the first instance of a Philadelphia public school installing solar panels on their roof, and that this opens the doors for other schools to do the same.

Lastly, we were thrilled to see that there is an educational element to this installation. A monitor in the lobby of the school shows the energy output in real time, providing every student at Greenfield with a better understanding of renewable energy. As the guitarist from The Disco Biscuits said to me, "Some of those kids are going to grow up to be engineers, and they're always going to remember the solar panels and that monitor when they think about how to incorporate energy into anything they work on."

3. What trade-offs and compromises were required during the development of the project? Did you participate in making them?

I am happy to say that, on our end, there were really no trade-offs or compromises. Greenfield did everything they said they would and came through 100%. On their end, I know they had to raise an additional \$10,000 to cover the full costs and also had to navigate the Board of Education red tape. So the trade-offs all came on their end. We did not have to participate in those at all, and we are very grateful that they took our original vision and did everything necessary to turn it into reality.

4. What do you consider to be the the most and least successful aspects of this project?

We went from original conception of the project in February to seeing the fully operational solar panels in September. We could not be more pleased. So the successful aspects were

- Seeing tangible results in the form of the solar panels
- The educational element
- The ability to have the benefactors - the rock band The Disco Biscuits - visit the school and meet the students.

There were really no aspects we can think of that were not successful, other than perhaps that our \$15,000 contribution did not cover all the costs.

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**2011**  
**RUDY BRUNER AWARD**  
**OTHER**  
**PERSPECTIVE**




# OTHER PERSPECTIVE

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Name	Thomas J. Davidock	Title	Schuylkill Action Network Coordinator
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Date: 2010.12.10 14:25:06 -0500 **Date** 12/10/10

## 1. What role did you play in the development of this project?

I have been fortunate enough to be involved with the Greening Greenfield project in two different capacities- first through my position as Program Director for Delaware Valley Earth Force, an environmental service learning organization serving Philadelphia; and second as the Schuylkill Action Network Coordinator for the Partnership for the Delaware Estuary. I see the Greening Greenfield project as serving to very important goals; one that addresses the very real need for ecological restoration in an urban environment and another that attempts to address the human need, connecting students with their natural environment and instilling in them the motivation and skills to be active participants in creating positive environmental and community change.

While with Earth Force, I was able to participate in the educational aspects of the program and work with the students to connect their classroom learning to the real-world restoration activities they were helping to shape. I helped the students learn about the ecological impact of their project, conducting water quality monitoring along the Schuylkill River and providing classroom-based instruction on the environmental issues in their community. I also participated in the community design process by attending various meetings, design charrettes, and community education and promotion events.

Through my position with the Partnership with the Delaware Estuary, I was able to get more involved with the watershed restoration goals of the project. The goal of this project aligns very closely with the priorities of the Schuylkill Action Network, a source water protection effort in the Schuylkill River Watershed. Urban stormwater runoff is a serious issue impacting water quality of the Schuylkill River. Projects such as this are vital for restoring the health of the river. In my current capacity, I am able to assist the Greening Greenfield partners with connecting their restoration activities with the larger restoration and protection efforts in the Schuylkill River Watershed. I hope to work with the program partners to disseminate information on their accomplishments and provide guidance to other schools who want to implement similar projects.

## 2. Describe the impact that this project has had on the your community. Please be as specific as possible.

In addition to creating unique and lasting ecological education opportunities for the school, the project will provide direct environmental benefits to the Schuylkill River. A large portion of the school yard existing asphalt has been removed and replaced with porous paving surfaces made from recycled rubber material and porous brick pavers. New porous surfaces will allow the water runoff to percolate into the ground, reducing the impact on the city water system and keeping polluted stormwater from entering the Schuylkill River. Additionally, a "rain-garden" bio-retention system was installed with woodland forest native plant types to capture run-off that does not percolate through the porous surfaces. The ground plane along the southern perimeter of the schoolyard was also regraded to produce swales and three ponding areas to slow the infiltration from larger storm events.

The above improvements capture runoff from 97% of the play yard and will result in the first 1.5-inches (90% of the annual rainfall) of runoff from entering the city storm-sewer system. The city of Philadelphia has a goal to capture the first 1-inch of runoff from impervious surfaces. The results of this project makes Greenfield School an excellent example of stormwater management in an urban environment and a model for others properties in Philadelphia. I believe that this initiative will serve as a catalyst for other similar projects in the community.

3. What trade-offs and compromises were required during the development of the project? Did you participate in making them?

As with any visionary process, the realities of implementation requires that trade-offs and compromises be incorporated into the plan. The Greening Greenfield initiative was fully aware of this from the very beginning, and as a result, was able to find solutions to meet the overall project goals. When there were stormwater best management practices that turned out to be too costly or technically challenging to implement, the group was able to quickly adapt to changes and work within the budget and physical constraints. The community design process was very successful at facilitating these adaptations while keeping a steady focus on the overall goal. A good example can be noted in the play surfaces that were installed. While covering the entire play area with porous surfaces was part of the original design considerations, the prohibitive cost forced the group to look at alternatives, resulting in a smaller porous footprint that is still able to capture runoff from the entire play yard. The group was also able to make other compromises through a very effective project phasing plan. This has allowed to group to realize measurable milestones of success while still maintaining a clear vision for fully achieving all goals of the program. I, along with many of the community partners, was able to participate in this process through the Greening Greenfield design process.

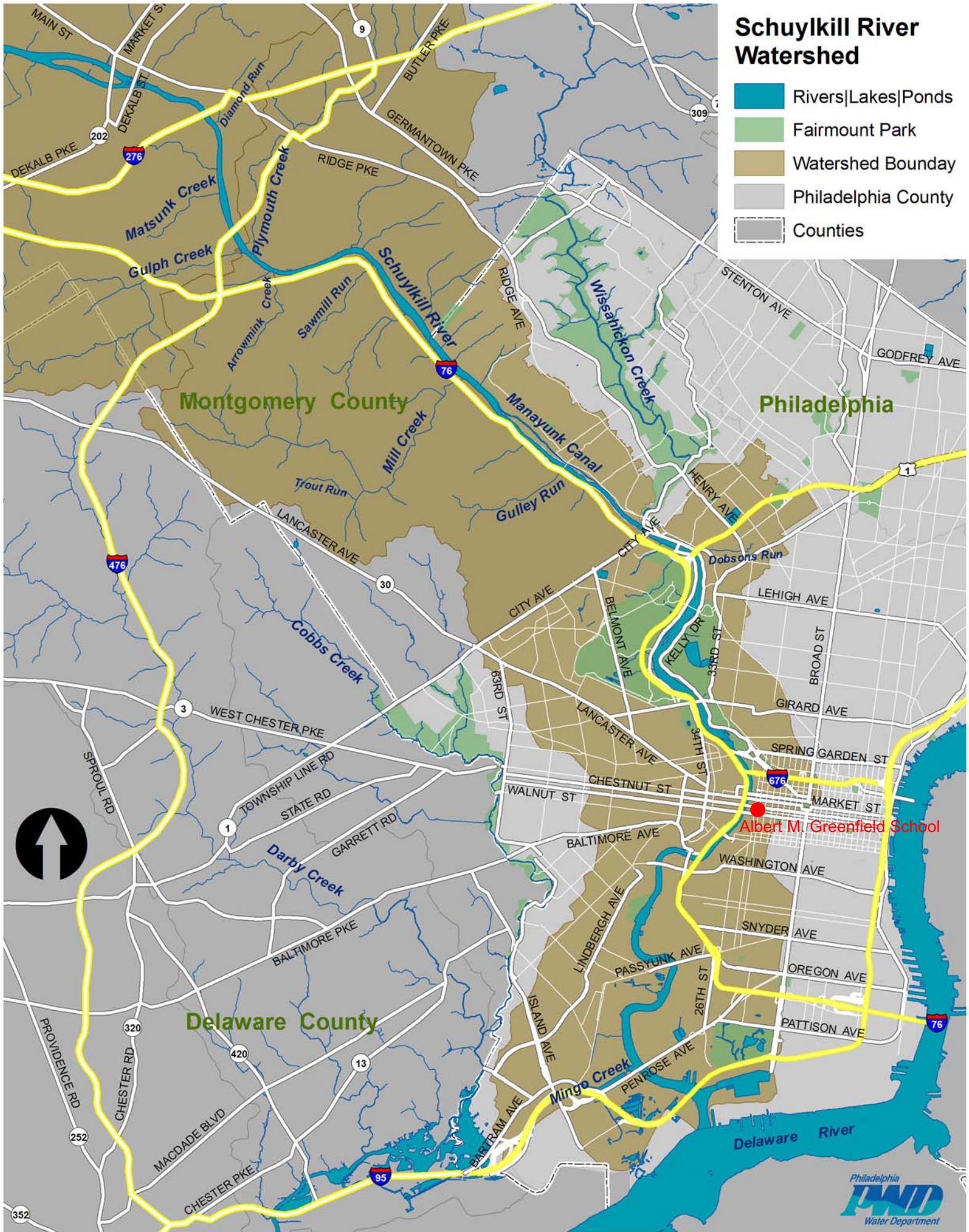
4. What do you consider to be the the most and least successful aspects of this project?

I feel that the most successful aspect of this project has been in its ability to capture the involvement of such a diverse group or community partners, creating an end result that offers countless environmental, education, and community benefits. The implementation of the project was truly visionary- capturing the heart and imagination of the entire school community and local partners. Solving many of our complex environmental problems often requires that we address societal issues and target behavior change. In designing this project, the focus was never on providing a technological fix for a water quality problem, but rather in creating a transformation of the school learning environment and a transformation in the students. The students were invited to learn from the process and be part of the solution. This project is now embedded as part of the school's culture and will serve as a key educational resource now and in the future.

At this point, it is difficult for me to identify an aspect of the project that did not lead to some form of success. I'm sure that there were challenges associated with the intricacies of facilitating and implementing the project, but I am not able to speak to them. The outcomes of this project and the pace that it was able to achieve success have surpassed my expectations.

# Schuykill River Watershed

- Rivers|Lakes|Ponds
- Fairmount Park
- Watershed Bounday
- Philadelphia County
- Counties



Albert M. Greenfield School



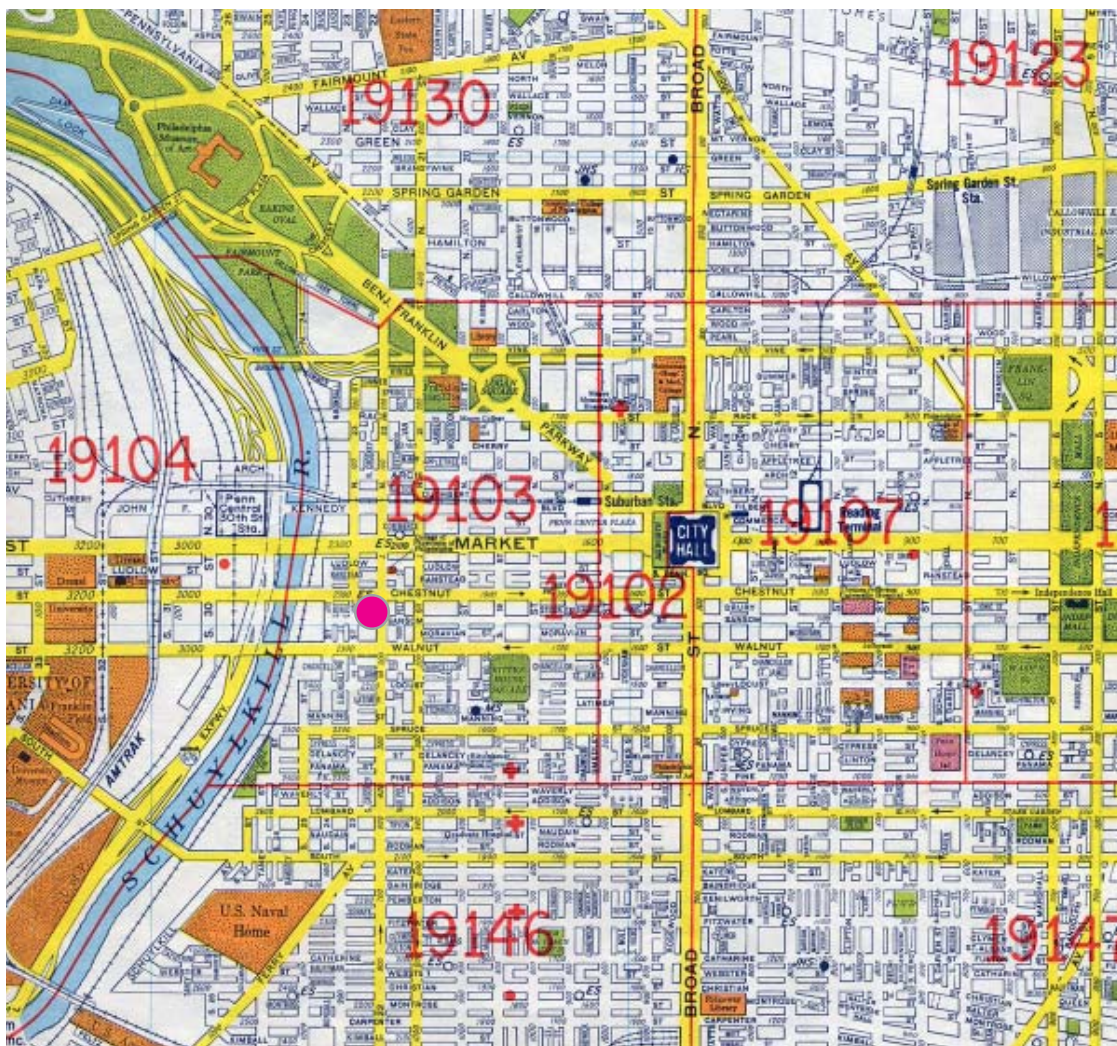
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# Project Location

## The Greening of Greenfield School

Campus Parks Initiative  
Conceptual Master Plan for Sustainable Outdoor Space

2006-18



**Albert M. Greenfield Elementary School**  
2200 Chestnut Street  
Center City

Organization: Home & School Association  
Facility Type: Elementary School Outdoor Space





**Greenfield Elementary School, Philadelphia, PA**

  
Photo by Paul Rider







Photo by Paul Rider

**Greenfield Elementary School, Philadelphia, PA**



**Greenfield Elementary School, Philadelphia, PA**

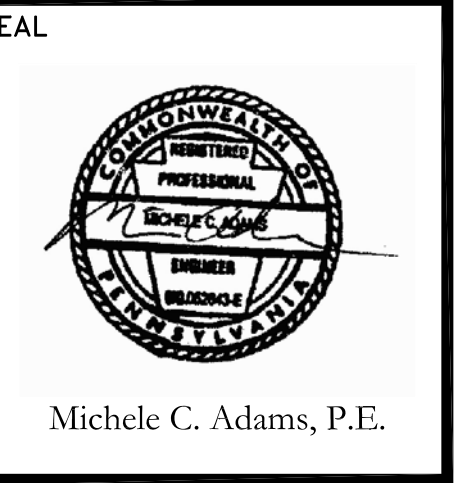
Philadelphia  
**FWD**  
Waterfront Development  
Photo by Paul Rider



GREENFIELD HOME AND SCHOOL ASSOCIATION  
GREENING GREENFIELD PROPOSAL TO THE  
SCHOOL DISTRICT OF PHILADELPHIA

SMP Architects    Viridian Landscape Studio    Meliora Environmental Design





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**SCHOOL & LOCATION**  
 ALBERT M. GREENFIELD ELEMENTARY SCHOOL  
 23RD AND CHESTNUT STREETS, PHILADELPHIA, PA 19103

**PROJECT TITLE**  
 GREENING GREENFIELD

**DRAWING TITLE**  
 STORMWATER MANAGEMENT PROFILES (II)

APPROVED BY

**SCHOOL DISTRICT OF PHILADELPHIA**  
**THE SCHOOL REFORM COMMISSION**

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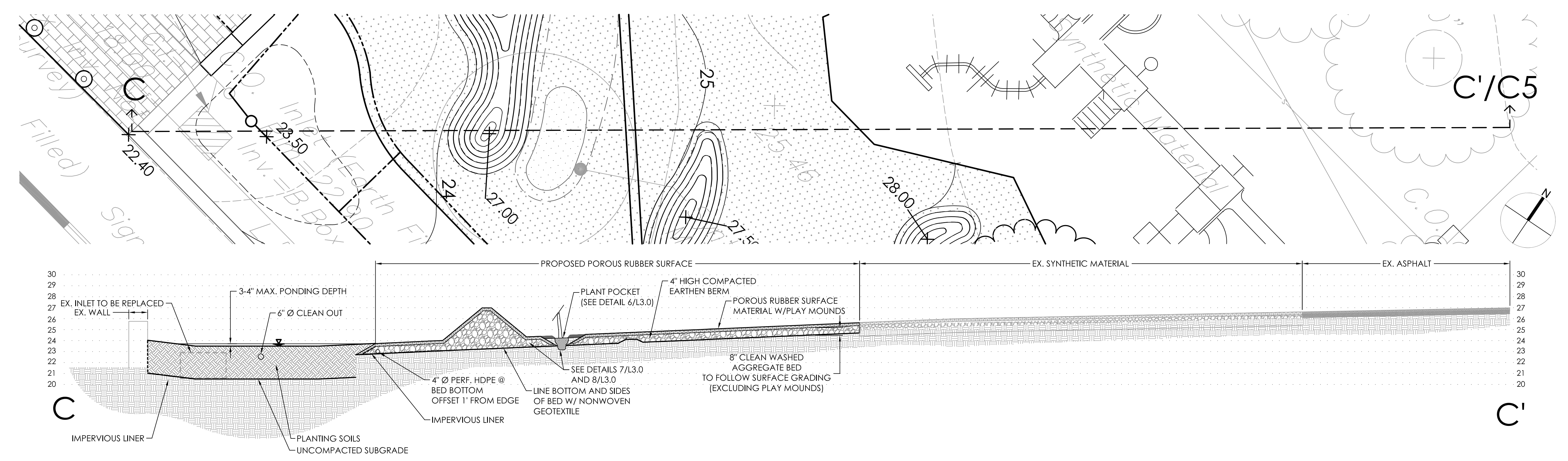
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 SAM

CHECKED BY  
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DRAWING NO.  
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SHEET 9 OF 21



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SCHOOL & LOCATION  
 ALBERT M. GREENFIELD ELEMENTARY SCHOOL  
 28RD AND CHESTNUT STREETS, PHILADELPHIA, PA 19103

PROJECT TITLE  
 GREENING GREENFIELD

DRAWING TITLE  
 STORMWATER MANAGEMENT DETAILS

APPROVED BY

SCHOOL DISTRICT OF PHILADELPHIA  
 THE SCHOOL REFORM COMMISSION

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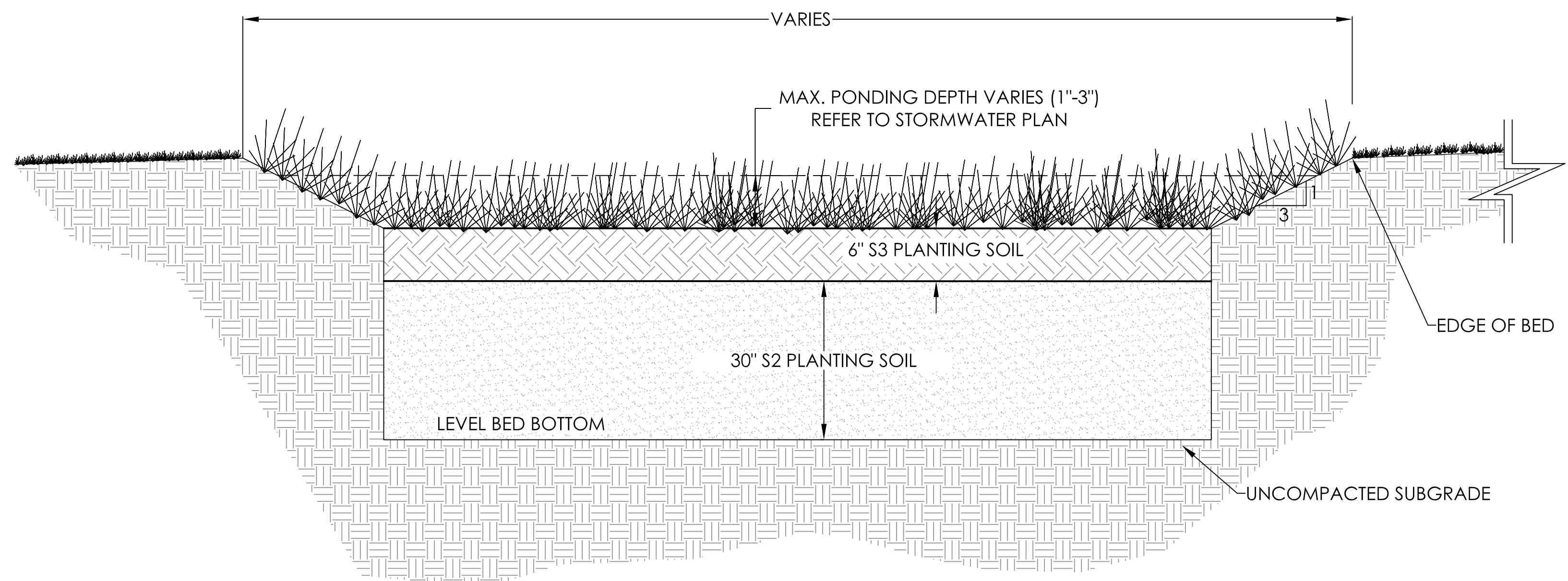
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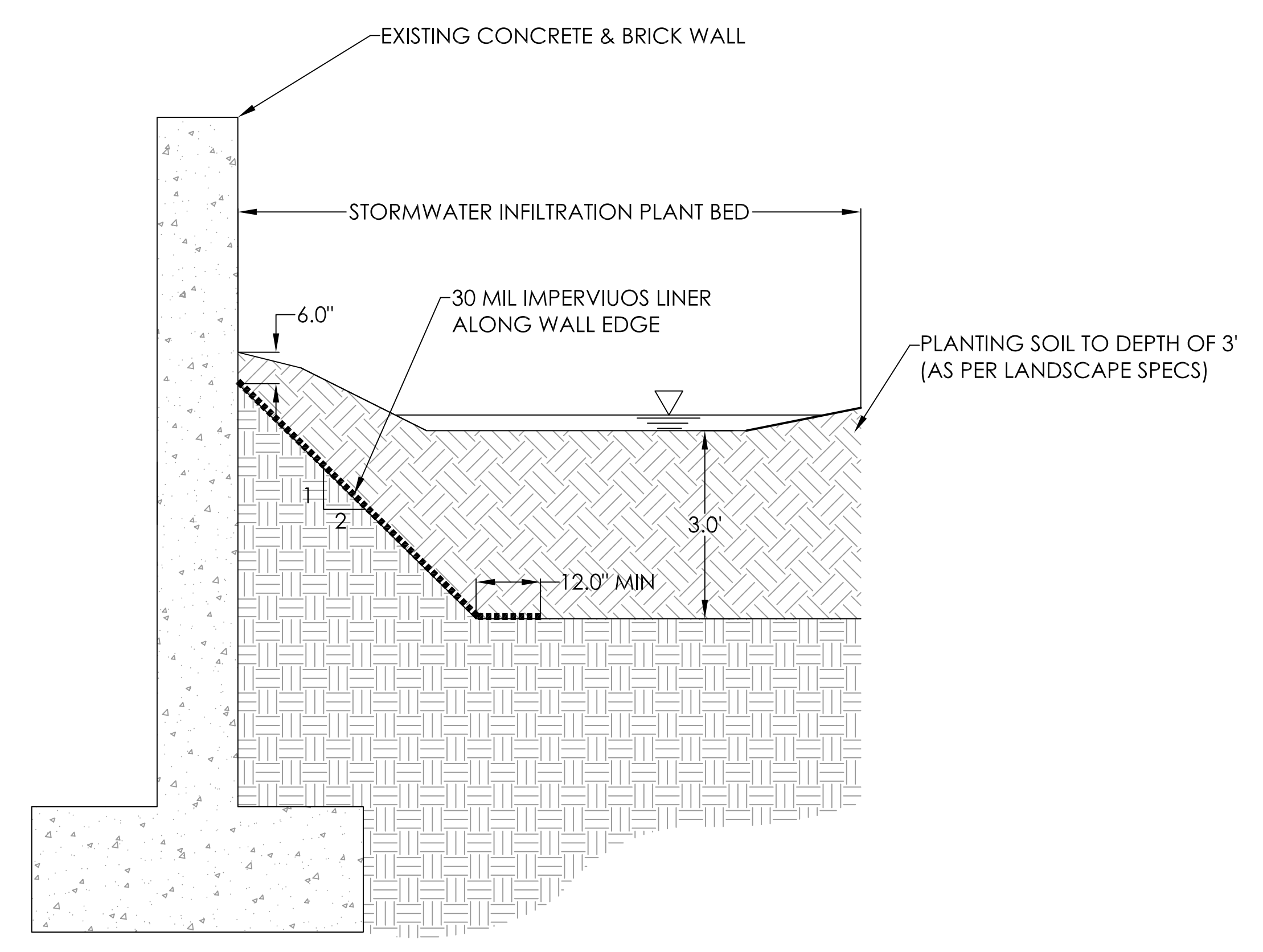
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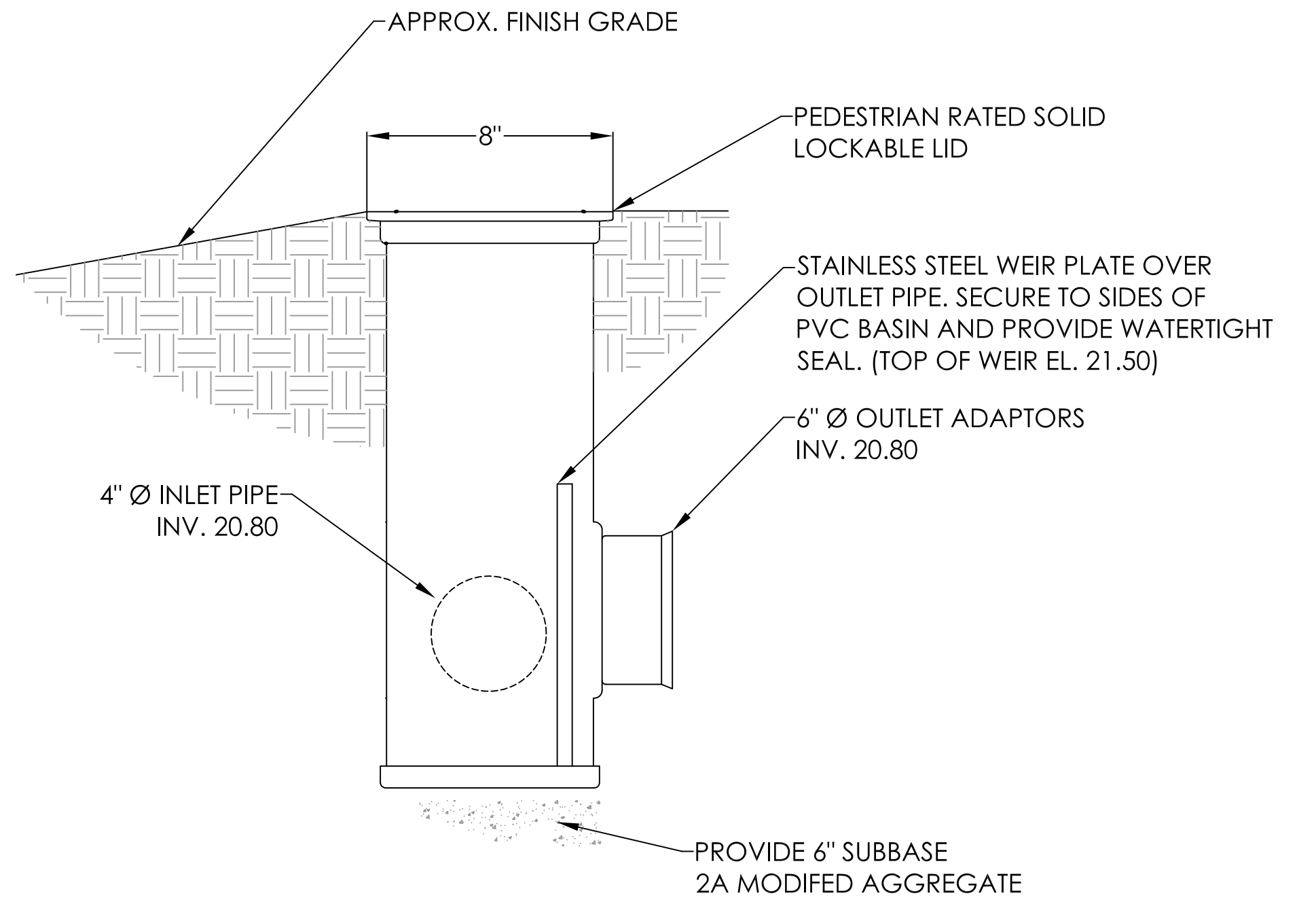
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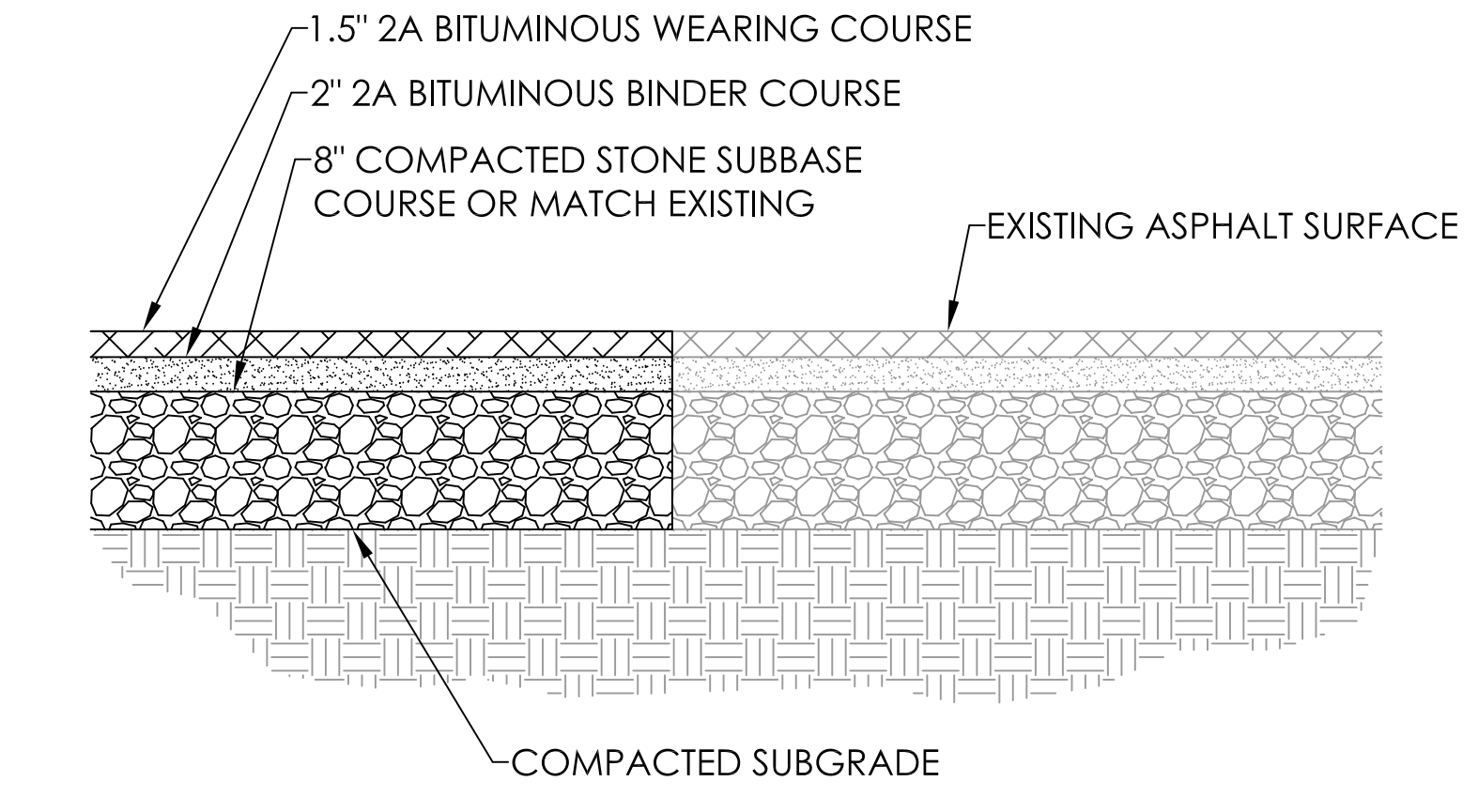
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C6.1 TYPICAL STORMWATER INFILTRATION PLANT BED SECTION NTS



3  
C6.1 IMPERVIUS LINER ALONG WALL EDGE AT PLANTING BED NTS



2  
C6.1 8\"/>



4  
C6.1 STANDARD ASPHALT PATCHING NTS

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SCHOOL & LOCATION  
**ALBERT M. GREENFIELD ELEMENTARY SCHOOL**  
 23RD AND CHESTNUT STREETS

PROJECT TITLE  
**GREENING GREENFIELD**

DRAWING TITLE  
**PLANTING PLAN**

APPROVED BY

SCHOOL DISTRICT OF PHILADELPHIA  
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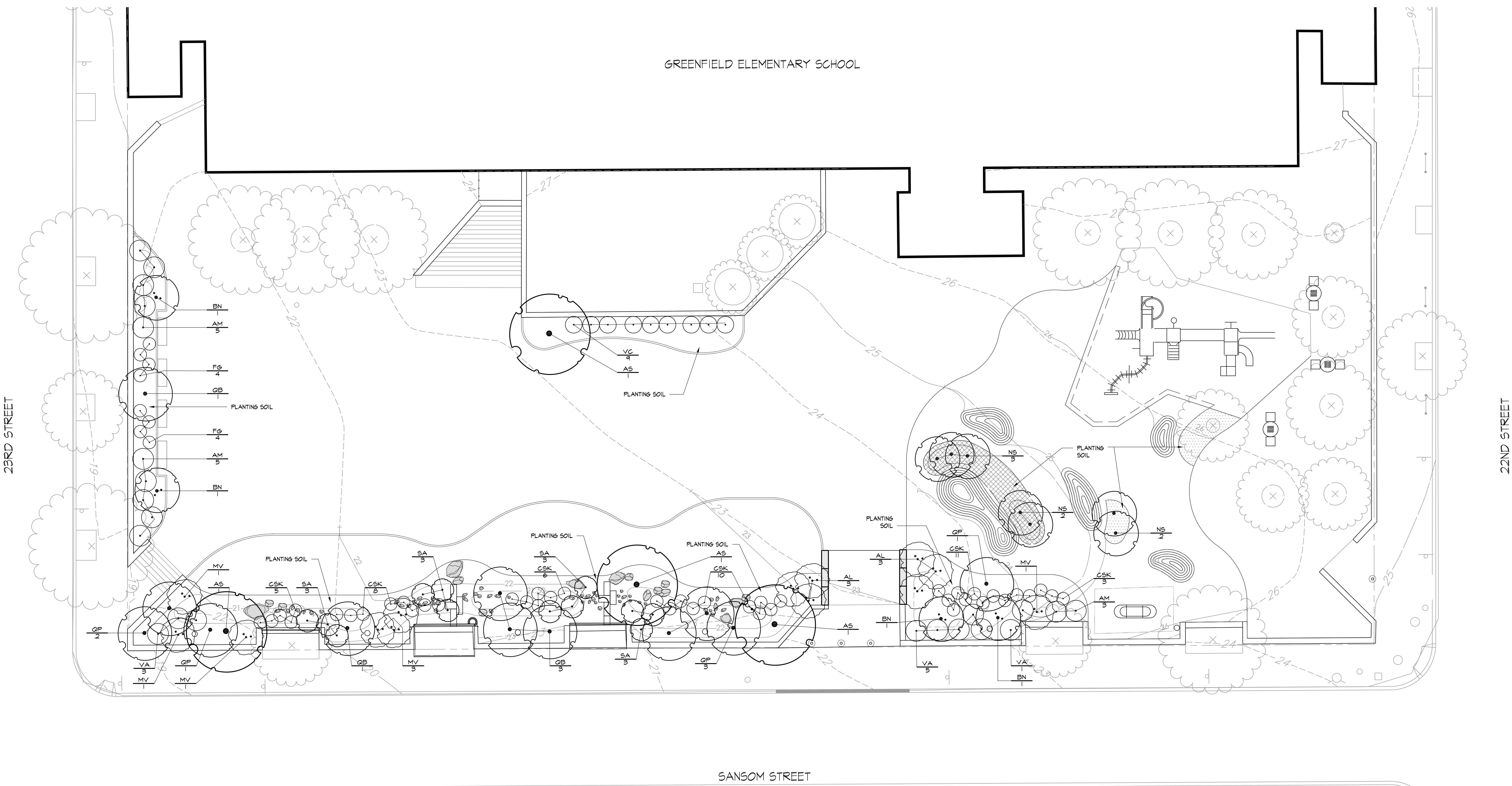
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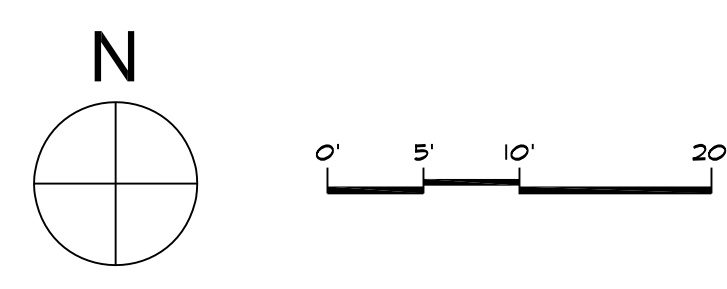
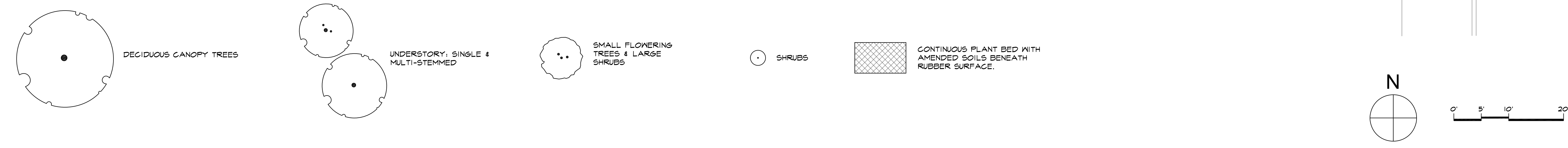
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SHEET 13 OF 21

GREENFIELD ELEMENTARY SCHOOL



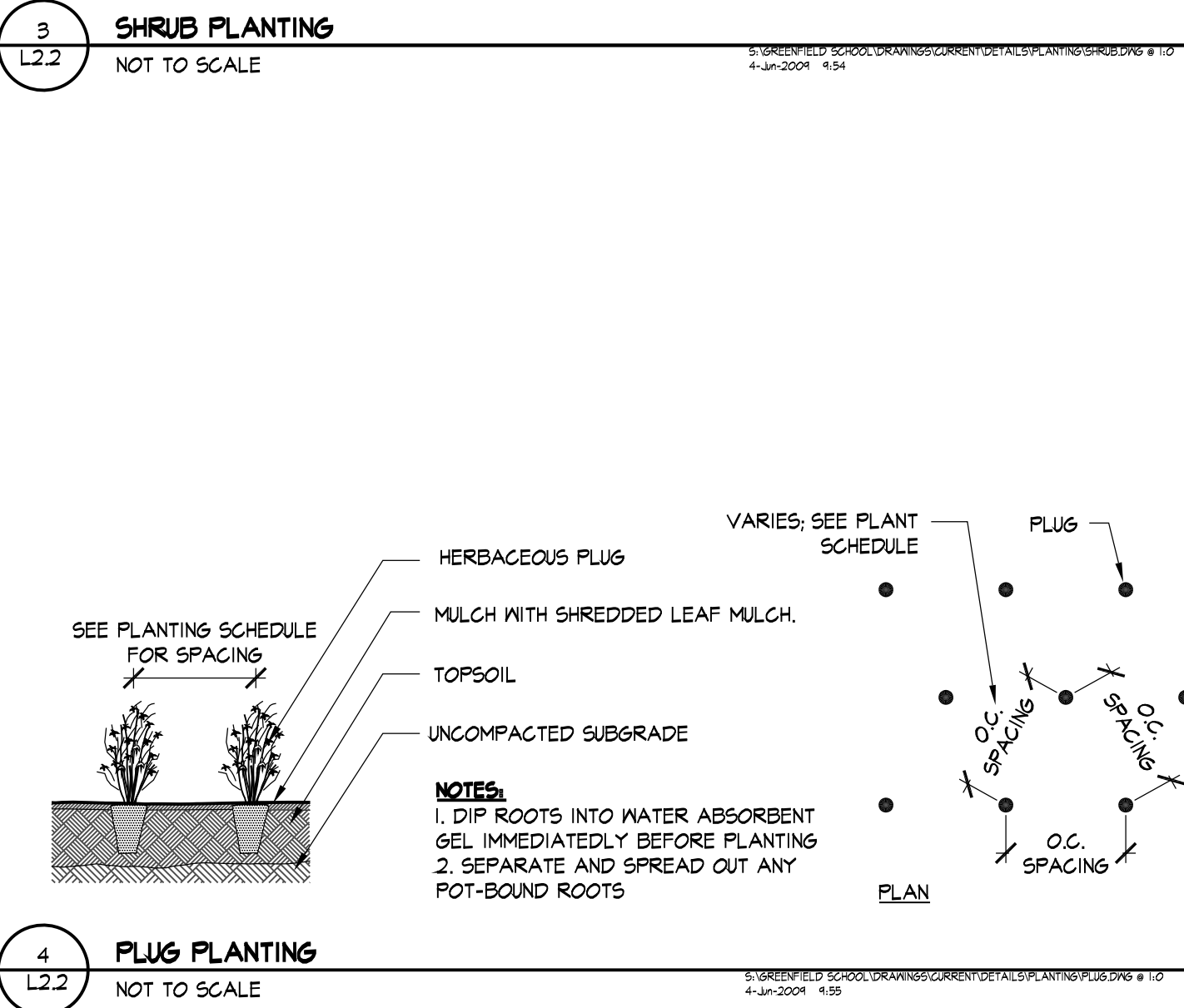
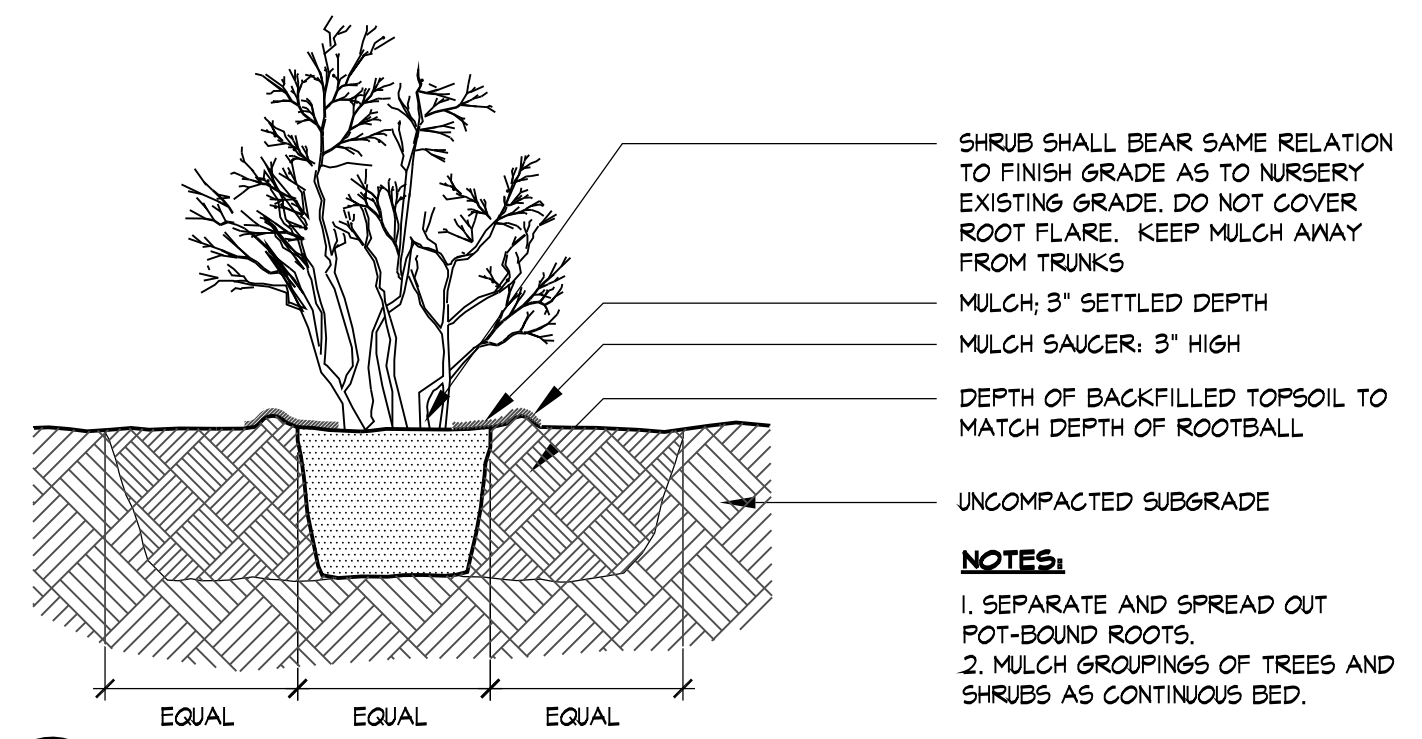
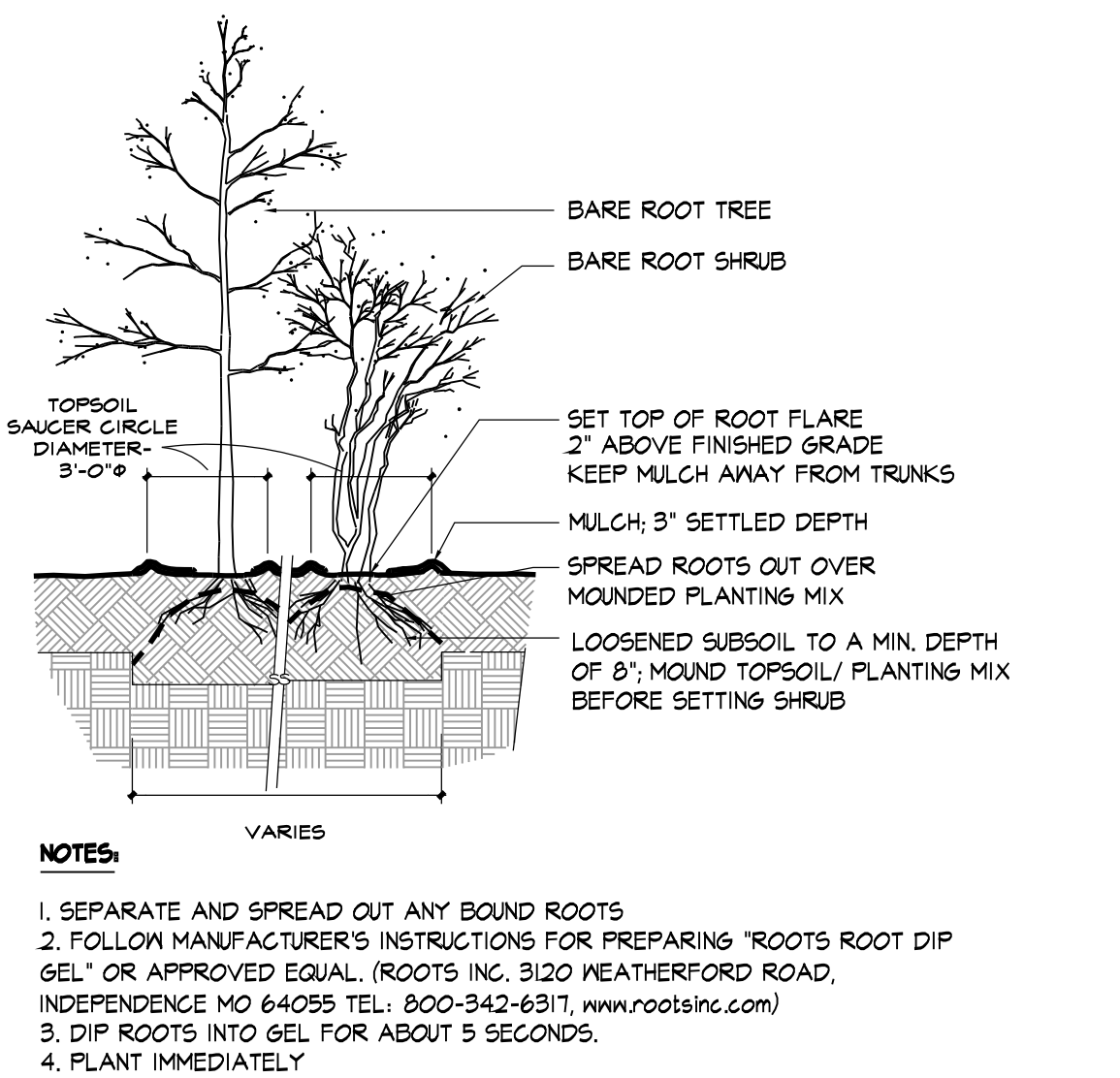
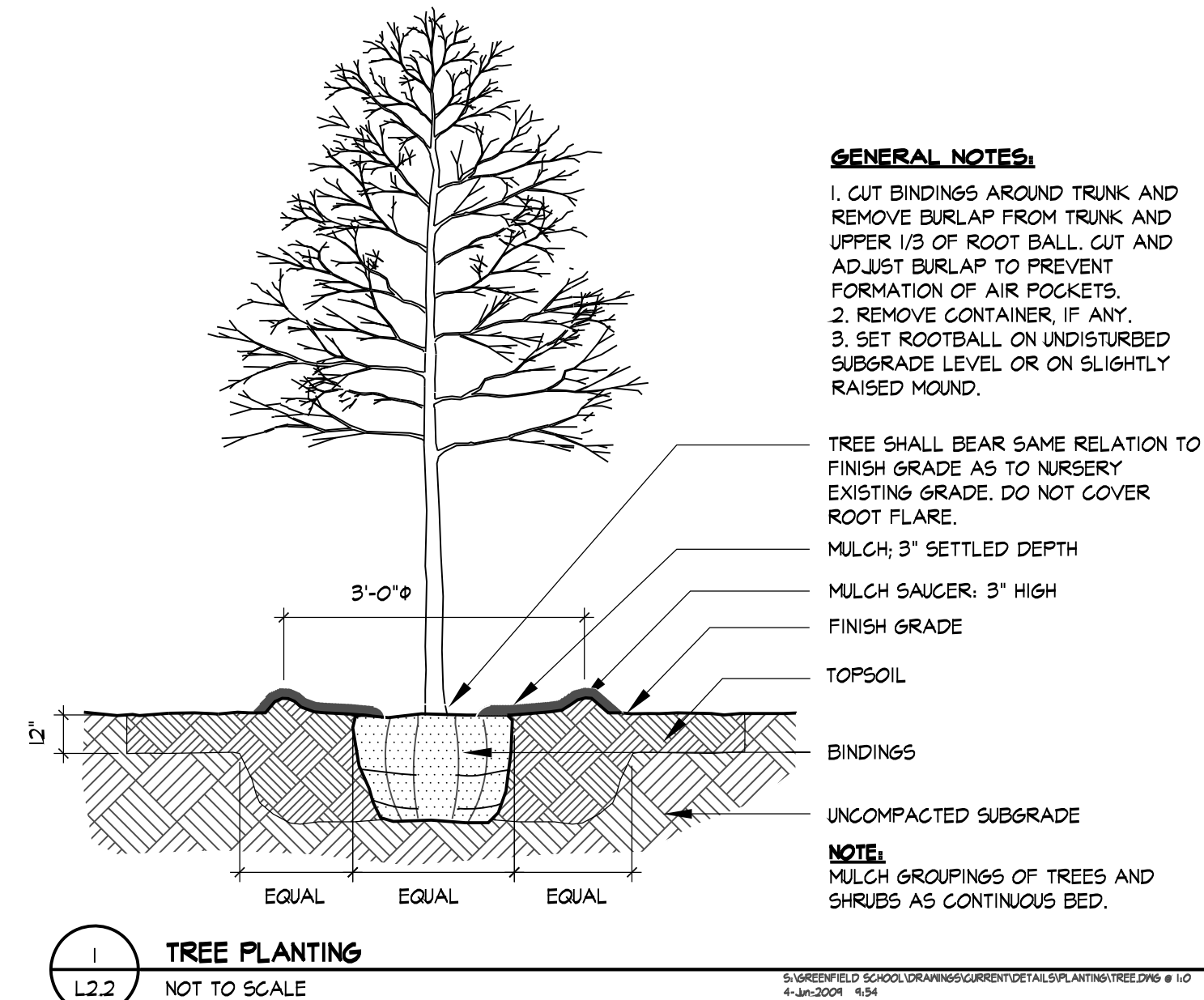
LEGEND



PLANTING PLAN NOTES

- ALL PLANT BEDS TO BE 3' AMENDED SOIL
- STAKE LOCATIONS OF PLANT MATERIALS BEFORE PLANTING FOR REVIEW IN FIELD BY LANDSCAPE ARCHITECT.
- COORDINATE LOCATIONS OF PLANTINGS WITH UTILITIES. OBTAIN "AS-BUILT" PLAN OF UTILITIES BEFORE BEGINNING PLANTING. REVIEW WITH LANDSCAPE ARCHITECT.
- PROVIDE THE QUANTITY OF EACH PLANT INDICATED ON THE PLANTING PLAN IF THOSE QUANTITIES DO NOT AGREE WITH THE LABEL QUANTITIES.

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**TREE SCHEDULE PHASE 1**

PLANT CATEGORY	CODE	#	SCIENTIFIC NAME	COMMON NAME	TYPE / SIZE	SPACING	SOURCE
CANOPY TREES							
	AS	4	Acer saccharum 'Legacy'	Legacy Sugar Maple	2 1/2" - 3" B&B CAL.	As shown	TREEVITALIZE
CANOPY & UNDERSTORY TREES							
	BN	2	Betula nigra	River Birch	6-8"--MULTI STEM B&B	As shown	TREEVITALIZE
	GB	5	Quercus bicolor	Swamp White Oak	1 1/2" - 2" B&B CAL.	As shown	TREEVITALIZE
	QP	6	Quercus phellos	Willow Oak	1 1/2" - 2" B&B CAL.	As shown	TREEVITALIZE
	SA	12	Sassafras albidum	Sassafras	# 7 container	As shown	OTHER
SMALL FLOWERING TREES							
	AL	3	Amelanchier laevis	Shadblow Serviceberry	4-6"--MULTI STEM B&B	As shown	TREEVITALIZE
	MV	6	Magnolia virginiana	Sweetbay Magnolia	4-6"--MULTI STEM B&B	As shown	TREEVITALIZE
TOTAL QUANTITY:		38					TOTAL TREES FROM TREEVITALIZE: 26

**TREE SCHEDULE PHASE 2**

PLANT CATEGORY	CODE	#	SCIENTIFIC NAME	COMMON NAME	TYPE / SIZE	SPACING	SOURCE
CANOPY & UNDERSTORY TREES							
	BN	2	Betula nigra	River Birch	6-8"--MULTI STEM B&B	As shown	TREEVITALIZE
	NS	7	Nyssa sylvatica 'Torum'	Forum Black Gum	1 1/2" - 2" B&B CAL.	As shown	TREEVITALIZE
	QP	1	Quercus phellos	Willow Oak	1 1/2" - 2" B&B CAL.	As shown	TREEVITALIZE
SMALL FLOWERING TREES							
	AL	3	Amelanchier laevis	Shadblow Serviceberry	4-6"--MULTI STEM B&B	As shown	TREEVITALIZE
	MV	1	Magnolia virginiana	Sweetbay Magnolia	4-6"--MULTI STEM B&B	As shown	TREEVITALIZE
TOTAL QUANTITY:		14					TOTAL TREES FROM TREEVITALIZE: 14

**SHRUB SCHEDULE PHASE 1**

PLANT CATEGORY	CODE	#	SCIENTIFIC NAME	COMMON NAME	TYPE / SIZE	SPACING
SHRUBS						
	AM	10	Aronia melanocarpa	Black Chokeberry	# 3 container or 18"-24"	As shown
	CSK	24	Cornus stolonifera 'Kelsey'	Kelsey Redosier Dogwood	# 3 container or 18"-24"	As shown
	FG	8	Fothergilla gardenii	Dwarf Fothergilla	# 3 container or 18"-24"	As shown
	VC	4	Vaccinium corymbosum 'North Blue'	North Blue Highbush Blueberry	# 3 container or 18"-24"	As shown
	VA	3	Viburnum acerifolium	Maple Leaf Viburnum	# 3 container or 18"-24"	As shown

**SHRUB SCHEDULE PHASE 2**

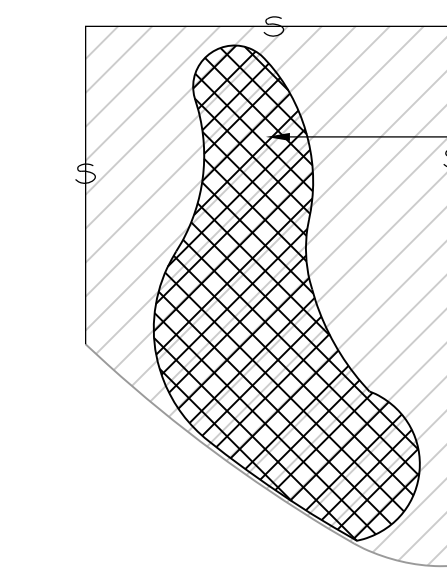
PLANT CATEGORY	CODE	#	SCIENTIFIC NAME	COMMON NAME	TYPE / SIZE	SPACING
SHRUBS						
	AM	3	Aronia melanocarpa	Black Chokeberry	# 3 container or 18"-24"	As shown
	CSK	14	Cornus stolonifera 'Kelsey'	Kelsey Redosier Dogwood	# 3 container or 18"-24"	As shown
	VA	6	Viburnum acerifolium	Maple Leaf Viburnum	# 3 container or 18"-24"	As shown

**BULB SCHEDULE**

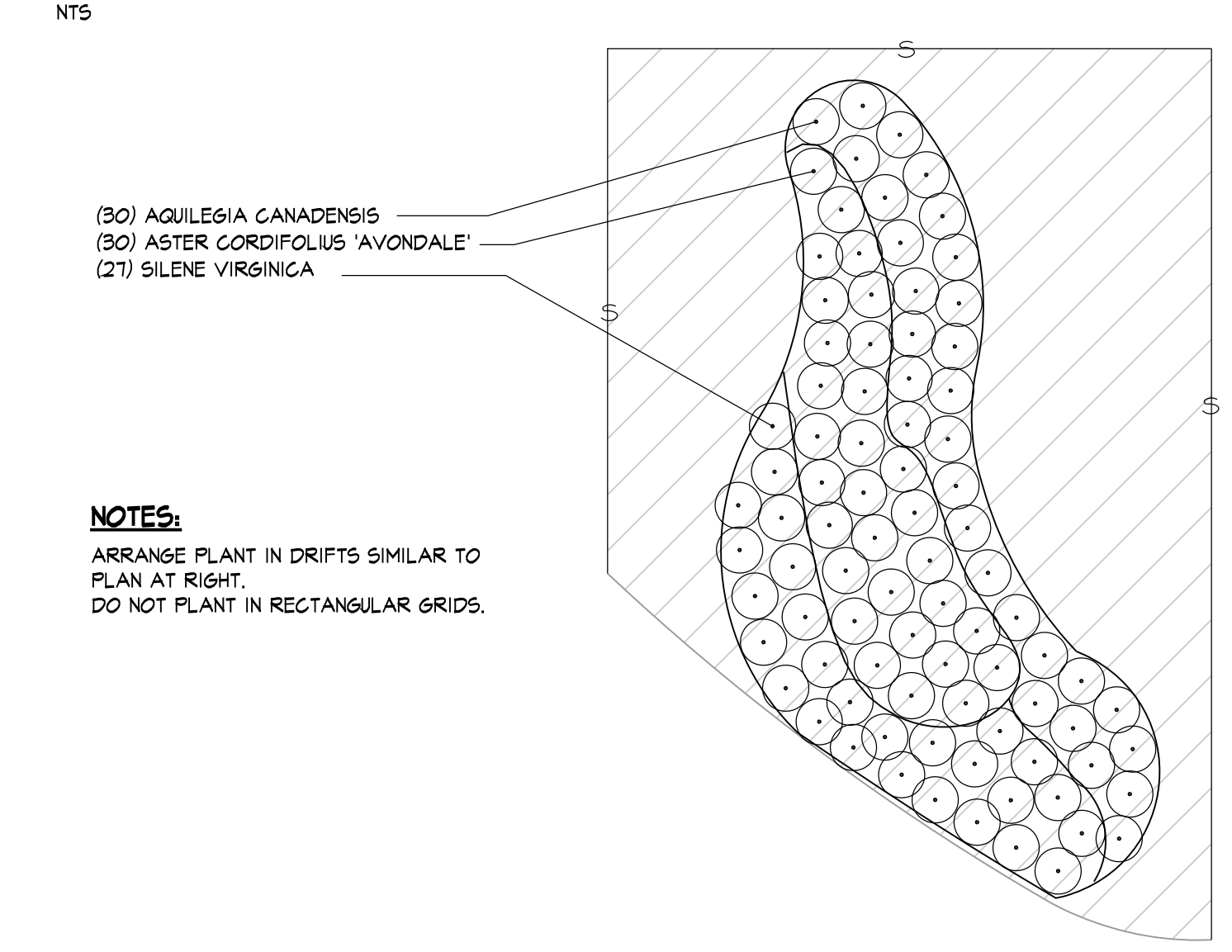
PLANT CATEGORY	QUANTITY	SCIENTIFIC NAME	COMMON NAME	TYPE / SIZE	SPACING
BULBS					
	200	Scilla sibirica	Blue Squill	large bulb	plant in drifts, 5 in. O.C.
	300	Narcissus	Daffodil	large bulb	plant in drifts, 5 in. O.C.

**PLUG SCHEDULE**

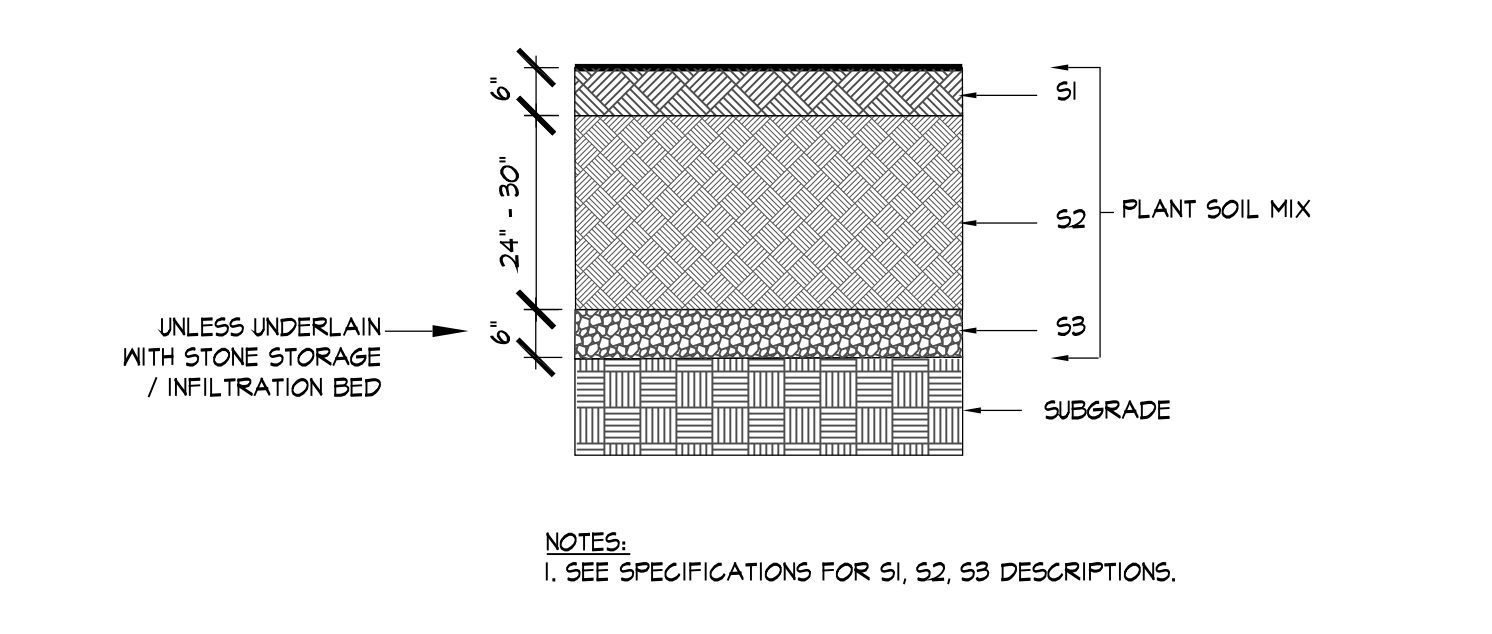
PLANT CATEGORY	QUANTITY	SCIENTIFIC NAME	COMMON NAME	SPACING	TYPE / SIZE	Condition
HERBACEOUS PLUGS						
	41	Aquilegia canadensis	Wild Columbine	18" o.c.	12 plug	12/flat
	30	Arisaema triphyllum	Jack-in-the-Pulpit	18" o.c.	12 plug	12/flat
	16	Asclepias incarnata	Swamp Milkweed	18" o.c.	12 plug	12/flat
	21	Aster cordifolius	Blue Wood Aster	18" o.c.	38 plug	38/flat
	24	Aster divaricatus 'Eastern Star'	White Wood's Aster	18" o.c.	12 plug	12/flat
	10	Aster novae-angliae 'Purple Dome'	Purple Dome Aster	18" o.c.	32 plug	32/flat
	6	Aster oblongifolius 'Raydon's Favorite'	Raydon's Favorite Aster	18" o.c.	38 plug	38/flat
	24	Aster 'Wood's Light Blue'	Wood's Light Blue Aster	18" o.c.	12 plug	12/flat
	6	Equisetum hyemale	Scouring Rush	18" o.c.	pin	
	63	Iris versicolor	Blue Flag Iris	18" o.c.	38 plug	38/flat
	42	Liatris spicata	Native Gayfeather	18" o.c.	38 plug	38/flat
	40	Labella cardinalis	Cardinal Flower	18" o.c.	38 plug	38/flat
	41	Labella siphilitica	Great Blue Lobelia	18" o.c.	38 plug	38/flat
	10	Penstemon digitalis 'Red Haker'	Beardtongue	18" o.c.	12 plug	12/flat
	5	Phlox divaricata 'Manita'	Woodland Phlox	18" o.c.	12 plug	12/flat
	24	Polygonatum biflorum	Solomon's Seal	18" o.c.	12 plug	12/flat
	10	Rudbeckia triloba	Three-lobed Coneflower	18" o.c.	12 plug	12/flat
	45	Solidago rugosa 'Fireworks'	Fireworks Goldenrod	18" o.c.	38 plug	38/flat
	13	Tiarola cordifolia 'Eco Running Tapestry'	Groundcover Foamflower	18" o.c.	12 plug	12/flat
FERNS						
	15	Adiantum pedatum	Northern Maidenhair Fern	18" o.c.	32 plug	32/flat
	42	Dryopteris marginalis	Marginal Wood Fern	18" o.c.	32 plug	32/flat
	34	Osmunda cinnamomea	Cinnamon Fern	18" o.c.	32 plug	32/flat
	23	Polypodium acrostichoides	Christmas Fern	18" o.c.	32 plug	32/flat



INSET FROM PLUG PLAN



6 SAMPLE PLANT MASS LAYOUT - ENLARGEMENT  
 L2.2 1/4"=1'-0"



5 PLANTING SOIL PROFILE  
 L2.2 1/2"=1'-0"



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SCHOOL & LOCATION  
 ALBERT M. GREENFIELD ELEMENTARY SCHOOL  
 23RD AND CHESTNUT STREETS

PROJECT TITLE  
 GREENING GREENFIELD

DRAWING TITLE  
 PLANTING DETAILS AND SCHEDULE

APPROVED BY

SCHOOL DISTRICT OF PHILADELPHIA  
 THE SCHOOL REFORM COMMISSION

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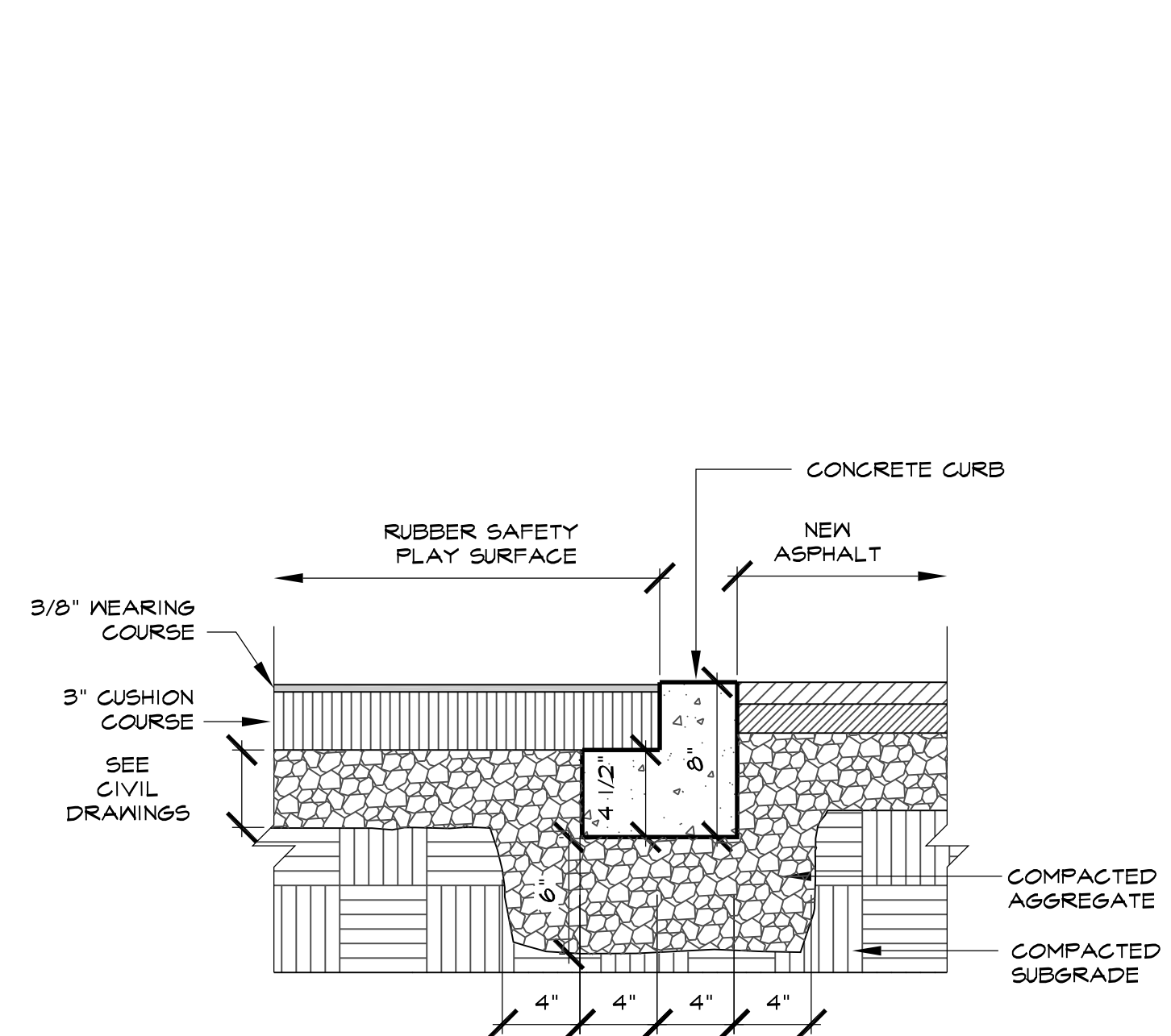
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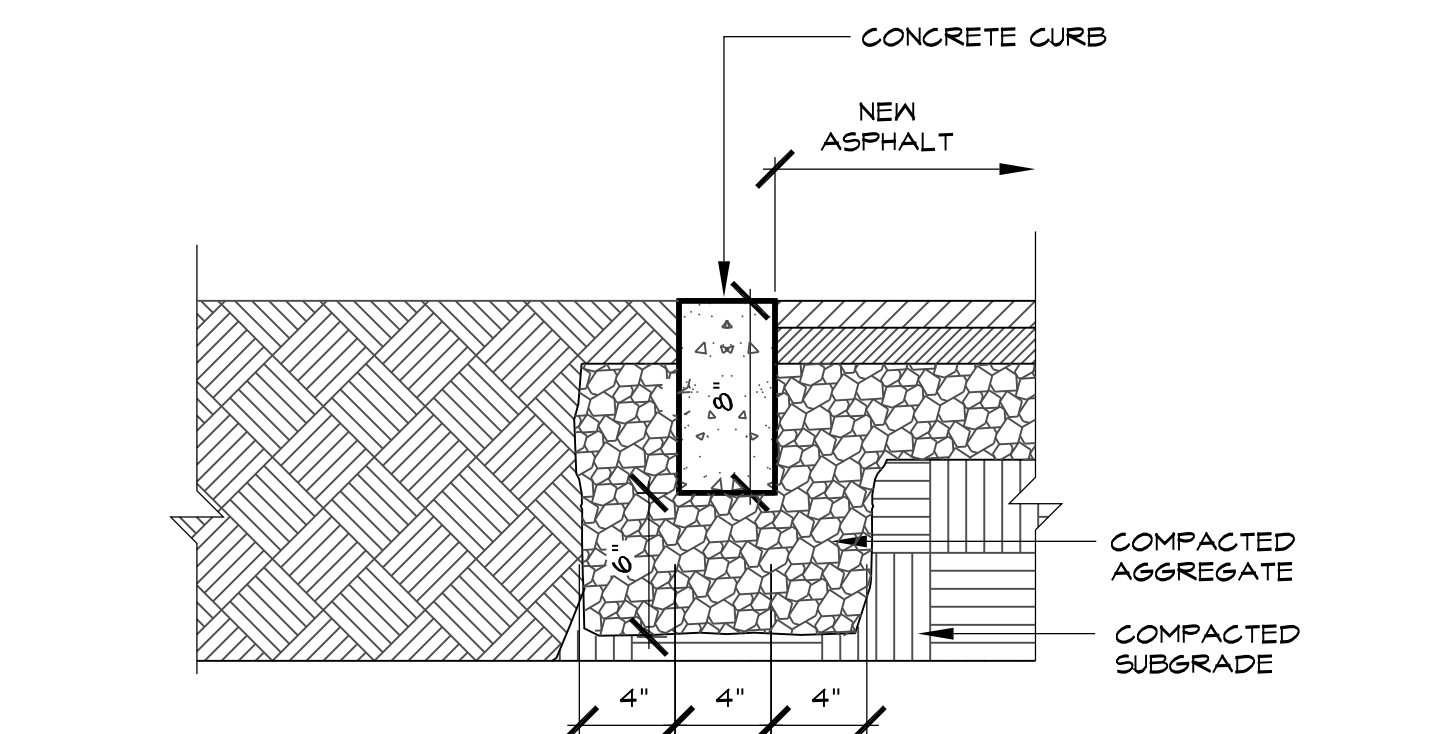
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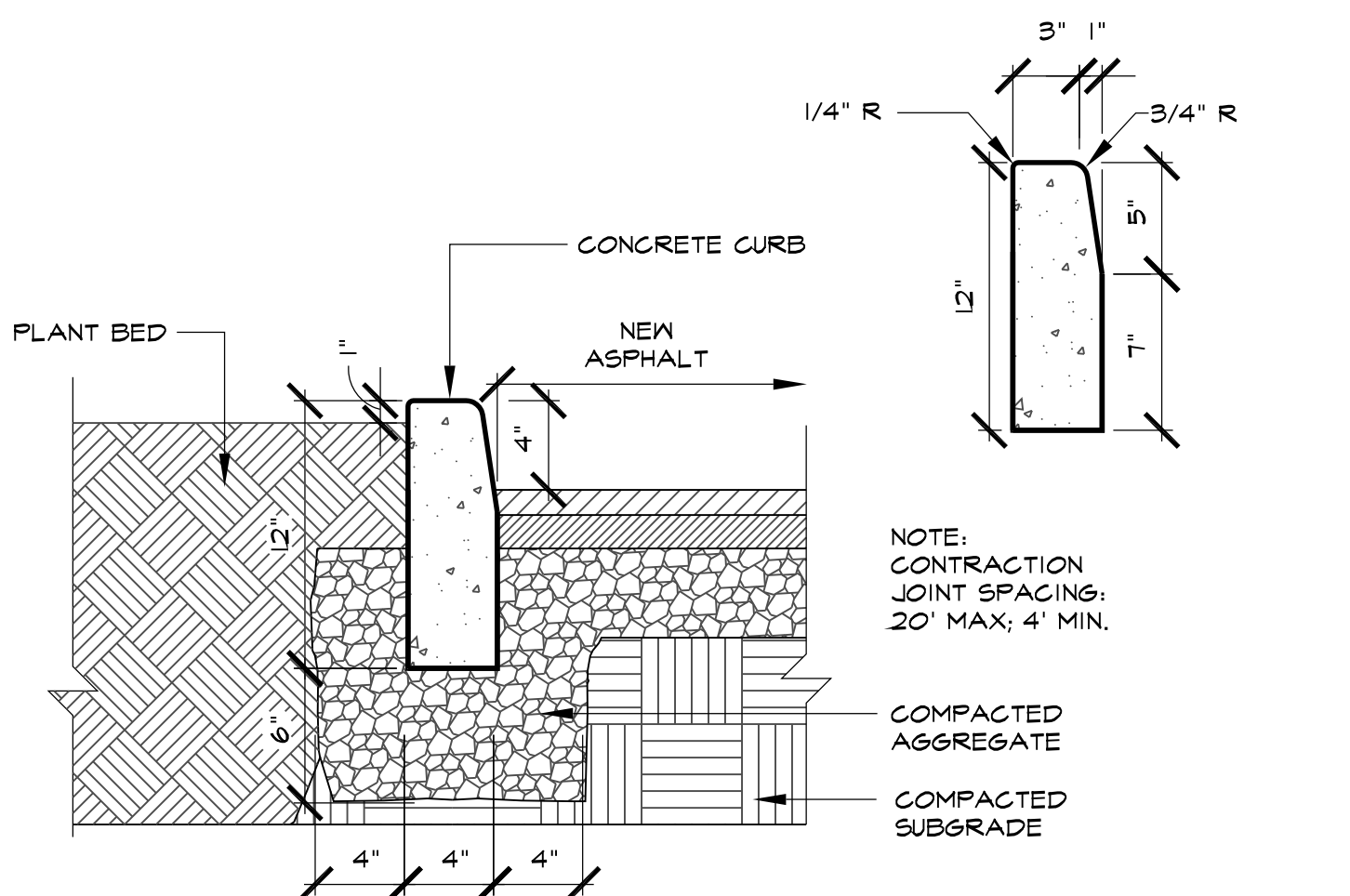
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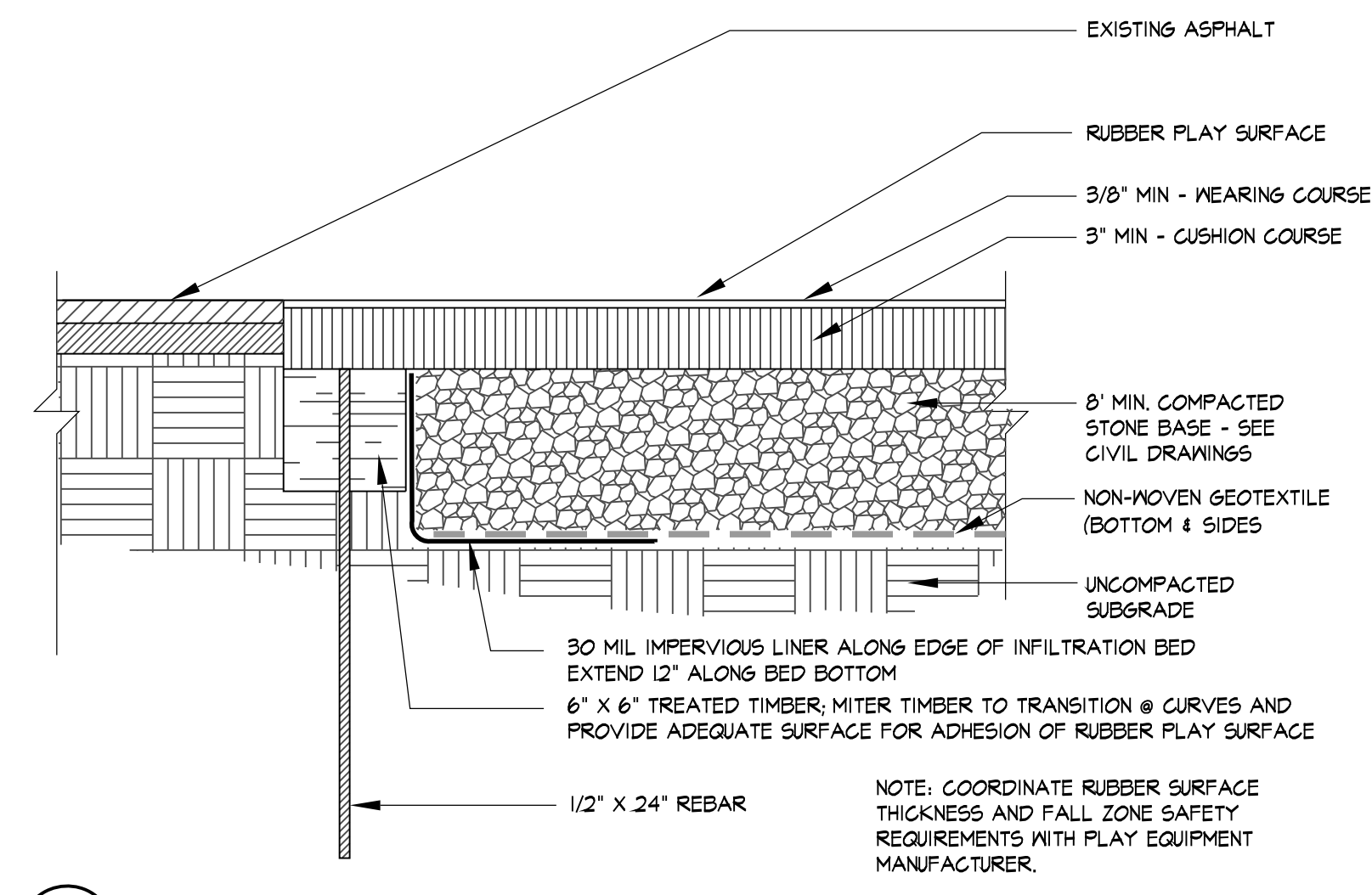
**1 CONCRETE CURB AT RUBBER PLAY SURFACE & ASPHALT**  
 L3.0 1/2"=1'-0"



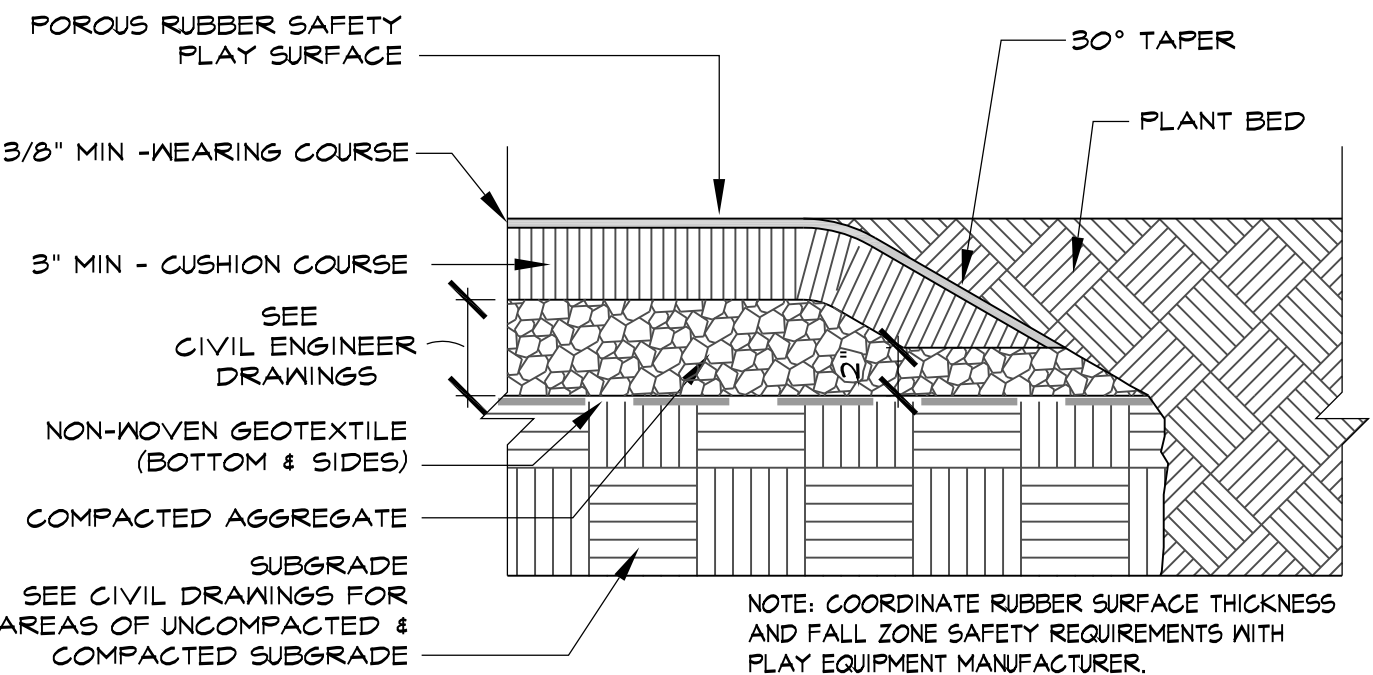
**2 FLUSH CONCRETE CURB AT PLANT BED**  
 L3.0 1/2"=1'-0"



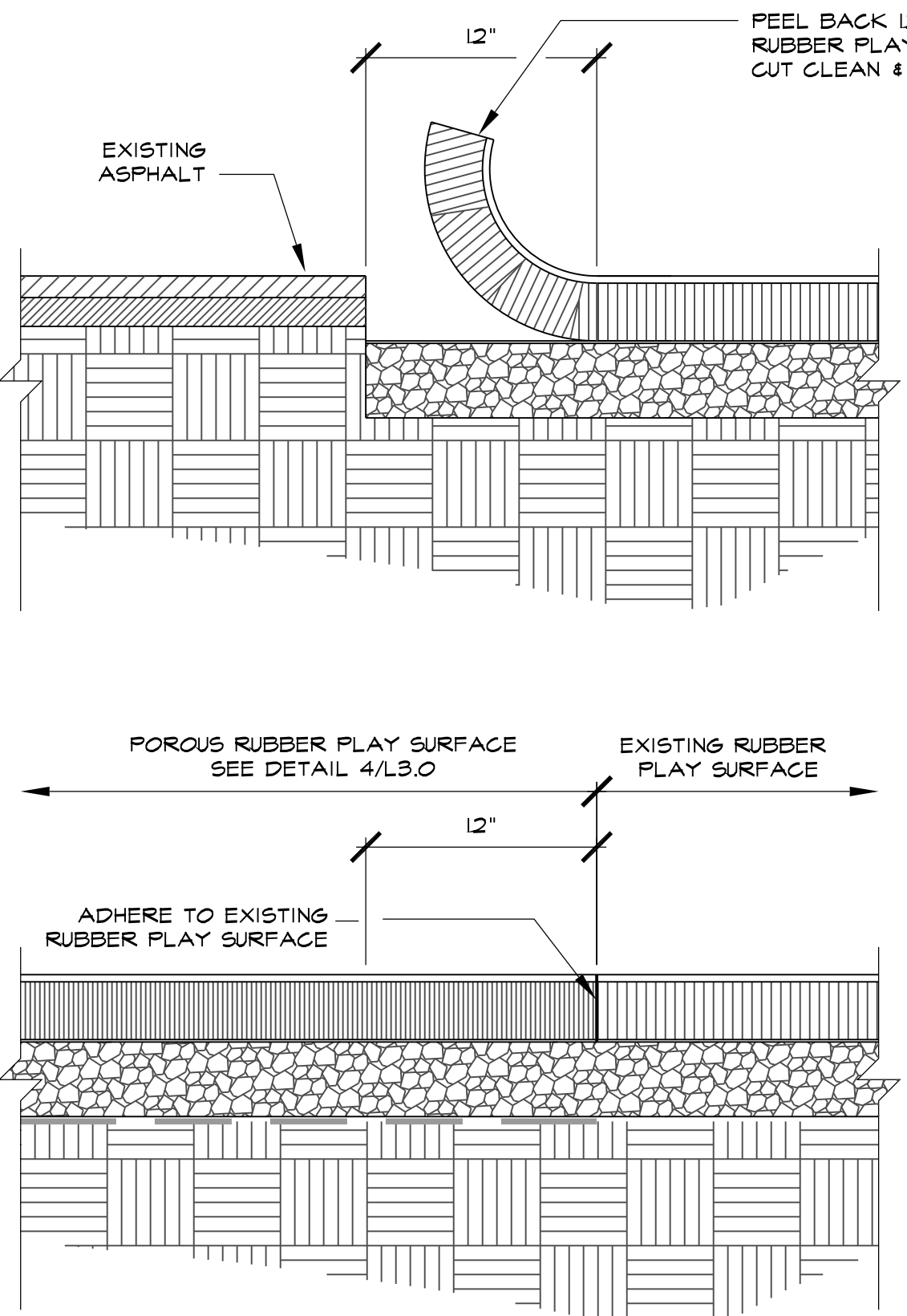
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 L3.0 1/2"=1'-0"**



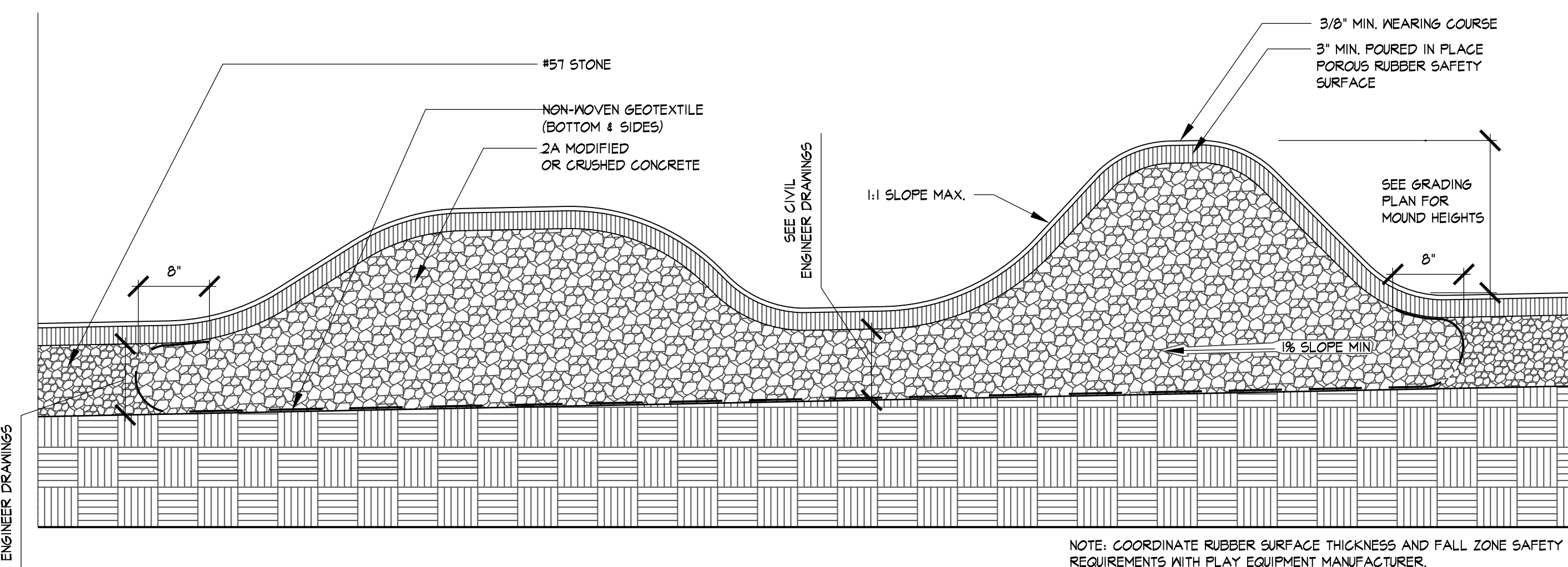
**4 POROUS RUBBER PLAY SURFACE AT FLUSH EDGE**  
 L3.0 1/2"=1'-0"



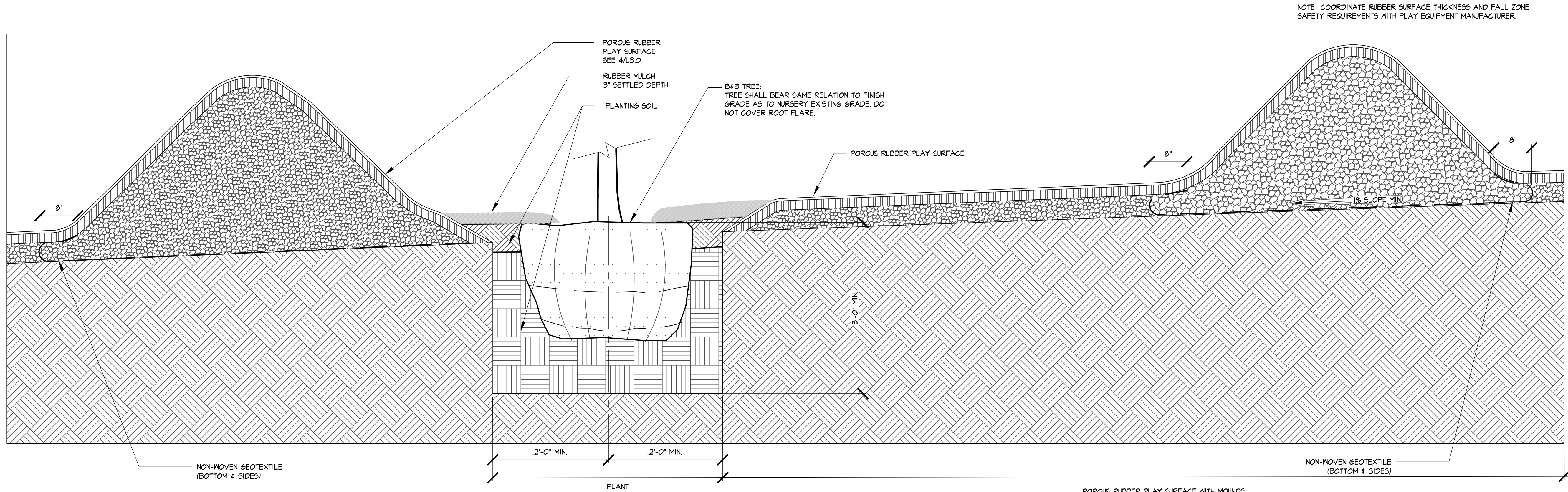
**7 POROUS RUBBER PLAY SURFACE AT PLANT BED**  
 L3.0 1/2"=1'-0"



**5 POROUS RUBBER PLAY SURFACE ADJACENT TO EXISTING RUBBER PLAY SURFACE**  
 L3.0 1/2"=1'-0"

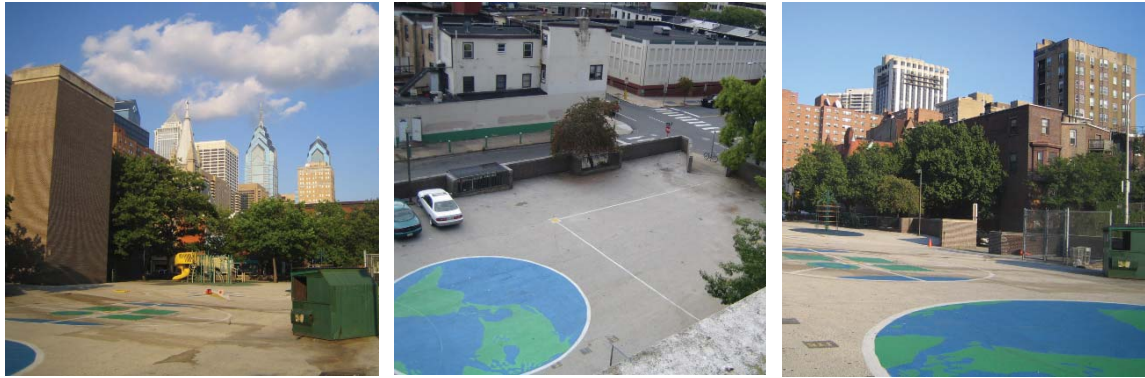


**8 POROUS RUBBER MOUNDED PLAY SURFACE**  
 L3.0 1"=1'-0"



**6 PLANT POCKET IN POROUS RUBBER MOUNDED PLAY SURFACE**  
 L3.0 1"=1'-0"

ISSUED FOR CONSTRUCTION



# Greening Greenfield

## Schematic Design Submission

December 8, 2008

Revised: 01/14/09

SMP Architects

Viridian Landscape Studio

Meliora Environmental Design

Design Team:

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Job Number: 577

File:

Date:

01/14/09

Drawing Set:

SCHEMATIC DESIGN

Page Number:

CS

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## Schematic Design Narrative Overview

During October and November of 2008, SMP Architects, Viridian Landscape Studio, and Meliora Environmental Design worked with the Greening Greenfield Committee of the Home and School Association to explore a Schematic Design for the Greening of Albert M. Greenfield School in Philadelphia, PA. The Committee has engaged the Design Team to design a phased greening renovation that will transform a series of exterior urban spaces into an outdoor didactic experience by teaching about sustainability through active example. Design strategies include storm water management, native landscapes, healthy ecosystem establishment, solar shading, renewable energy and material resource management.

### Process

Through a series of collaborative workshop reviews, SMP worked closely with the Home and School Committee to explore options and reach consensus on the preferred alternative for each phase of work. Design options were presented and discussed via graphics and discussion, and these reviews included on-site breakout group discussions. A cost opinion is included in the Schematic package in order that the Home and School Committee may establish both short-term and long-term priorities, on which the Design Team will continue to develop portions of the project in the Design Development Phase.

### Phases \*

The following describes each phase as represented in the Schematic Design.

- Phase I: East Play Yard (including perimeter planting bed at west area)
- Phase II: West Play Yard
- Phase III: North Secret Garden and Northeast Corner Planter
- Phase IV: Roof Area Renovations

Phase I is scheduled to be executed in Summer 2009, and Phase II in Summer 2010; the Design Team will document these phases through construction documents. Phase III and Phase IV development is only through Schematic Design; further development will be determined as funds become available.

\* The first Greening Greenfield site improvement was the installation of the weather station on the building roof in 2008. The phase numbering identified in this narrative refers to the construction phasing.

### Phase I

Improvements in the first phase will concentrate on storm water management and the addition of plantings at the southern edge of the Play Yard. The primary feature is a perimeter swale, extending west along the southern site wall. Means for protecting the swale plantings from stray balls and rowdy play will be explored during the Design Development Phase. Rather than a simple fence, this protective buffer is intended to feature some sort of play element. The dumpster will also be removed from the Play Yard during the first phase of work. It will be relocated to the perimeter enclosure that was originally designed for this purpose. The School has confirmed that changes in the waste pick-up will permit the use of smaller collection bins in lieu of the current large single dumpster. A second new enclosure will be provided for recycling at the wall niche directly to the east of the existing enclosure. Although not a priority regarding storm water management, the south-facing wall surrounding the kindergarten playground area will be softened by the addition of vines and other plantings.

### Phase II

Improvements to the Play Yard will be expanded in the second phase of renovation. At the central circulation area that divides the east and west play yards, porous paving will replace the existing impervious asphalt and will also reinforce the entry to the building. At the existing rubberized surface below the play equipment, which appears to have been improperly installed, storm water is trapped, which then freezes and creates a hazardous icy layer. An asphalt strip at the perimeter of the surface will be removed and a new stone bed, which allows the storm water to be recharged, will be installed. Storm water will also be managed via a stepped storm water infiltration bed that will also serve as an outdoor classroom and an informal seating area for small groups – this element will be the central feature of this phase of work. The existing shaded area directly adjacent to the south side of the building will be surfaced with compacted stone fines and, with the addition of picnic tables, could serve as an area for seated activities. At the western site wall, another swale will be provided to recharge storm water and incorporate additional perimeter plantings. Finally, a new sidewalk garden is planned along Sansom Street at the area to the west of the entry to the Play Yard.

### Phase III

Renovations to the Secret Garden and the raised planters at the northeast corner of the site will define this phase of work. Work in the Secret Garden will seek to balance the serene nature of the existing garden, while enlivening it with more transparency and light. Because the shaded nature of the Garden is more suited to woodland plantings and ferns, it was suggested that the existing berry bushes be relocated to a more sunny location. New openings in the existing garden wall will consider security and privacy and could include colorful, translucent panels and metal work to create more interest along the Chestnut Street side of the School. Additional seating will be incorporated into the renovation as well. Access to the Secret Garden from the existing North Play Yard and Entry Plaza will be explored. The North Play Yard will be a planted green space with a pathway and a small gathering space at the center. The Committee noted that because the Plaza and upper entry to the Garden are not accessible (the west entry to the Garden is accessible), the access from Plaza to Play Yard need not be accessible. However, it was noted that an accessible means of entering the renovated North Play Yard from the adjacent classrooms should be provided. It was agreed that making the Garden and Plaza more active and visible would encourage safety and security in both of these spaces. The existing plantings at the northeastern corner of the site establish hidden areas that tend to attract the homeless. It was agreed that these conditions could be eliminated by simply replanting this area with low groundcovers and higher canopy trees.

### Phase IV (formerly Phase IV and Phase V)

Rather than attempting to define discreet phases for the work on the roof, it was agreed that the Schematic Design should establish the full spectrum of greening opportunities, which could then be pursued as funding becomes available. It was agreed that the entire roof could be a vegetated surface. Vegetated roofs benefit the urban environment by absorbing storm water runoff and reducing the heat reflected back into the environment by traditional roofing materials. The eastern half of the roof would become the more active portion where students could experience the dramatic urban views and see a working green roof system. This portion of the roof could also house a greenhouse and outdoor viewing platform. Any use of the roof by students would require expansion of the eastern stair tower in order to establish a second means of egress. To make the roof accessible, the existing elevator would need to be expanded, or a chair lift would need to be incorporated to the existing southern stair. Preliminary evaluation indicates that a non-occupied extensive vegetated roof could be accommodated without modifications to the roof structure. However, occupying the roof would require structural reinforcement. Options for structural work, including reinforcement and a dunnage 'point-load' approach, will be explored during future development of this phase. Options for capturing solar energy will be located on the western portion of the roof. Photovoltaic arrays, which would generate electricity for use in the building, could be installed in phases as the technology becomes more economical. Another more affordable option would be a solar hot water system, which could tie into the existing plumbing risers and serve to heat hot water for the bathroom facilities throughout the building. These systems could be installed on the penthouse enclosure or on the south wall of the building, where they would be visible from the Play Yard and street. Opportunities for collecting storm water from the roof were also discussed, and it was agreed that the high roofs of the stair towers were an inexpensive means for feeding cisterns or rain barrels, either placed on the roof or on the ground.

### Next Steps

As noted above, Phases I and II will be fully designed and documented for execution during the summer in 2009 and 2010. Phases III and IV will await further development until which time additional funding becomes available.

Lighting, signage and others means for improving the visibility and safety of the School were discussed during the Schematic Phase of work. These components are currently not included in the "greening project" scope or budget. The School is currently developing a scope of work for lighting, the infrastructure for which will be integrated with greening work, as appropriate.

*The drawings and images that follow represent graphically the Schematic Design as described above. The Cost Opinion included at the end of this document represents potential costs and is intended as a resource for prioritizing and fundraising for the work.*

## GREENING GREENFIELD

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Date:

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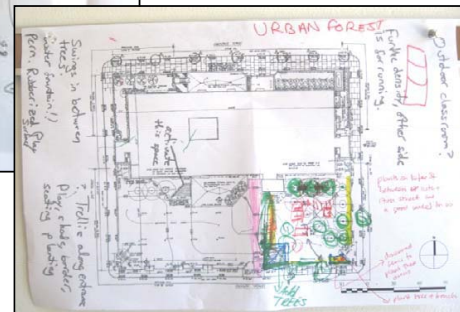
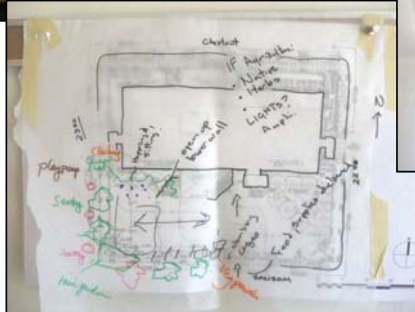
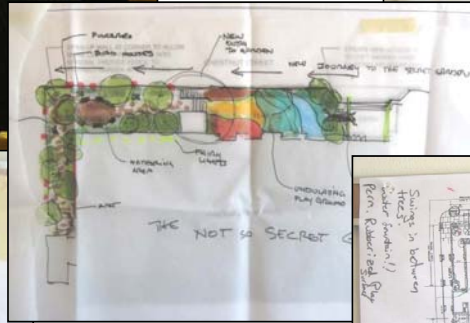
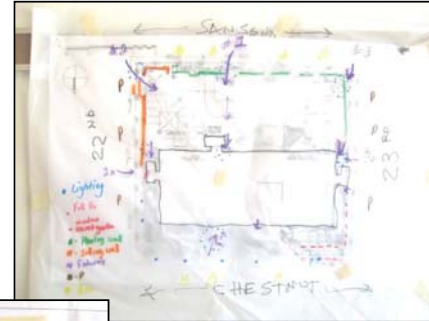
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# Workshop One



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# Group Presentations



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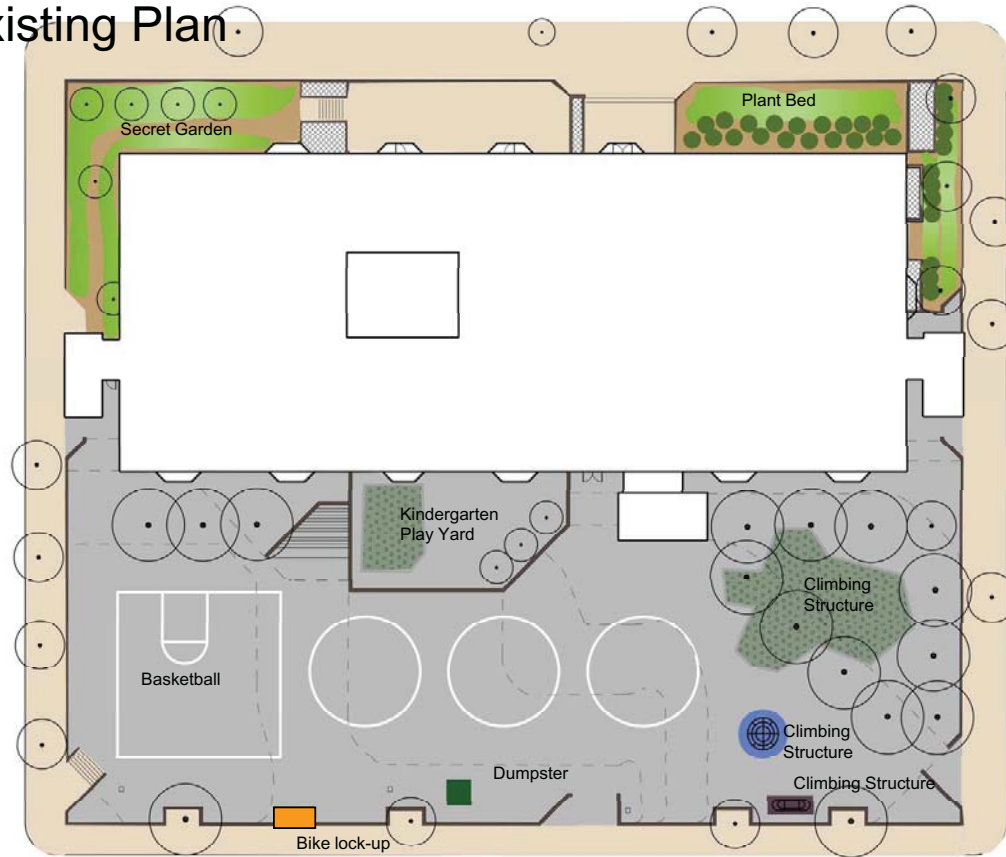
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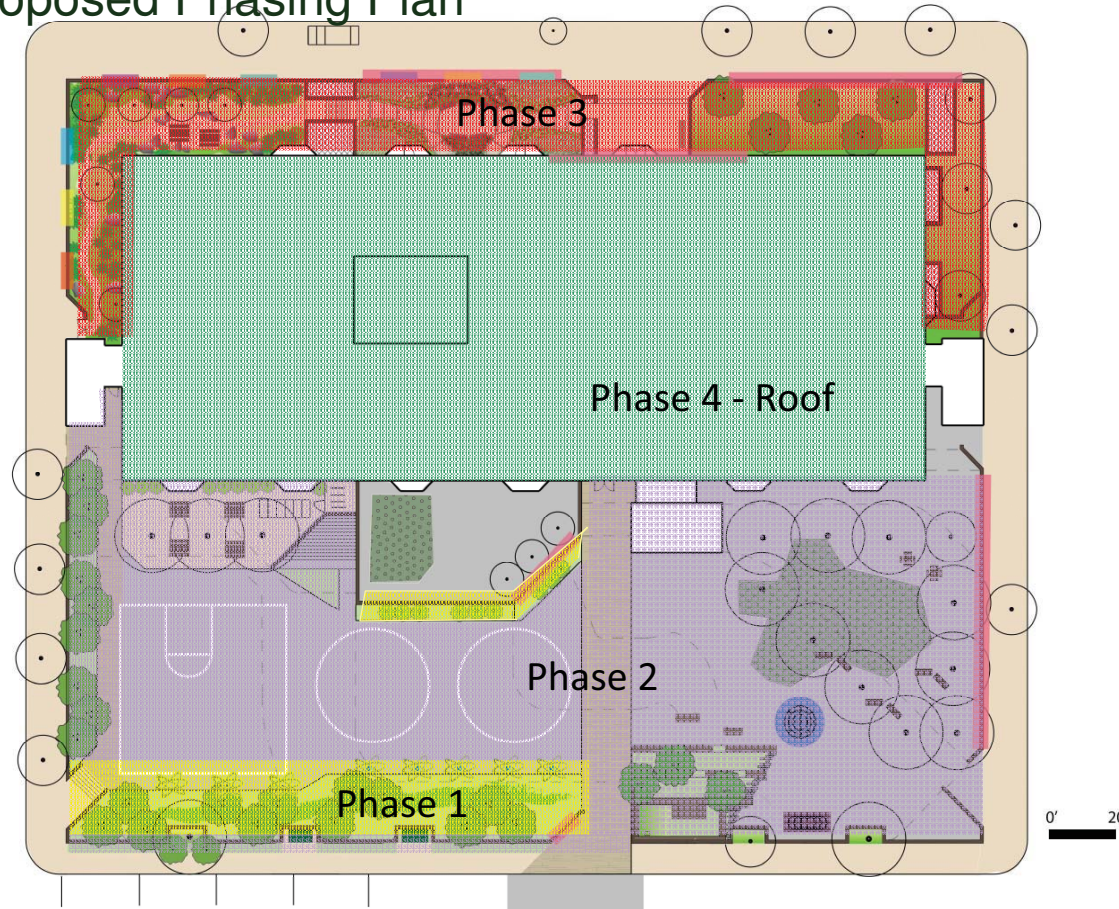
# Existing Plan



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# Proposed Phasing Plan

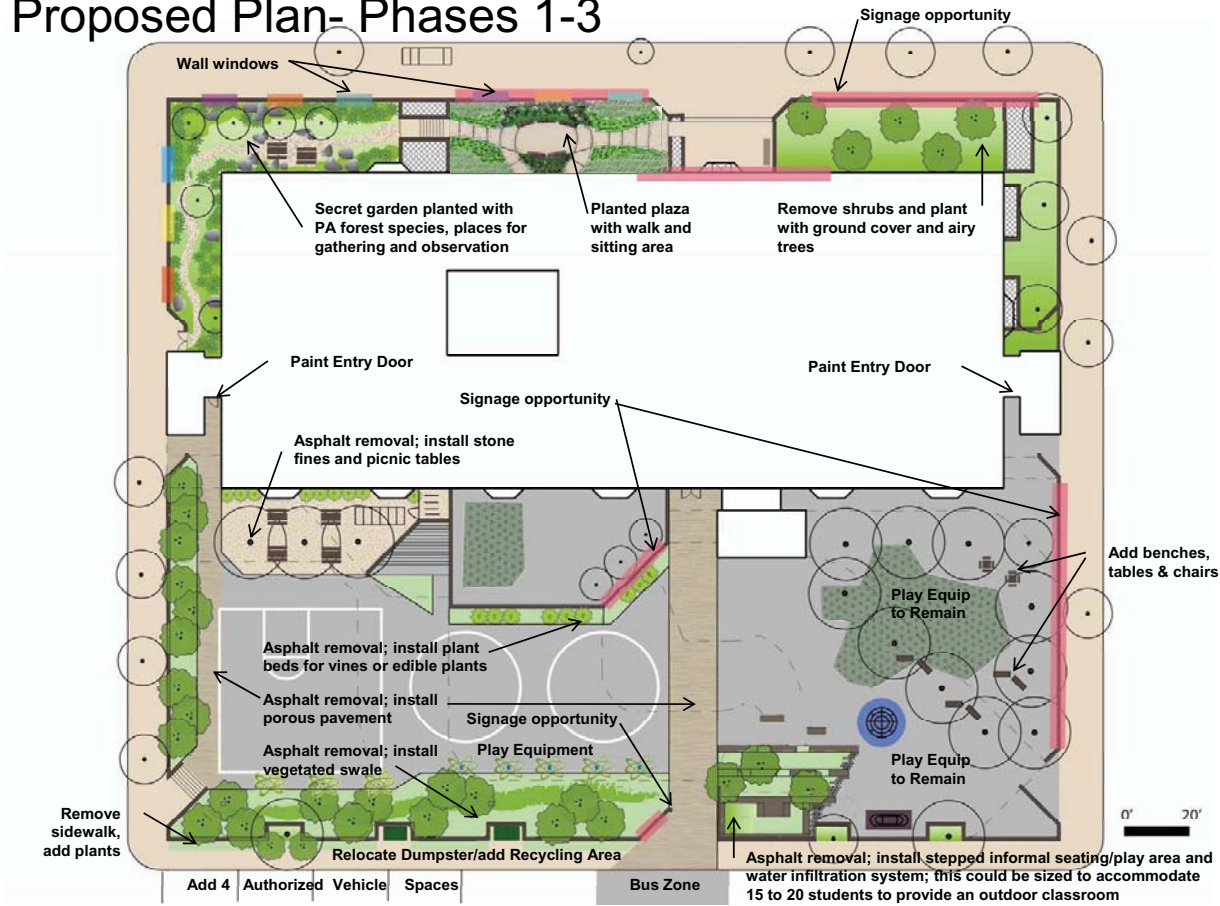


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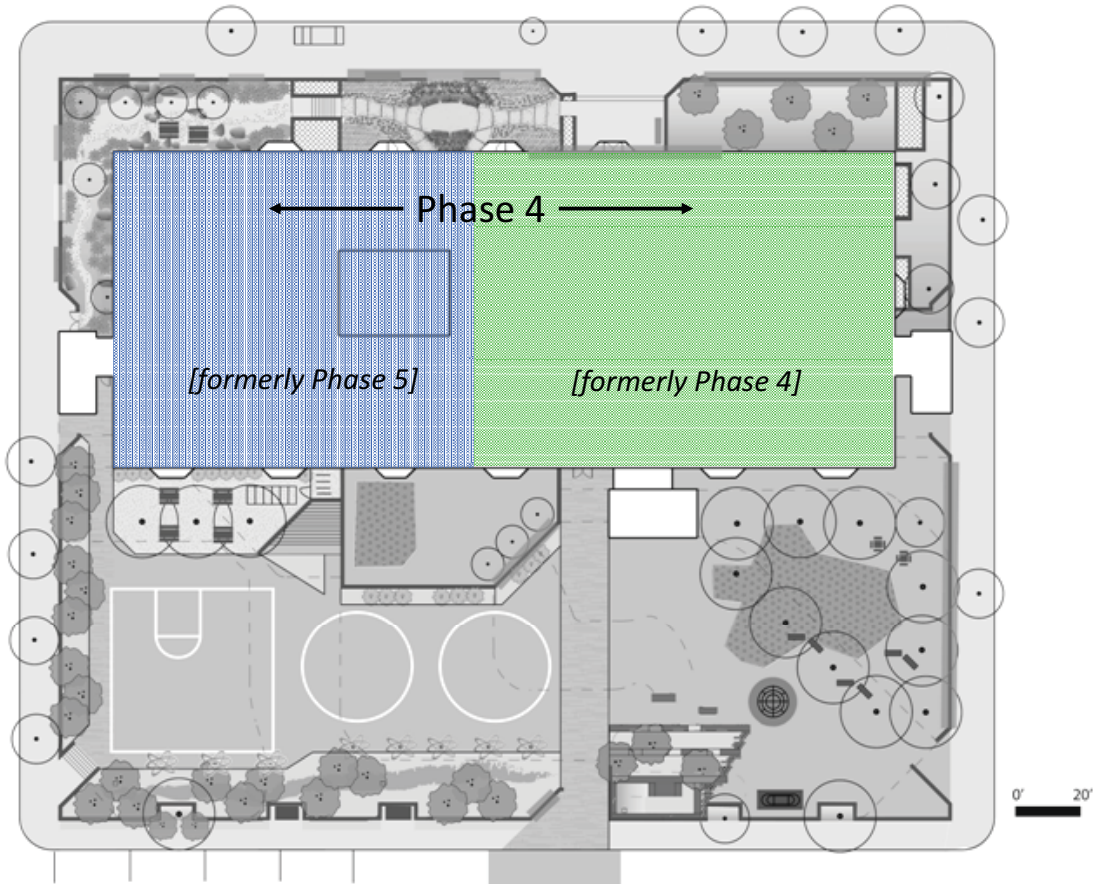
# Proposed Plan- Phases 1-3



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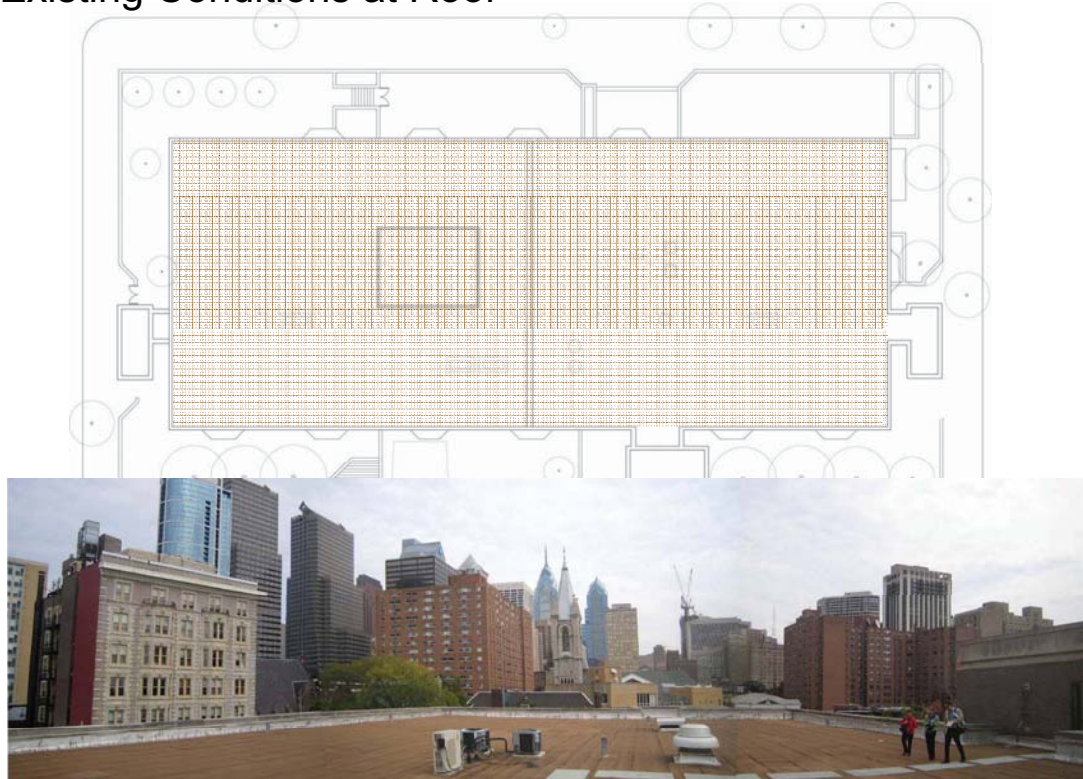
GREENING  
GREENFIELD



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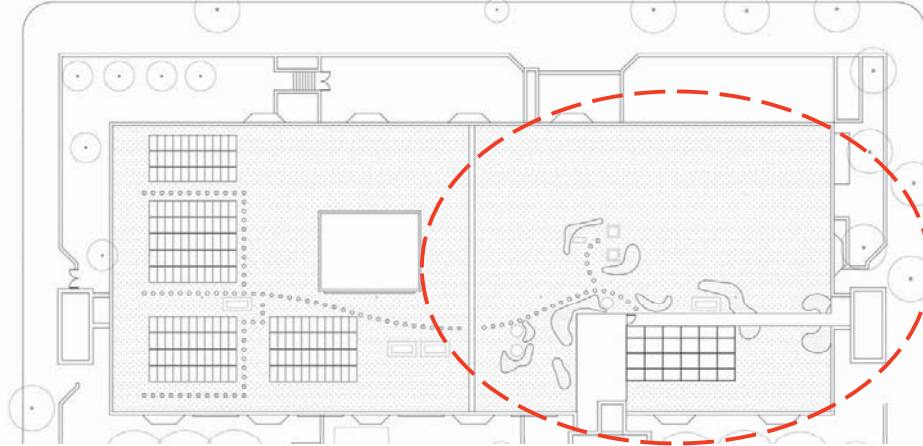
## Existing Conditions at Roof



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## Proposed Green Roof with Greenhouse and Viewing Platform



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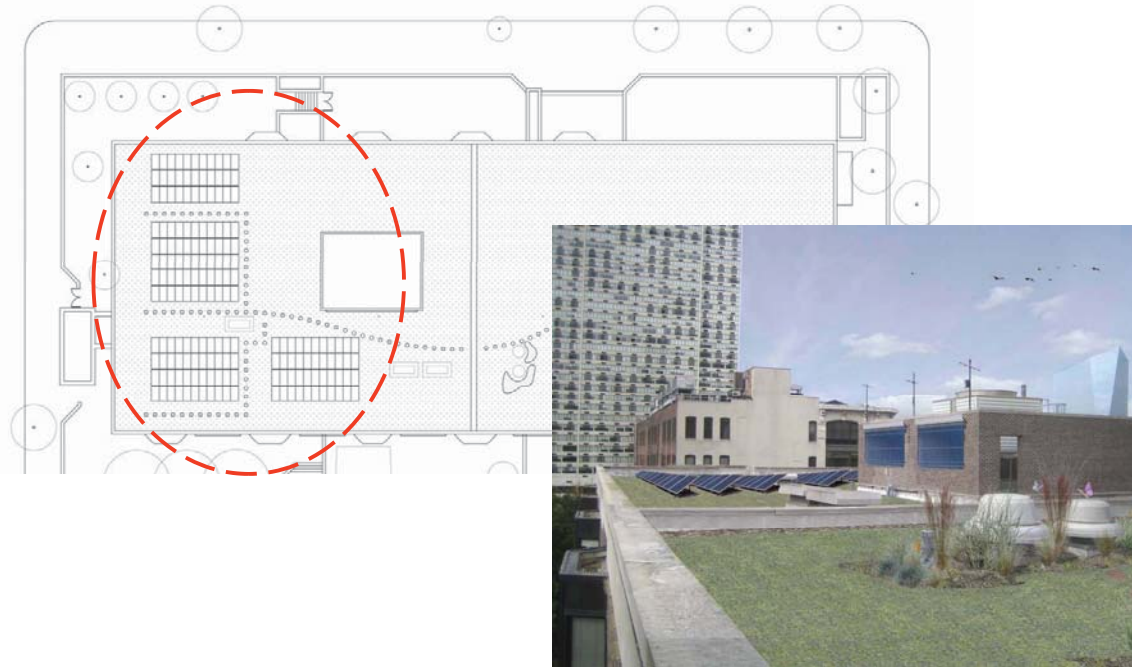
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## Proposed Green Roof with Photovoltaic Arrays and Solar Hot Water



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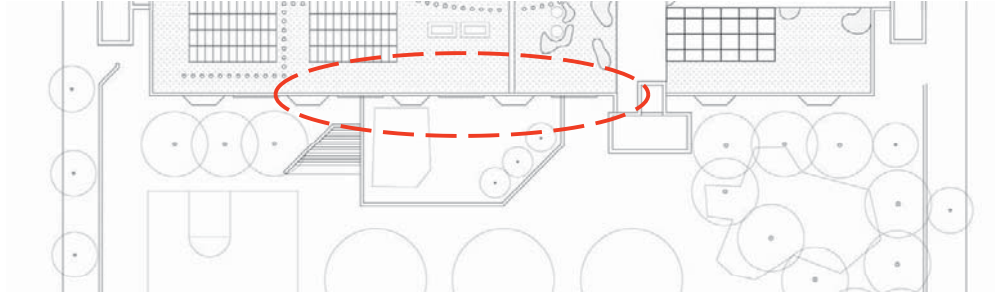
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## Proposed Solar Hot Water Panels at South Elevation



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► **Client:** **Greenfield Home and School Association**

Project: The Greening of Greenfield School: Conceptual Master Plan for Sustainable Outdoor Space



Greenfield cut the ribbon on its new, sustainable south play yard in 2009, the first phase of the greening project.

“This once sparsely-landscaped asphalt yard is well on its way to becoming a vibrant green space that teaches ecological stewardship.”

LISA ARMSTRONG, CO-CHAIR  
GREENING GREENFIELD COMMITTEE



The Collaborative provided the first illustration of Greenfield’s vision.

The Greenfield Home and School Association wanted to transform the public school’s outdoor spaces into a community oasis—a healthy green space that could teach children as they played.

In 2006, Greenfield enlisted design help from the Community Design Collaborative, which tapped a team of volunteers from the architecture and engineering firm of KlingStubbins to create a conceptual master plan.

The Collaborative’s work engaged the school community and provided the foundation for fundraising that led to the hiring of a sustainable design consultant team. In 2009, Greenfield cut the ribbon on the first phase of improvements: a redesigned play yard with a bio-retention system, woodland plantings, swales to capture rain water, and food gardens. The HSA has since received a PA Department of Environmental Protection Growing Greener Grant of \$200,000 for further improvements.

**Volunteers:**

KlingStubbins , Firm Volunteer • Taylor Boyd, PE • Anneliza Carmalt • Rori Dajao • Christine Guerrero • Jill Lavine • Danielle Lee • Michael McKeever • Kevin Selger, ASLA • John Suter, AIA • Ariel Vasquez • Jonathan Weiss, AIA

**Value of Services:** \$28,900

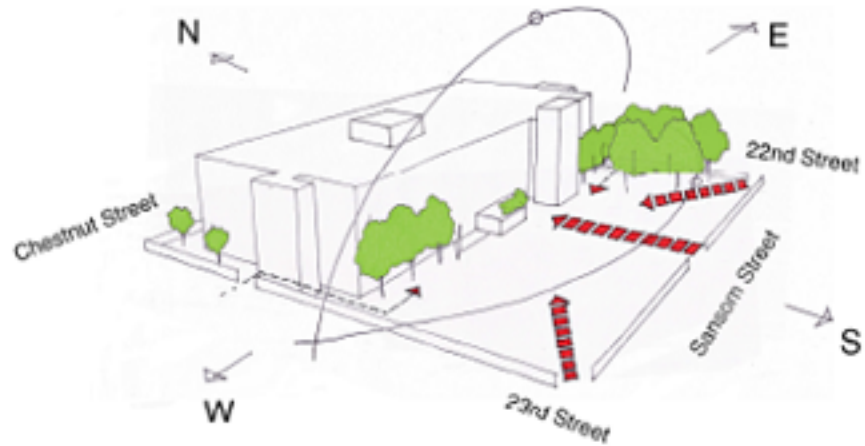


Diagram of existing conditions

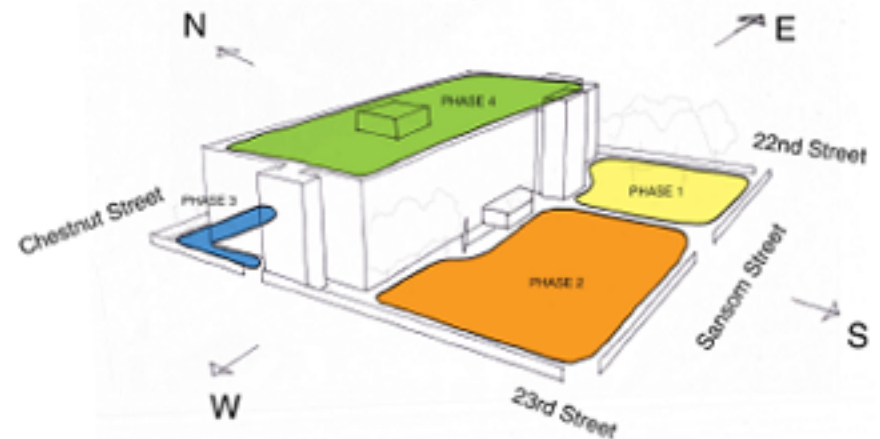


Diagram of proposed phasing

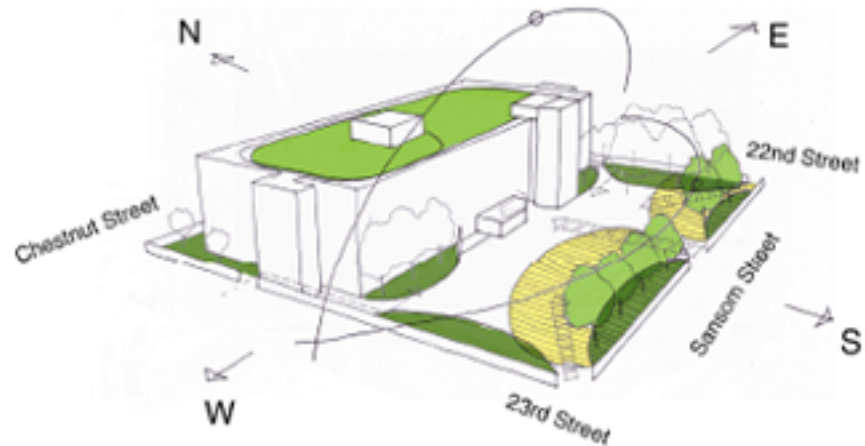


Diagram of proposed renovations

COMMUNITY DESIGN  
- COLLABORATIVE -

Project number  
2006-18  
Date  
March 2, 2007  
Scale  
Not to Scale

Project Name GREENFIELD SCHOOL

Drawing Title Existing and Proposed Site Diagrams

The Community Design Collaborative's products are intended to provide visual concepts and to assist in project design and planning. All drawings are limited to conceptual design and are neither intended nor may be used for construction. Neither the Community Design Collaborative nor the project volunteers assume responsibility or liability for the technical accuracy of drawings or for any unauthorized use.

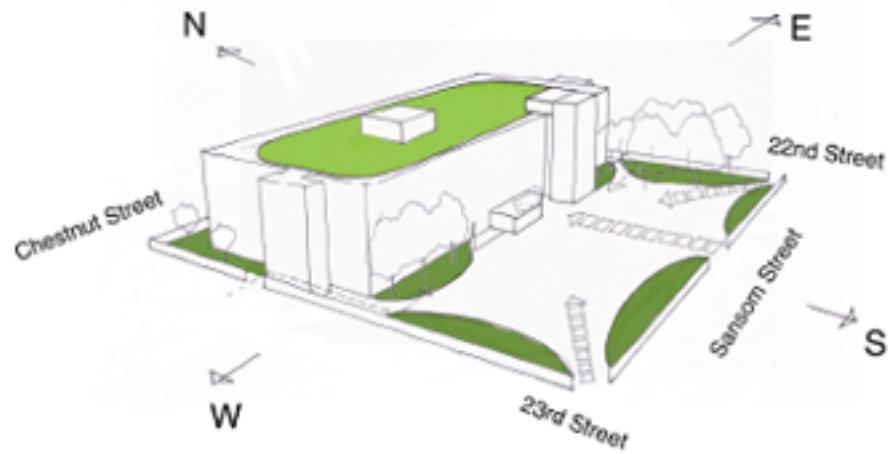


Diagram of proposed green spaces

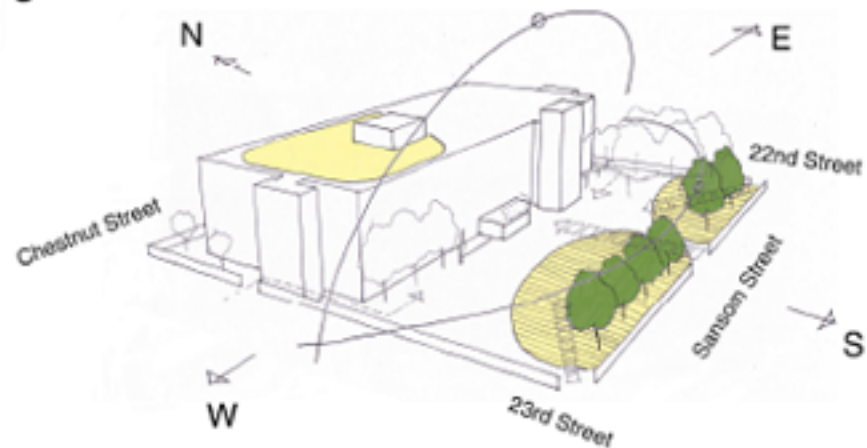


Diagram of proposed solar renovations



Diagram showing proposed stormwater management

# GREENING | GREENFIELD



GREENING GREENFIELD is a unique private/public partnership focusing on the transformation of the Greenfield School's urban site into an outdoor laboratory that teaches children while they play about micro-climates, indigenous plants, rain water absorption, energy conservation and harvesting, and their symbiotic relationship to the environment. ([www.greeninggreenfield.net](http://www.greeninggreenfield.net)) Greening Greenfield not only offers Greenfield students a rich opportunity to learn the important lessons of environmental responsibility but also gives the surrounding community a green open recreation space in the heart of the city.

As the dominant land owner in Philadelphia of impervious asphalt-covered property, the Philadelphia School District has incredible potential, with the support of the Philadelphia Water Department, (PWD), to lead Philadelphia in creating a green legacy for future generations through the implementation of PWD's green stormwater infrastructure strategy. Developed with the input of the Capital Programs Office of the Philadelphia School District (SDP), Greening Greenfield is a model approach to sustainable site improvement, community involvement, and environmental service learning and curriculum enrichment





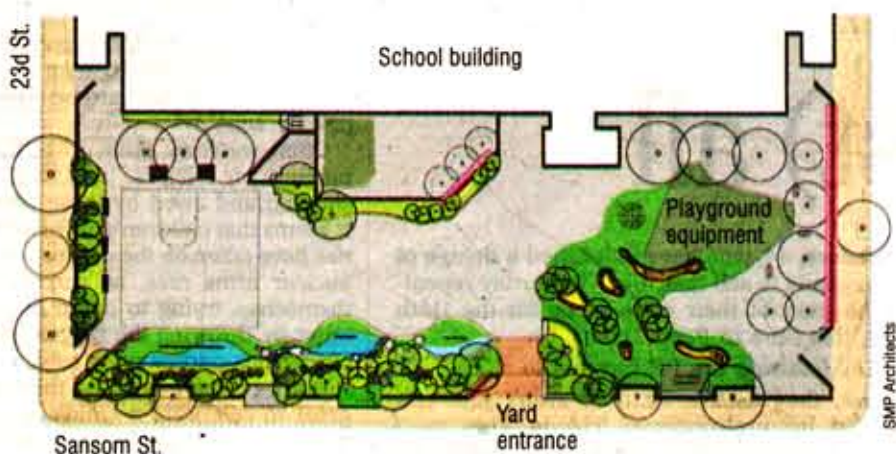
From September 2008 through February 2009, the Greenfield community participated in a design visioning process to establish the goals and priorities for the project. Students, parents, teachers, representatives from the School District of Philadelphia and community partners collaborated in four vision workshops during which they walked the site, sketched and brainstormed, presented their ideas to the other participants for feedback. The Philadelphia School District and the Philadelphia Water Department both tout Greening Greenfield as a model project that can be repeated at other public schools. They are developing a new funding program for public schools which will provide capital grants to schools which follow the Greenfield School community involvement process to define the environmental and educational goals and priorities of their school community. See the story at this link: <http://vimeo.com/15231400>



GREENING GREENFIELD is truly a grassroots initiative, with all of the funding being raised privately through the volunteer efforts of the Greening Greenfield Committee of the Greenfield Home and School Association. The Greening Greenfield project is supported by grants from The Albert M. Greenfield Foundation, the Pennsylvania Department of Environmental Protection, the Schuylkill River Restoration Fund, the Disco Biscuits, Head-Count, the Philadelphia Water Department, GreenPlan Philadelphia, PA Dept. of Community and Economic Development made possible by Rep. Babette Josephs, Pennsylvania Horticultural Society Tree Tenders, PA Dept. of Conservation and Natural Resources TreeVitalize, Philadelphia Activities Fund sponsored by Council President Anna Verna, US Fish and Wildlife Service, Conestoga Bank, CSX, and the Philadelphia Orchard Project. In kind service contributors are the Community Design Collaborative with volunteer firm KlingStubbins, Mercury Solar Systems, and Delaware Valley Earth Force.

Greenfield School was chosen as the Middle School Winner of the Schuylkill Action Network's 2010 Drinking Water Scholastic Awards because of the energy generated among our students by this initiative. Our students also participated in the Delaware Valley Earth Force Youth Leadership Summit, presenting their video work as student ambassadors for Greening Greenfield. Increasing the engagement of our students with their natural environment is a key objective of Greening Greenfield.

With the support of the Community Design Collaborative, the Greening Greenfield Committee has initiated in 2010 the Green School Advocates' Roundtable Discussions with the goal of organizing a large green school and stormwater management forum. The objective of the forum is to bring together Green School Advocates with public and private partners to jumpstart a comprehensive effort to pool intellectual resources and funding streams to expedite the greening of Philadelphia's school yards.



The schoolyard at Greenfield School, below, will be replaced by a new design — shown in the illustrations above — that features a green border. Most play areas will be resurfaced with a porous material that absorbs storm-water runoff.

APRIL SAUL / Staff Photographer

## Attacking asphalt

By greening its playground, Greenfield School is fighting back against the damage that gunk-laden storm water does in a paved city.

**N**o matter how many times we've heard Philadelphia described as William Penn's "greene cuntry towne," we know the reality is rather different. Cities are cities because once-verdant land is relentlessly paved and covered over time. That's how we civilize our world.

It's also how we mess it up. Every time the skies let forth a deluge, as they did with particular intensity this week, the city's asphalt-sealed streets and parking lots become churning torrents. The rain cascades to the nearest sewer outlet, picking up salts and oils along the way and overwhelming the underground system. As in many of America's older cities, Philadelphia's treatment facilities are incapable of handling the watery rush hour, so the overflow is released into

the Delaware River, sewage and all.

The Philadelphia Water Department has been struggling for years to solve what it delicately calls "the overflow problem." One approach is to get people to consume less water, so less goes down the drain. No wonder the agency cheered a few years ago when Comcast announced it was bucking the powerful plumbers union and installing waterless urinals in its new skyscraper.

But reducing runoff from storms may be even trickier than negotiating with the well-connected plumbers. You can't simply unpave a city. You can only try.

On June 26, the appropriately named Greenfield School will take a leap into a green new world when it begins ripping out its asphalt schoolyard as part of a Water Department pilot. See **SKYLINE** on E12

### Changing Skyline

By Inga Saffron



MICHAEL BRYANT / Staff Photographer

Asia Freeman, 9, digs up a radish as Wonnaya McFarland, 9, watches. They're in the Emlen School garden club.

## Master gardeners spreading joyful seeds

By Virginia A. Smith  
 INQUIRER STAFF WRITER

Asia Freeman and the other third-grade gardeners at Emlen School may not be certified locavores yet.

But after a spring spent planting and tending a vegetable garden outside their East Mount Airy school, they've learned to dig in lettuce and radish seeds, tomato and pepper plants; to water and weed; and to

ponder questions of food and nutrition that bedevil some of us for a lifetime.

Such as: What did we just eat? What's in it? And, this is a biggie: Why did we eat it?

About a dozen kids were involved in the after-school garden club, which just finished its second year. They were guided by Julie Cox and Heidi Foster, volunteers with the Pennsylvania See **GARDEN** on E7

## Getting your move on — in organized peace

By Eils Lotozo  
 FOR THE INQUIRER

As with baseball, barbecues and beach excursions, summer is the peak season for moving to a new home.

And moving, for many of us, is something that ranks high on the list of stressful life events. It's not just the demands of adjusting to a new home in a new locale. What really throws folks into a tizzy is all that packing and unpacking and the descent into chaos that moving day can become.

Moving may be challenging, but it doesn't have to be overwhelming, according to Clive Pearse, host of HGTV's *Designed to Sell*. The key: Plan ahead and stay organized.

"By thinking way, way ahead, you make moving less stressful," said the British-born Pearse, who recommends a check list, schedules, and a clipboard as essential moving tools. Just as he does as part of the *Designed to Sell* team, which helps home-sellers See **MOVING** on E5

### Antiques By Karla Klein Albertson



Today Sotheby's offers the aluminum bench by architect Frank Gehry, made by Emeco in Hanover.

Sotheby's

## Made in Pa., Gehry's sleek Tuyomyo bench

Today in New York, Sotheby's will offer for sale the gleaming and sinuous Tuyomyo bench by Frank Gehry, the most important design for interior space ever created by the famous architect. The bench was fabricated at Emeco in Hanover, Pa., perhaps the only firm capable of executing Gehry's vision in aluminum.

"Frank O. Gehry: Design Process and the Lewis

House," an exhibition at the Philadelphia Museum of Art, gave viewers a chance to relate Gehry's architectural work to his furniture and decorative arts. The show closed in April, but the museum holds major examples of the architect's furniture and lighting in its permanent collection.

These range from his early works in corrugated cardboard for the Easy See **GEHRY** on E4

**LifeStyle**  
 Bright ideas to remember Dad on his day, with gifts available locally. **E3**





SMP Architects

An architect's rendering of a green roof, including plants and a greenhouse, that eventually could be installed atop Greenfield School with help from federal stimulus money.

**Changing Skyline** By Inga Saffron

## A schoolyard makeover is taking aim at asphalt

**SKYLINE** from E1 project. The hot, noisy, hard-surfaced schoolyard has been a staple of urban childhood, the scene of countless rounds of Double Dutch and tag. Now, the Water Department believes, it's time for the asphalt to go.

In its place, Greenfield, a public elementary school at 22d and Chestnut Streets, will plant a wide border around the perimeter of its schoolyard, nearly equal to half the playground's total surface. The green areas are designed to let rain percolate gently into the ground, cutting the schoolyard's contribution to the city's overflow problem by more than 80 percent.

Don't worry. Greenfield won't have to ban recess to help save the environment. The new schoolyard design — a joint effort by SMP Architects, Viridian Landscape Studio, and Meliora Environmental Design — reserves an island of asphalt in the center so kids can play basketball and other games. The remaining play areas will be resurfaced with a rubbery, porous material that absorbs runoff.

### 'Greening Greenfield'

The unpaving effort, which is called "Greening Greenfield," was launched by a group of parents led, not surprisingly, by two local architects, Lisa Armstrong and Brett Webber. Initially, they just wanted to soften the school's harsh schoolyard, typical of so many Philadelphia schools.

But as they explored the options, they realized that the asphalt playground wasn't just a problem for Greenfield; it was bad for the whole city.

Others in Philadelphia were coming to the same conclusion. During his campaign, Mayor Nutter vowed to make the city a greener, more energy-efficient place. With the release of the administration's Greenworks plan in April, his ideas were translated into a real strategy.

Among its goals, the plan calls for the city to convert 3,200 acres of asphalt into fully pervious (that's the favored term) land by 2015. It may sound like a big number, but not when you consider that 67 percent of pre-World War II Philadelphia is covered with buildings and pavement. Rain simply rolls across all that surface to the nearest drain.

There are other ways to prevent a storm-water rush from overwhelming the sewers and polluting the Delaware River. The Water Department could construct huge underground cisterns, or catch basins, that would temporarily hold the water generated by a big storm.

But not only are such underground cisterns expensive, they need to be "the size of ball fields" to make a difference, says Howard Neukrug at the department's Office of Watersheds. Tearing up asphalt lots can be done cheaper and faster, and the new green acres have the side benefit of helping to cool the city's air temperature.

So why doesn't the Water

Department start with a really big expanse of asphalt, such as the city-owned South Philly sports complex, where fields of parking spread out virtually to the horizon? A half-acre schoolyard hardly seems like an obvious choice for such a groundbreaking effort.

"We're looking at every square foot of surface area in Philadelphia and asking, 'What if?'" explains Neukrug.

That includes streets and sidewalks, too. But he argues that schoolyards are a good place to start because the greening does double duty, providing kids with shadier, healthier play areas while capturing runoff.

Actually, the Water Department is about to add another big incentive: a storm-water tax. In 2010, the agency will charge its nonresidential customers for the runoff their sites generate. The tax will be based on the amount of impervious surface, using GIS satellite technology to determine what's paved and what's green.

So, for instance, the owner of a fully paved, one-acre parking lot could see monthly storm-water charges rise from almost nothing today to as much as \$400. Schools will be taxed like everyone else.

Although the Water Department gives schools a discount, the tax will be another burden, especially for public schools such as Greenfield. The new tax provided Armstrong and Webber with an argument to persuade the school that it was worth reducing its asphalt footprint.

It helped that their group was able to raise money for the project entirely from private sources. Greening Greenfield has collected \$300,000 so far, enough to complete the west side of the schoolyard. Next year, the group expects to finish the east side.

### Salvaged materials

SMP's design incorporates materials salvaged from recent construction projects at the Philadelphia Zoo and the Art Museum. They're also sculpting the new landscape with mounds that can be used as an outdoor classroom.

Both Armstrong and Webber believe it's not enough just to transform the schoolyard environment. They also want to change school culture by incorporating ideas about sustainability into the curriculum. Students will help plant trees in the new borders when they return in the fall. Ultimately, Armstrong and Webber hope to tap into federal stimulus money to install a green roof on the school, complete with a greenhouse.

Neukrug believes the project will inspire other schools, not to mention private landowners, to turn paved surfaces green. But until then, it remains an asphalt jungle out there.

Contact architecture critic Inga Saffron at 215-854-2213 or [isaffron@phillynews.com](mailto:isaffron@phillynews.com).



APRIL SAUL / Staff Photographer

At the Greenfield School playground, architects Lisa Armstrong (left) and Brett Webber (right), the codirectors of the "Greening Greenfield" project, are joined by Denise McKeon, the president of Greenfield's Home and School Association.



CLEM MURRAY / Staff Photographer

Rain falling on a Philadelphia street this week. Storm water can cascade down the pavement, picking up salts and oils along the way, and eventually pollute streams.

## The Rudy Bruner Award Project Narrative

On October 8, 2010, the Albert M. Greenfield School celebrated its fortieth anniversary. In appreciation of this wonderful occasion, the Albert M. Greenfield Home and School Association presented the Philadelphia School District and the Greenfield School community with the gift of a newly green school yard poised to change the way all Philadelphia School yards will look and function over the next twenty years.

On September 1, 2009, the Philadelphia Water Department (PWD) submitted the *Green City, Green Waters* plan to the PA Department of Environmental Protection and the US Environmental Protection Agency. This innovative plan highlights the use of green stormwater infrastructure as the primary approach to reduce the incidence and volume of Combined Sewer Overflows – thereby protecting the quality of Schuylkill River water. *Green City, Clean Waters* includes eight Green Programs of which the Green Schools phase will be a critical component. Greenfield School is the pilot project for this PWD initiative – and its value as a demonstration to other school communities of what can be achieved with advocacy and institutional support will be far reaching.

Proving that schools can be environmentally responsible, can provide healthy places to learn and play, and can take an active role in community improvement, a group of parents, teachers, students, and school administrators, with the help of the Community Design Collaborative and the Philadelphia School District, started to develop this plan in 2006 to transform the exterior of the Greenfield School property. The school yard, which was a sparsely landscaped asphalt yard referred to as the “parking lot,” is now a vibrant green space designed to exemplify ecological stewardship.

In the four years from 2006 to 2010, the Greenfield Home and School Association raised \$615,000 to design and complete the first three phases of construction - the west school yard improvements, the east school yard improvement, and installation of solar panels on the roof of the school. The school yard improvements include the installation of a storm water management system with two indigenous Pennsylvania woodland forest rain gardens, porous pavement, permeable recycled play surface, an agriculture zone, and solar shading. The Phase I construction was completed in October 2009. Phase II and III were completed in September 2010.

Funders of the Greening Greenfield Phases I and II include The Albert M. Greenfield Foundation, the Philadelphia Water Department, GreenPlan Philadelphia, the Pennsylvania Department of Environmental Protection, the Schuylkill River Restoration Fund, the US Fish and Wildlife Service, PA Dept. of Community and Economic Development made possible by Rep. Babette Josephs, Conestoga Bank, Pennsylvania Horticultural Society Tree Tenders, PA Dept. of Conservation and Natural Resources TreeVitalize, Philadelphia Activities Fund sponsored by Council President Anna Verna, CSX, and the Philadelphia Orchard Project.

Putting a new twist on greening initiatives tied to music, Philadelphia rock band The Disco Biscuits teamed up with the civic engagement nonprofit HeadCount in spring 2010 to stage “Bisco Power Mission,” a benefit concert and volunteer initiative that helped outfit the Albert M. Greenfield Elementary School with solar power. The concert raised \$15,000 towards the solar panel installation budget – the remainder of the installation costs were raised by the Greenfield Home and School Association through an E-cycle Day, a Silent Auction, a student penny-drive, and sales of a student designed Greening Greenfield tee shirt. Mercury Solar, the photovoltaic system design/builder, generously donated all of the installation labor to make this project possible.

## **Site and School Description**

Occupying a city block at 22<sup>nd</sup> and Chestnut Street, Greenfield School currently serves a lively and diverse student population, from kindergarten to eighth grade. The West Center City catchment area for this neighborhood school fills 30% of the student spots. 70% students are admitted to Greenfield School through a public lottery system, creating a unique mixture of geographic, cultural, and economic demographics. Students are bussed to Greenfield School from almost every Philadelphia neighborhood – 35 different zip codes are represented by our students. With an enrollment of 500 students, the racial diversity of the student population is well balanced with 57.2% African American, 31.4% Caucasian, 5.1% Asian, 3.2% Latino, and 3.2% other students. The school provides special education programs to 19.5% of the student population identified with special needs. Half (50.1%) of the students at Greenfield qualify for free or reduced cost lunch.

As the dominant land owner in Philadelphia of impervious asphalt-covered property, the Philadelphia School District has incredible potential, with the support of the Philadelphia Water Department, to lead Philadelphia in creating a green legacy for future generations through the implementation of PWD’s green stormwater infrastructure strategy. Developed with the input of the Capital Programs Office of the Philadelphia School District (SDP), **Greening Greenfield** is a model approach to sustainable site improvement, community involvement, and environmental service learning and curriculum enrichment which can be replicated at other Philadelphia public schools.

This project is truly a grassroots initiative, with all of the funding being raised privately through the volunteer efforts of the Greening Greenfield Committee of the Greenfield Home and School Association. The Greening Greenfield Committee oversees the planning and fundraising for the Greening Greenfield program, coordinates the design and construction team in implementation of the plans, supports teacher training and curriculum enrichment in environmental education, and facilitates student exposure to opportunities to lead and serve in environmentally responsible initiatives.

In September 2008, with funding support from The Albert M. Greenfield Foundation, Babette Josephs, and Conestoga Bank, the Greenfield Home and School Association commissioned SMP Architects, Viridian Landscape Studio, and Meliora Environmental Design to provide design services for Greening Greenfield. They lead a community design visioning process to define the goals and priorities for the project. Students, parents, teachers, representatives from the School District of Philadelphia and community partners participated in four vision workshops during which they walked the

site, sketched and brainstormed, presented their ideas to the other participants for feedback, and established the project goals and priorities.

Over 300 feet long, and approximately 100 feet wide, the Greenfield School play yard, covered with impervious asphalt, was a perfect example of indifference to stormwater management and the lost potential to naturally retain water on site with green stormwater infrastructure. The play yard ground plane slopes down away from the school building diagonally toward the school's southwestern corner at 23<sup>rd</sup> and Sansom Streets. Storm drainage was originally collected by three large area drains located in the school yard adjacent to the retaining wall along Sansom Street.

## **Project Stormwater Management Improvements**

After the successful completion of the construction of the Phase I improvements to the west half of the Greenfield School yard, the Greenfield Home and School Association raised funds to complete the Phase II improvements to the east half of the school yard. Construction took place from July through September 2010. Phase II continues the storm water management strategies of Phase I with the removal of more impervious asphalt and the installation of porous recycled rubber play surface and a demonstration storm water bio-retention area with a rain garden.

With Phase I and Phase II completed, a large portion of the existing asphalt has been removed and replaced with porous paving surfaces made from recycled rubber material and porous brick pavers. New porous surfaces were installed over pervious base materials, facilitating drainage and infiltration of storm water. This allows the water runoff to percolate into the ground, reducing the impact on the city water system and keeping the surface free from ice during the winter months.

Phase I of Greening Greenfield planted a "rain-garden" bio-retention system along the downhill southwestern edge with woodland forest native plant types to capture run-off that does not percolate through the porous surfaces. The ground plane along the southern perimeter was regraded to produce swales and three ponding areas to slow the infiltration from larger storm events. Two existing area drains were removed and replaced with one small overflow. Porous pavers were installed at the Sansom Street entrance to the school yard.

In Phase II, the east half of the play yard was regraded, creating undulating porous play surface "hills" for children to run up and down – an idea generated after watching the fun the children have running up and down snow piles on winter days. The southeastern side of the play yard is being used as an outdoor classroom while also functioning as an additional demonstration storm water bio-retention area. The large area drain, originally located where the new Phase II rain garden now flourishes, was replaced with perforated drainage piping and a second small overflow.

The Play Yard Improvements capture runoff from 97% of the play yard - this includes areas of the site that have been converted from impervious asphalt areas to either porous materials or planted areas. The remaining impervious areas on the site are managed by stormwater best management practices (BMPs), rather than simply discharging stormwater directly to the City Sewer system. The BMPs have been sized to capture runoff from small to medium size storm events and the capacity of the

systems exceeds PWD's goal of capturing the first 1-inch of runoff from impervious surfaces.

The BMPs are designed with storage capacity to capture a runoff volume that is equivalent to 1.5-inches over the total play yard drainage area. The runoff volume captured by the BMPs is infiltrated on the site and does not discharge to the City Sewer System. Because the majority of rainfall events that occur on an annual basis are small storms, capture of the first 1.5-inches of runoff from the play yard results in capture of 90% of the rainfall that occurs on an annual basis. Following is a more detailed description of the storm water management elements:

### **Rain Garden Infiltration Areas:**

A rain garden, also called a bioretention area, is a shallow depression, filled with several feet of amended soils, that is planted with native vegetation that manages stormwater runoff from drainage areas. The vegetation planted in rain gardens should be tolerant of salt, wet conditions, and dry conditions. Rain gardens manage small storm events and consist of inflow areas, shallow ponding areas over planting soil, a mulch layer, vegetation, and an overflow mechanism to take larger rainfall events to the stormwater system or other stormwater management features.

The rain gardens at Greenfield School provide a number of benefits. As runoff ponds at the surface pollutants settle out, water filters through soils and vegetation, and water quality is improved. The volume of runoff is reduced through surface ponding, soil storage, evapotranspiration, and infiltration. Runoff velocity is also reduced when it enters the rain gardens. Additionally, the rain gardens enhance the aesthetics of a play yard and are providing habitat for migratory birds and butterflies.

### **Porous Pavement Areas:**

Porous pavement at Greenfield School consists of a porous (permeable) rubber play surface overlain on a sub-surface, open-graded stone storage/infiltration bed. The underlying stone storage bed has a minimum void space of 40% and is a critical component of any porous pavement system.

Stormwater drains through the surface, is temporarily held in the voids of the stone bed and then slowly drains into the underlying, uncompacted soil mantle. The system is designed with an overflow outlet so that the water level will rise in the stone bed, but at no time does the water level rise to the rubber surface level. A layer of non-woven geotextile filter fabric separates the stone aggregate from the underlying soil, preventing the migration of fines into the bed.

The porous rubber play surface at the Greenfield School reduces stormwater runoff by creating play surfaces that are pervious, allowing rainfall to drain directly through rubber surface into a subsurface stormwater storage/infiltration bed. This reduces stormwater volume and pollutant loads from surfaces that are normally impervious.

### **Integration with Other Watershed Restoration Plans**

In 2001, the Academy of Natural Sciences Patrick Center, the Natural Lands Trust, and the Conservation Fund, collaborated to prepare the *Schuylkill Watershed Conservation Plan* for the PA Department of Conservation and Natural Resources. This plan took a rigorous look at historic land uses, vegetation and wildlife, and landscape sustainability in the Schuylkill watershed. Goals and principles were established, and recommendations were made to reduce non-point source pollution, reduce impervious cover, and reduce runoff as a percentage of precipitation. Redevelopment of urban/brownfield sites was identified as an implementation tool for restoring water resources. Increasing greenspace was recommended as another implementation tool to promote sustainable landscapes. Greening Greenfield is one part of a much larger incremental solution to the Schuylkill watershed conservation needs. However, Greening Greenfield is positioned to have a major impact in the promotion of urban greenspace redevelopment as it demonstrates that, through private/public partnering and environmental advocacy, the school yards of the Philadelphia public school system can be improved to reduce non-point source pollution, reduce impervious cover, and reduce runoff as a percentage of precipitation. This project will be a catalyst to start a city-wide effort to help restore and protect our Philadelphia drinking water supply.

The sustainable site improvements proposed by the Greening Greenfield project team address many of the *Pennsylvania Nonpoint Source Management Program* implementation provisions and the *Keystone Principals*. Located in the dense urban center of Philadelphia, fronting Chestnut Street, one of Philadelphia's main public transportation arteries, the site is ideally located to strengthen existing infrastructure and transportation investments, while also being only half a block from the Chestnut Street ramp access down into Schuylkill River Park (thereby enhancing that recreation resource). Also, because of the one block vicinity of the Schuylkill River to the existing impervious paved play yard, the change to porous surfaces and infiltration plant beds will significantly reduce the pollution which flows into the Schuylkill River when there is a rain event that results in the combined sewer overflow system unloading raw sewage into the river.

In addition to being an important pilot project of the Philadelphia Water Department (PWD) *Green City, Green Waters* plan, this project is fully coordinated with the goals of GreenPlan Philadelphia in terms of being the first of the 100 school yards to be greened by 2020 and increasing the tree coverage of the city. See the attached article from *The Philadelphia Inquirer* for more information on this initiative.

### **Partners and Environmental Education Priorities**

Greening Greenfield not only offers Greenfield students a rich opportunity to learn the important lessons of environmental responsibility but also gives them and the surrounding community a green open recreation space in the heart of the city. The master plan focuses on the transformation of the school's urban site into an outdoor laboratory that teaches children about micro-climates, indigenous plants, rain water absorption, non-point source pollution, drinking water protection, energy conservation and harvesting, and their symbiotic relationship to the environment.

The Greening Greenfield Committee has worked with many community partners to refine the goals and priorities of Greening Greenfield. The Center City Residents' Association, the Center City District, the Pennsylvania Horticultural Society, as well as Community Design Collaborative are all leveraging their resources with Greening Greenfield to maximize the impact of their staff initiatives.

Greening Greenfield has taken a comprehensive approach to the creation of educational components to help the school and local community understand how sustainable choices benefit our local and global environment for present and future generations. Partnerships with PHS Tree Tenders Program, Delaware Valley Earth Force, Philadelphia Orchard Project, and PECO are providing supplemental training to teachers, parents, and students to ensure continuity for the project.

Because of the energy generated among our students by this initiative, Greenfield School was chosen as the Middle School Winner of the Schuylkill Action Network's 2010 Drinking Water Scholastic Awards. Our students also participated in the Delaware Valley Earth Force Youth Leadership Summit, presenting their video work as student ambassadors for Greening Greenfield. Increasing the engagement of our students with their natural environment is a key objective of Greening Greenfield.

With the support of the Community Design Collaborative, the Greening Greenfield Committee has initiated in 2010 the Green School Advocates' Roundtable Discussions with the goal of organizing a large green school and stormwater management forum. The objective of the forum is to bring together Green School Advocates with public and private partners to jumpstart a comprehensive effort to pool intellectual resources and funding streams to expedite the greening of Philadelphia's school yards.

## 2010 Ribbon-Cutting Press Release

On October 8, 2010, the Albert M. Greenfield School is celebrating its fortieth anniversary with a Ribbon-Cutting ceremony for the completed 5.3 KW solar panel installation on the school roof and the school yard east rain garden and mounded porous playsurface which provide new integrated play space, an outdoor classroom, and storm water management system.

Demonstrating that school buildings can be environmentally responsible, can provide healthy places to learn and play, and can take an active role in community improvement, the Greenfield Home and School Association, with the help of the Community Design Collaborative and the Philadelphia School District, has transformed the exterior of the school property through an intensive fundraising and community involvement process over the last four years.

The area that started as a sparsely landscaped asphalt yard is now **a vibrant green space designed to exemplify ecological stewardship**. Occupying a city block at 22<sup>nd</sup> and Chestnut Street, Greenfield School currently serves a diverse student population, from kindergarten to eighth grade. "Greening Greenfield" is a flexible plan to improve the environmental sustainability of the school's exterior, one that not only **offers Greenfield students a rich opportunity to learn the important lessons of environmental responsibility but also gives them and the surrounding community a green open recreation space in the heart of the city.**

In just two years **from 2007 to 2009, the Greening Greenfield Initiative raised \$365,000 in a unique private/public partnership and completed the first phase of construction - the west school yard improvements**. These improvements include the installation of a storm water management system with a rain garden, porous pavement, permeable recycled play surface, native landscape, healthy ecosystem establishment, and solar shading; all of which were the priorities of the funders who awarded grants to the project in 2008-2009. The Philadelphia Water Department, GreenPlan Philadelphia, and The Albert M. Greenfield Foundation were the primary funders of the Phase I construction. The introduction of trees and plants native to the local environment in the storm water infiltration beds has established a migratory bird and butterfly habitat that the US Fish and Wildlife Service supported with an award of a \$5000 grant. **The Phase I construction was completed in October 2009.**

During the 2009-2010 academic year, the Greenfield Home and School Association raised an additional \$250,000 to install solar energy panels on the roof and to complete the improvements to the east half of the school yard. **The Phase II school yard construction and solar energy panel installation was completed during summer 2010. The lead funders of Phase II are the Pennsylvania Department of Environmental Protection and the Schuylkill River Restoration Fund.** This project enhances a valuable outside recreation space available to the neighborhood after school hours, bringing lasting benefits to the surrounding community. Phase II includes undulating "hills" on the east side of the site for children to run up and down – an idea generated after watching the fun the children have running up and down snow piles on winter days. The southeastern side of the

school yard will be used as an outdoor classroom while also functioning as an additional demonstration storm water bio-retention area with a rain garden.

**Putting a new twist on greening initiatives tied to music, Philadelphia rock band The Disco Biscuits teamed up with the civic engagement nonprofit HeadCount in spring 2010 to stage “Bisco Power Mission,” a benefit concert and volunteer initiative that will help outfit the Albert M. Greenfield Elementary School in Philadelphia with solar power. The concert raised \$15,000 towards the solar panel installation budget – the remainder of the installation costs were raised by the Greenfield Home and School Association through an E-cycle Day, a Silent Auction, a student penny-drive, and sales of a student designed Greening Greenfield tee shirt. Mercury Solar, the photovoltaic system design/builder, generously donated all of the installation labor to make this project possible.**

An important goal of the project is to develop, with the input of the Capital Programs Office of the Philadelphia School District, **a model approach to sustainable site improvement, community involvement, and environmental service learning and curriculum enrichment which can be replicated at other Philadelphia public schools.**

The remaining phases of GREENING GREENFIELD call for improving the school’s “Secret Garden” (a walled garden at 23rd and Chestnut Street) and installing a green roof on the school building. The Pennsylvania DEP has already committed \$65,000 for the installation of the green roof.

Taking ownership of their role in “Greening Greenfield,” **Greenfield students completed the first step of the project, a weather station, in the spring of 2008. Starting in January of 2008, the students of Greenfield raised \$2,774.12 needed to buy the weather station through a school-wide penny drive.** Jonathan Weiss, AIA, Director of Sustainability at KlingStubbins and member of the Community Design Collaborative Greening Greenfield Team, made a motivating presentation to the students to launch the drive. Mr. Weiss explained what “greening” is, and how the weather station can record the anticipated changes to Greenfield School’s microclimate caused by the proposed improvements to the outdoor spaces. The ground-breaking for the weather station took place on Greenfield School’s Earth Day/Arbor Day Celebration on April 25, 2008. Local celebrity and meteorologist Glenn ‘Hurricane’ Schwartz made a moving speech to the students about the importance of understanding and caring for our environment. The weather station is installed on the school roof and connected to monitoring stations in classrooms for teaching purposes.

**Students also initiated a school-wide recycling program in 2008. Every morning, a student announces over the loud speaker the live data from the weather station and a recycling fact of the day.**

Spring 2009, **students competed to design the graphic for the Greening Greenfield tee-shirt which they are selling as part of their on-going fund-raising contribution to the project.** The greening ethic has begun to permeate the school culture and is a thematic focus of many school projects and assemblies.



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# News



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Posted on Mon, Dec. 6, 2010

## City plans proliferation of small parks

By Inga Saffron  
Inquirer Architecture Critic

The Nutter administration has developed a plan to convert its huge holdings of vacant lots and asphalt-covered school yards into tree-shaded greens, in a low-cost effort to satisfy a 2009 pledge to add 500 acres of parkland.

The kinds of parks envisioned in the ambitious Green2015 plan, which will be released Tuesday, would be very different from a traditional city park like Rittenhouse Square or Forbidden Drive. Instead of building a few large destinations for recreation, the city would establish an archipelago of green oases on scraps of land, some as small as a quarter acre.

Like many of the Nutter administration's recent initiatives - from the crosstown bike lanes to the new riverfront paths - this one bears out the governmental philosophy that cities can still make public improvements in hard times, but only if they do so incrementally and can get others to pay for them.

So an entire section of the report, prepared by the nonprofit consultant PennPraxis, is devoted to identifying federal and private agencies that provide grants for urban greening.

The report enthusiastically notes that Philadelphia International Airport will be required to replace 82 acres of lost wetlands if a planned \$5.3 billion runway expansion goes ahead. Private owners, mainly institutions, will also be enlisted in the greening effort and encouraged to replace surface lots with trees and grass.

"It's a doable plan in a difficult economic time," said Michael DiBernardinis, commissioner of the city's Parks and Recreation Department, which sponsored the report, obtained by The Inquirer.

Within five years, he predicted, the proposals would "reshape the physicality of the city" by softening old factory neighborhoods where greenery is in short supply. It costs about \$250,000 to create a one-acre passive park, the report estimates.

The plan's strategy is purposely structured to allow the city to tackle a variety of other urban problems simultaneously. By distributing pocket parks around the city, Green2015 could help Philadelphia provide more play space in underserved neighborhoods, combat childhood obesity by creating exercise space, reduce polluting water runoff reaching the city's rivers, raise property values, and attract new development.

Nutter's earlier Greenworks, in 2009, garnered the city national attention for its ambitious goals.

Nutter will release the report Tuesday morning at North Philadelphia's Gathers Recreation Center, the first on the report's list of rec centers to be greened.

In the evening, the city will hold a public presentation at the Academy of Natural Sciences, starting at 6 p.m. Although 600 people have signed up for the event, a small number of free seats may be available on a first-come basis.

PennPraxis director Harris Steinberg, who prepared the report, explained that Green2015 intentionally relies on a shop-your-closet philosophy because Philadelphia has so little money to invest in public amenities. Almost no land would be purchased to meet Nutter's 500-acre goal. The report includes a priority list of city-owned, ready-to-green spaces.



This is what the schoolyard behind Drew Elementary in University City would look like after its transformation, in a depiction. School grounds and recreational centers are prime targets.

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Experts recommend that the Nutter administration start by breaking up unused concrete and city's schools and rec centers, since they are already a convenient draw for

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Unlike newer, suburban facilities, many of Philadelphia's schools and rec centers have no green space at all. One of the plan's main goals is to ensure that every city resident has a green park within a 10-minute walk, or a half mile. Currently, the report estimates, 200,000 Philadelphians lack such convenient access despite the fact that the city boasts one of the largest park systems in the country - the 9,995-acre Fairmount Park system.

"We've always talked about how much parkland we have in Philadelphia, but the problem is that it is all in one place," said Shawn D. McCaney, a program director at the William Penn Foundation, which helped fund Green2015.

The plan also targets other areas ripe for greening, such as vacant lots, abandoned railroad rights-of-way, waste ground below elevated highways, and the banks of neglected streams. Several much-discussed projects, including the Reading Viaduct in the Loft District and the Logan triangle off Roosevelt Boulevard, are high on the list of greening projects.

Green2015 is as much about managing stormwater runoff as it is about creating parks. The Philadelphia Water Department has its own plan, called Green City, Clean Waters, which lays out a strategy for replacing asphalt and concrete - including some city streets - with planted and porous surfaces. The department hopes to cut runoff pollution in half by 2030, Deputy Commissioner Howard M. Neukrug said.

Part of what makes Nutter's 500-acre goal obtainable is the accounting method for tallying new park space.

The report estimates that 100 acres have already been greened through existing programs, such as the Pennsylvania Horticulture Society's Clean-and-Green effort, which has been planting abandoned lots with grass since the days of the Street administration. Several public schools, such as Greenfield in Center City, have recently raised money on their own to soften their play areas.

The report makes no provision in its accounting for subtracting naturally green land lost to asphalt as a result of new construction, such as the recently completed SugarHouse Casino.

That project covered the better part of its 21-acre site with a surface parking lot, although it did provide the public with a generous waterfront path. And while the airport may fund 82 new green acres, it plans to fill in the equivalent amount of wetlands.

In the future, some of the 500 acres planned under Green2015 won't be visibly green at all. Because the city is as interested in controlling runoff as in building new playgrounds, some ordinary asphalt lots will be repaved with porous asphalt, a product that absorbs rainwater much like a lawn.

The city may eventually use porous asphalt for all of its streets.

As Steinberg noted, the city should be able to divert some of the \$21 million it now spends each year to maintain vacant lots to creating passive green space.

The plan also calls for the city to step up efforts to train volunteers to handle maintenance and tree-planting at the new mini-parks.

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