H.W. LONGFELLOW COMMUNITY SCHOOL
CONCEPTUAL SCHOOLYARD REDEVELOPMENT PLAN

January 2018
TABLE OF CONTENTS

1 Introduction

2 School Background

3 Conceptual Redevelopment Plans
   Green Infrastructure Plan
   Outdoor Classroom and Recreational Plan

4 Planned Curriculum Connections

5 Maintenance Considerations

6 Fundraising Targets

7 Project Timelines and Next Steps
   Additional Resources

Acronyms

GSCM ................................................................. Green Schools Consortium of Milwaukee
STEAM ....................................................... Science, Technology, Engineering, Arts, and Mathematics
Reflo .............................................................. Reflo - Sustainable Water Solutions (nonprofit)
MMSD ............................................................. Milwaukee Metropolitan Sewerage District
FFLM ............................................................... Fund for Lake Michigan
GI ................................................................. Green Infrastructure
MPS ............................................................... Milwaukee Public Schools
sf ................................................................. square feet
Longfellow .................................................... H.W. Longfellow Community School
INTRODUCTION

City youth grow up surrounded by imperviousness. Impervious surfaces (hardscapes including asphalt and concrete) characterize so much of our built environment that we no longer even notice how they shape the contours of our urban communities. Excessive imperviousness leads to sewage overflows and basement backups, degrades the quality of our rivers and lake, and costs us millions each year in economic losses and infrastructure repair, all of which deter investment and retard socioeconomic progress. Yet imperviousness also has other human impacts—consider how it affects the development of a young person’s mind. Schools surrounded by seas of splintering asphalt offer opportunities to replace imperviousness with beautiful, nature-inspired landscapes that increase urban biodiversity, educate, and inspire.

Through funding provided by the Milwaukee Metropolitan Sewerage District and the Fund for Lake Michigan, the nonprofit Reflo and its partners began collaborating with Longfellow in early 2017 to develop the following conceptual schoolyard redevelopment plan that holistically address the issue of the school’s imperviousness. This document compiles over a year of conceptual planning in order to provide the school, administrators, potential funders, and project partners with a single feasible vision for redeveloping a greener and healthier schoolyard. Redeveloping the existing outdated schoolyard also provides a multitude of potential STEAM (science, technology, engineering, arts, and mathematics) curriculum connections as well as triple-bottom-line (social, environmental, and economic) benefits for the students, school, and community.
The successes at Longfellow to date and all of the planned activities laid out in this document are the result of many individuals and organizations that have worked for several years to support the school. The following is a short list of those that we would like to thank for their contributions:

**LONGFELLOWS GREEN TEAM:**

Audrey Brinks  
Iraida Basabe  
Kelly Quimby  
Beth Domiguez  
Ruth Jennaro  
Ann Marlow  
DeAnn Burke  
Megan Tatro  
Leah Leone  
Marta Ewig  
Jill Roskos  
Lindy Boeding  
Ann Raden  
Evadelia Aldape  
Anne Slavens  
Evelyn Orta  
Lisa Ramczyk  
Nancy Colon  
Santa Griego  
Maura Donohue  
Robert Zaharias  
Christine Carrillo  
Silvia Stanislawski  
Margarita Maldonado  
Yesenia Bordas-Murphy  
Caryl Davis  
Leticia Aldape  
Jeff Burgher  
Marie Carter  
Carmen Rodriguez Thomas  
Cheryl Bohnsack  
Charmaine Schaefer  
Lauren Lepold-Schiro  
Karen Anderson  
Kelli Hook  
Emilie Dederich  
Erin Kerwin  
Anita Higgins  
Liz Steininger  
Caryn Wachsman  
Sam Camacho  
Jen Berry  
Mary Westemeier  
Jo St.Clair  
Kristi Skarie  
Rebecca Riddle  
Sarah Lewkowski  
Rafael Figueroa  
Mary Belvoir  
Michelle Zunke  
Marcy Hunter  
Karen Steele  
Tracey Ciszewski  
Jennifer Morgan  
Katie Katre  
Rebecca Longoria  
Rosa Cerda-Castañeda  
Barbara Hickling  
Sandra Valadez  
Drunell Lewis-Carter  
Marie Carter  
Tishante Farris  
Lori Schoof  
Jeffrey Sathe  
Nestor Muro  
Tiffany Markwardt

**COMMUNITY PARTNERS:**

Journey House  
Ernst and Young  
United Way  
Arts @ Large  
Hunger Task Force  
Botanical Gardens  
 Froedert Medical College  
 Milwaukee Bucks  
 UW Extension  
 Clarke Square  
 Neighborhood  
 Safe and Sound  
 Reflo  
 STEMhero  
 Youth Empowerment  
 Seminar  
 Pitney Bowes  
 Zilber Family Foundation

**SPECIAL THANKS TO THOSE INVOLVED IN THE SCHOOLYARD REDEVELOPMENT PLANNING:**

Justin Hegarty  
Wilnesha Smith  
Michael Timm  
Jose Basaldua  
Barbara Richards  
Denice Niebuhr  
Rose Kuzj  
Carolyn Esswein  
Bill Noelck  
Mahshid Seyedehmahshid  
Kelly Seniuk  
Ryan Schone  
Dr. Michele Bria  
Karen Sands  
Lisa Sasso  
Danielle Nabak  
Ian Bautista  
Angeline Koch  
Vicki Elkin  
John Linn  
Rochelle Sandrin  
Erick Shambarger
Benefits of Green Schoolyards

Nature Can Improve Academic Outcomes

Spending time in nature enhances educational outcomes by improving children’s academic performance, focus, behavior, and love of learning.

Better Academic Performance

Learning in natural environments can:

- **Boost Performance** in reading, writing, math, science and social studies
- **Enhance Creativity** and critical thinking and problem solving

Enacted by STEM for Schools program

Seeing nature from school buildings can foster academic success

Increased Engagement & Enthusiasm

Exploration and discovery through outdoor experiences can promote motivation to learn:

- **Increased Enthusiasm for Learning**
- **Greater Engagement with Learning**

Improved Behavior

Nature-based learning is associated with reduced aggression and fewer discipline problems.

- **More Impulse Control**
- **Less Disruptive Behavior**

Additional Research on the Benefits of Nature Available at childrenandnature.org/research

SUPPORTING RESEARCH

GREEN SCHOOLYARDS CAN PROVIDE MENTAL HEALTH BENEFITS

Green schoolyards can enhance mental health and well-being and promote social-emotional skill development.

CALMER & LESS STRESSED
Views of green landscapes from classroom windows helped high school students recover more quickly from stressful events.

POSITIVE & RESTORED
Forest schools enhanced positive and decreased negative emotions.

RESILIENT
Natural areas enhanced feelings of competence and increased supportive social relationships that help build resilience.

GREEN SCHOOLYARDS PROMOTE SOCIAL-EMOTIONAL SKILLS

RELATIONSHIP SKILLS
Children demonstrated more cooperative play, civil behavior and positive social relationships in green schoolyards.

SELF-AWARENESS & SELF-MANAGEMENT
Green schoolyards can reduce aggression and discipline problems.

Gardening at school helped students feel proud, responsible & confident.

SUPPORTING RESEARCH

INFOGRAPHICS PROVIDED BY THE CHILDREN & NATURE NETWORK
Supporting references and research on the benefits of nature can be found at childrenandnature.org/research
Green Schoolyards Encourage Beneficial Play

Natural areas promote child-directed free play that is imaginative, constructive, sensory-rich, and cooperative.

**SUPPORTING RESEARCH**


GREEN SCHOOLYARDS CAN INCREASE PHYSICAL ACTIVITY

Green schoolyards can promote physical activity by offering a variety of active play options that engage children of varying fitness levels, ages, and genders.

85% OF EDUCATORS AND PARENTS said green schoolyards support a wider range of play activities than other types of schoolyards.²

MORE OPTIONS, MORE ACTIVITY

Variety in landscaping increases variety in active play.²

trees shrubs logs rocks

MEETING DIVERSE & CHANGING NEEDS

GREEN SCHOOLYARDS COMPLEMENT CONVENTIONAL PLAYGROUNDS WITH OPPORTUNITIES FOR LIGHT & MODERATE PHYSICAL ACTIVITY that are more appealing to some children.³–⁴

INFOGRAPHICS PROVIDED BY THE CHILDREN & NATURE NETWORK
Supporting references and research on the benefits of nature can be found at childrenandnature.org/research

SUPPORTING RESEARCH

Welcome to H.W. Longfellow School! We are a proud bilingual community school, who serves over 850 Kindergarten to 8th grade students. Longfellow is one of the three oldest buildings in the public school system built, and we have grown over the past 130 years with the Clarke Square community.

At Longfellow, we have been dedicated to enabling all students to realize their individual potential and uniqueness, while remaining committed to excellence in teaching and learning. With Longfellow educators, leading the way our green team continues to find ways to connect curriculum standards with innovative lessons that engage our students with hands on learning and inquiry.

Through our partnerships with many great organizations (see Acknowledgments Page) to name a few. Neighborhood families and students have been invited to take part in the rebuilding of our green community.

With shared ownership, Longfellow’s green team will continue to build on providing lifelong learning opportunities for our students and their families. We look forward to developing and nurturing our eco-literate ambassadors, as they will be the key to redevelop and revitalize our neighborhood.

– Rosa Cerda-Castañeda, Principal

H.W. Longfellow Community School
Longfellow School
1021 S. 21st St., Milwaukee
- Milwaukee Public School
- Grades: K through 8
- 853 students
- 96.9% economically disadvantaged
- Combined Sewer Area
- 145,000 sf of impervious surfaces
- 91% of the school site is impervious

ENVIRONMENTAL PROGRAMMING
Longfellow has gone “all-in” and has committed the entire teaching staff to monthly Green Team meetings. Environmental programming includes recycling, green project field trips, Green Schools Consortium of Milwaukee engagement, raised bed gardens, tree plantings, etc.

Students that participated in the schoolyard redevelopment planning process by creating their own schoolyard dioramas that were then presented to the teaching staff and on display at the Green Schools Conference.
CONCEPTUAL REDEVELOPMENT PLANS

On an annual basis, the nonprofit Reflo works through the Green Schools Consortium of Milwaukee (GSCM) to select and work with schools that are interested in conceptually redeveloping their schoolyards. Plans produced incorporate creative green infrastructure and green space that improves the social, environmental, and economic health of the school and community. With the approval of school and district administrators, Longfellow applied for and was selected to receive the conceptual planning grant. Over the 2016-‘17 school year, the collaborative planning effort resulted in the production of the following conceptual redevelopment plans.

Schools submitted two-page applications and provided verbal presentations to a 20-person panel representing green school stakeholder organizations from across the Milwaukee-area. School Green Teams met on a monthly basis (+) throughout the school year to collaboratively develop the redevelopment plans. Schools presented their plans and other green school efforts at the annual Milwaukee-area Green Schools Conference.

CONCEPTUAL REDEVELOPMENT PLANNING ORGANIZATIONS

<table>
<thead>
<tr>
<th>Reflo Sustainable Water Solutions</th>
<th>As a nonprofit, Reflo partners with Milwaukee-area schools, neighborhood associations, community garden groups, and local governments to promote sustainable water management such as green infrastructure through education, research, and the implementation of community based water projects.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Design Solutions (CDS)</td>
<td>Community Design Solutions (CDS) is a funded design center in the UWM School of Architecture &amp; Urban Planning (SARUP) that assists communities, agencies, civic groups, and campuses throughout Wisconsin. CDS provides preliminary design and planning services to underserved communities and agencies.</td>
</tr>
<tr>
<td>Journey House</td>
<td>Journey House empowers families on Milwaukee’s near Southside to move out of poverty by offering adult education, youth development, workforce readiness, and family engagement.</td>
</tr>
</tbody>
</table>
Conceptual Schoolyard Redevelopment Plan

Reflo and the Longfellow's Green Team
SCHOOLYARD REDEVELOPMENT INTEREST

Longfellow is most interested in providing a safe, healthy, and educational space for their students to learn and explore through creatively designed and inspiring green space.
Green infrastructure is a stormwater management strategy that diverts stormwater from entering the sewer system and manages stormwater where it falls through a more sustainable means, mimicking natural water systems. Green infrastructure can also serve as an opportunity for creative STEAM-based student and community engagement. Longfellow’s building and schoolyard currently contributes a significant amount of stormwater runoff that can lead to area flooding and impaired water quality for our rivers and lake. The conceptual redevelopment plan includes multiple green infrastructure strategies including asphalt removal and replacement with permeable pavement and natural ground cover, tree plantings, native landscaping, and cisterns.

The plan includes a reduction of >70% of the schoolyard asphalt, replacing it with green space and a mixed use recreation and educational space. Because of Longfellow’s successful urban agriculture program, the plan also incorporates a new greenhouse with a rainwater harvesting system. Additionally, the inclusion of native plantings allows for unique spaces on the schoolyard that can represent native Wisconsin ecosystems complete with student created signage. Pending a more detailed survey, an underground cistern could also be implemented beneath the planned field and bioswale to further manage stormwater runoff.
Example of a <1 year old bioswale complete with a water level monitoring system and passive overflow.

Example of volunteer engagement in the construction of an Aquablox(R) underground cistern.

Example of schoolyard asphalt removal, replacement with green infrastructure, and community engagement.

Example of a potential street stormwater diversion.

Example of rainwater harvesting system (to receive artistically created banners).

Example of raised bed planters.
CDS proposes design details for a partly covered outdoor classroom and area surrounding the bioswale proposed by Reflo. This portion of the site is located near a primary entrance to the schoolyard. A crushed gravel pathway is proposed to connect the entrance to the paved portion closer to the school. The pathway is interrupted with a boardwalk that traverses the bioswale, with an adjacent stage that hugs the edge of the bioswale. The stage looks out onto a berm created from soil dug up for the bioswale with concrete retaining wall benches. The benches are shaded by sun sail shades that are attached to vertical posts. Natural stump seats are added near the soccer field and the greenhouse to provide seating while also serving as natural play equipment for younger students.

Significant thought was put into the flow of students through the various spaces with special consideration for recreational activities such as soccer, tag, and pavement marking activities like foursquare. The outdoor classroom space is uniquely designed to accommodate quieter, programmed outdoor classroom activities, further supporting the greenhouse, while also serving as gross motor area during recess with seats transformed into balance beam features.
Younger students.

are attached to vertical posts. Natural stump seats are added near the soccer field and bioswale. The stage looks out onto a berm created from soil dug up for the bioswale outdoor classroom.

stormwater management strategy incorporating new play spaces for students and an putting strain on the city's stormwater system. Reflo proposes a conceptual site wide

Currently, the site is completely paved in asphalt. The asphalt, installed in the 70s, was intended to reduce the maintenance costs incurred by the open grass spaces there

Furthermore, the asphalt prevents water from being adequately detained on site, previously. Unfortunately, the asphalt is deteriorating today leading to costly repairs.

Reflo and Community Design Solutions (CDS) combined to work with Milwaukee Public

storm water while simultaneously re-imagining how outdoor educational spaces are design for their outdoor play area. The design focuses on the site's potential to manage

Example of permanent greenhouse

Students and community partners ready to grow food at Lengfellow.
It’s important that the schoolyard redevelopment include plans for actually using the redeveloped space. This section provides a high level overview of how the school plans on making the most out of the new schoolyard components and connecting the exciting redevelopment into the curriculum.

Longfellow’s Green Team consisted of the entire teaching staff, over 65 educators. Because of the enthusiasm for the schoolyard redevelopment, the staff was separated into five groups, each with their own unique opportunities:

- Group 1: Gardens and Green Space
- Group 2: Creative Placemaking
- Group 3: Water, Energy and Waste Conservation
- Group 4: Arts and Educational Signage
- Group 5: Student and Community Engagement

The following few pages identify major components and curricular connections for each of the Green Team groups. Each group has identified short and long term teaching objectives that connect standards as well as language, communication, and social-emotional objectives.

As a part of the conceptual planning process, Arts @ Large was identified as a potential resource for Longfellow and the school applied and received the 3+ year partnership. With the new engagement, the teaching staff will also have access to local artists that can assist with integrating the arts into the planned curricular connections.
GROUP 1: GARDENS AND GREEN SPACE

Longfellow students, staff, and the community will utilize the greenhouse, raised bed gardens, and orchard in order to become more connected with where our food comes from. Students will also be able to become more familiar with native plants from Wisconsin and the benefits of being surrounded by green space. Furthermore, a student Garden Club will be organized to help with regular and summer maintenance.

RAISED BED GARDENS

3rd through 5th grade will also be able to actively learn about the life cycle of plants and the properties of good soil through cultivating worms (red wigglers). The students will be able to see how their soil helps all of our plants grow.

Middle school students will put their math skills to the test as they use their measurement and data skills to plan the arrangement of plants in the raised beds. They will also work on comprehension skills and learn how growing food builds community through reading stories and novels on these topics.

The school and community will work together to take care of these spaces throughout the summer. In the harvest season, students will be able to learn about and taste fresh vegetables. Possible field trips to urban agriculture locations around Milwaukee include: MATC Culinary School, Hunger Task Force garden, Alice’s Garden, etc.

GREENHOUSE

8th grade can help with the design and construction of the greenhouse (which can be shown during Earth Day celebrations - adding a project documentation process where students take photos and videos of the greenhouse construction and first plantings.

Kindergarten through 2nd grade will be able to utilize the greenhouse to start seedlings and learn about the basics of how plants grow as well how to grow ingredients for salsa and pizza which can be shared with the community.

NATIVE PLANTINGS AND ORCHARD

4th grade will incorporate native Wisconsin plants in their curriculum to include plantings and research projects. They will also work with Arts @ Large to create a walking tour brochure of the school grounds that explains, through student created art, where native plantings can be found, and which fruit and nut bearing trees are located on the school grounds.
**GROUP 2: CREATIVE PLACEMAKING**

**OUTDOOR CLASSROOM**

K3 through 8th grade students will be provided with an alternative learning environment to develop speaking, listening and literacy skills through *reader's theaters, presentations, experiments, data collection, observations* and *reflective writing* across the curriculum. Technology (use of a microphone) the arts (visual and performance) can be incorporated throughout with additional opportunities for *mindfulness* activities.

**ATHLETIC FIELD**

K3 through 8th grade students will be able to develop *math, geography, problem solving, and gross motor* skills through the use of the athletic field. Students will also develop physical skills and increase their ability to work together via cooperative learning projects. Students will have access to additional recreation equipment to develop gross motor skills.

Both the outdoor classroom and athletic field will help to *strengthen relationships* and *student team building*.

**GROUP 3: WATER, ENERGY, AND WASTE CONSERVATION**

**WATER AUDIT**

K3 through 3rd grade can connect the *water cycle* to Longfellow’s water sustainability interests and our local ecosystems. Students can also visit *Discovery World* to explore the water exhibit.

4th through 8th grade can *measure* dripping faucets through STEM Hero meter reading to identify waste and *calculate*, through math curriculum, the volume of water wasted and develop comparisons, through arts programming to help understand the magnitude of water used at the school. Results can be presented by students at the school science fair.

**RECYCLING AND COMPOSTING**

Classrooms can be equipped with recycling containers for plastic, metal, and paper and some classrooms with composting bins for fruits and vegetables with students playing an important role in *inspecting and managing the bins*.

Discussions with students can lead to lessons on *financial, carbon, and volume* calculations regarding waste management, which can then be compared to entire school and city recycling and composting programs.

**ENERGY AUDIT**

Through the City’s *Better Buildings Challenge*, Longfellow can enroll in the program to conduct an energy audit where students are equipped with *measurement tools* and can calculate before and after *energy savings*. 
**GROUP 4: ARTS AND EDUCATIONAL SIGNAGE**

**MURAL - EXTERIOR WALL**

4th and 5th grades can work with Arts @ Large and local artists to develop a Wisconsin themed mural with various panels that could include various landforms (lake and river systems, rocks and soils, and glacial geomorphology). They could also include clues where students are inspired to find recycled materials in the mural (like a scavenger hunt).

**RECYCLED ART**

Working with Arts @ Large, an additional art piece, comprised of recycled materials (plastic bags and bottles) collected by K3 students can be created in the shape of the school mascot, an eagle. A contest can be employed to garner student ideas for the piece and to promote recycled material collection by multiple classrooms.

**WALKING TOUR THROUGH THE SCHOOL GROUNDS**

7th and 8th grades can develop points of interest throughout the schoolyard that can be demarcated by stepping stones and can be in conjunction with the major components of the schoolyard redevelopment. Students can work with Arts @ Large to construct the points of interest and conduct research and write essays on each of the points of interest that can be included in the site signage and school brochure with reference to mindful moment activities as well.

**GROUP 5: STUDENT AND COMMUNITY ENGAGEMENT**

**NEIGHBORHOOD OUTREACH - CLARKE SQUARE**

6th, 7th, and 8th grades can develop a Community Green News Flyer which will contain valuable educational information for the community at large. Information can include event announcements/recipes/suggestions for home gardens/focus section on classroom activities with pictures, if possible, and science based soil research tips as well. Students can engage in science research, oral speaking to interview, informative and marketing based writing, photography/visual arts, and technology proficiency.

**DEVELOPMENT OF A STUDENT GREEN TEAM**

6th, 7th, and 8th grades can develop a Green Buddies program that will assist the school in the organization and running of green activities and Earth Day. They may also be involved in the Clarke Square Green Flyer (above). Students will serve as school green ambassadors to include the research and presentation of classroom green vocabulary and academics for younger students. They may be responsible to partner in the “care” program of the schoolyard. They can be involved in projects related to recycling, composting, care, and community clean ups, that can include organizational, verbal and written presentation, research, advocacy, and science curriculum connections.

**SCHOOL WIDE EARTH DAY EVENT**

All classrooms can participate in Green Based Science Fair projects that will be displayed by student representatives on Earth Day. Students organize and support booths, prior to Earth Day, research key booth connections. For Example: Soil Testing/why do it/how it works/growth of vegetables/fruits in soil research/visual aids/hand outs/community representatives bring in test kits for distribution. Students run workshops in connection with teacher guides. Students may take key green based field trips that support Earth Day and bring back experiences for discussion in class/Earth Day.

Arts @ Large Middle School Photography Project: The Ills of our Earth on display at Earth Day and can be presented within the school at each grade level so other children can learn about what is still necessary to do to care for Mother Earth. Key skills include: oral and written skills, marketing/visual arts/technology, and research in science.
MAINTENANCE CONSIDERATIONS

Consideration for maintenance, especially for green infrastructure, can often be overlooked. As part of the conceptual redevelopment planning process, special consideration was given to recommend easier-to-maintain features. However, many features called for in this conceptual plan require some level of maintenance. The following section provides a summary of seasonal and monthly maintenance needs for the school’s new green features. Full, more in-depth maintenance requirements will need to be developed in the project’s detailed design phase.

It should be noted that generally the school’s engineer/janitorial staff are responsible for additional maintenance needs. However, some maintenance activities such as weeding, debris pickup, inspection of plant health, crop harvesting, watering, etc. can provide an opportunity to further engage faculty, students, and the surrounding neighborhood in school activities and outdoor learning.

Well-maintained green infrastructure and playspaces can help reduce the potential need for costly repairs and/or replacement.

Permeable Pavement and Porous Synthetic Turf

Ongoing/Monthly Considerations:
- Debris and sediment washing into pavement pores can lead to clogging—monthly inspection is recommended to monitor pavement function and identify the source of any clogging.
- Depending on the pavement and installation, chipping can occur—monthly inspection can help identify areas of high wear or heaving and can prevent debris build-up and/or trip hazards.

Seasonal/Annual Considerations:
- Periodic vacuuming of the pavement pores using a vacuum truck will be necessary to minimize clogging.
Raised-Bed Gardens and Native Plantings
Ongoing/Monthly Considerations:
• Gardens will require ongoing weeding and watering (weekly/daily)—determining who will be responsible (ideally multiple people/groups/classrooms) beyond planting the gardens is important, especially over summer months.

Seasonal/Annual Considerations:
• Spring planting and harvest events are great ways to engage the school and prepare the garden—accounting will be needed for the cost and storage of required hoses, shovels, gloves, buckets, etc.

Tree Plantings
Ongoing/Monthly Considerations:
• Newly planted trees (first few years) will require protection from children wanting to play around them—strategies such as temporary (or permanent) fencing, signage, or planting boxes can help allow the trees space and time to grow.

Seasonal/Annual Considerations:
• Berries, leaves, sticks, and branches often fall from trees during spring or fall. Tree litter may not need to be actively managed. However, depending on amount of tree litter, it may need to be disposed of or composted.

Rainwater Cisterns/Storage
Ongoing/Monthly Considerations:
• Rainwater harvesting systems can become complex and may require site specific strategies; however, monthly inspection is typically recommended to remove debris, prevent stagnated water, and confirm that the cistern is draining as intended.

Seasonal/Annual Considerations:
• Most cisterns need to be drained in late fall to prevent winter freezing water damage. Then in spring, cisterns will again need to be adjusted to accept rainwater.

Asphalt Removal
Ongoing/Monthly Considerations:
• Depending on the groundcover replacement such as grass, wood chips, permeable pavement, etc., the replacement may require additional maintenance such as grass cutting, wood chip replacement, vacuuming etc.

Seasonal/Annual Considerations:
• Some asphalt areas at schools are used in winter as snow management locations. Confirming the seasonal use of the asphalt areas can help with determining the feasibility of asphalt removal and/or ways to adjust snow management.
FUNDRAISING TARGETS

An important component of the conceptual planning effort was to develop plans that were feasible. Estimates of funding requirements were discussed throughout the planning effort in order to keep the designs within reasonable cost ranges. The following table of estimated costs are presented in terms of “fundraising targets” to better represent the approximate budgetary nature of the numbers.

It should be noted that the following funding targets represent conceptual, high-level estimates with many assumptions, not consultant or contractor bids based on detailed design work, which would be more accurate. The following estimates are expected to vary from actually incurred expenses. However, significant consideration and review of the fundraising targets were provided from engineers, contractors, and school administrators with experience in schoolyard redevelopment projects.

Although the following fundraising targets are intended to incorporate reasonable cost expectations for schoolyard redevelopment, changes to the design, contracting requirements, or amount of in-kind contributions can significantly impact the following numbers either upward or downward.

Most schoolyard redevelopment projects occur in phases over multiple years to allow for ongoing fundraising efforts.

A successful strategy is to develop a segregated schoolyard redevelopment account and/or school foundation that can assist with managing larger ongoing contributions.
# Conceptual Redevelopment Plan Fundraising Targets

<table>
<thead>
<tr>
<th>Description</th>
<th>Apx. Fundraising Targets</th>
<th>Apx. Inkind Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green Infrastructure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asphalt removal, sawcutting, etc.</td>
<td>$68,000</td>
<td></td>
</tr>
<tr>
<td>Soil and grass re-surfacing</td>
<td>$15,000</td>
<td></td>
</tr>
<tr>
<td>Soccer field, artificial turf replacement</td>
<td>$100,000</td>
<td></td>
</tr>
<tr>
<td>10 Stormwater trees</td>
<td>$5,000 $2,500</td>
<td></td>
</tr>
<tr>
<td>Native plantings</td>
<td>$5,000 $2,500</td>
<td></td>
</tr>
<tr>
<td>Bioswale soils and plantings</td>
<td>$5,000 $2,500</td>
<td></td>
</tr>
<tr>
<td>Greenhouse Cistern</td>
<td>$2,500 $2,000</td>
<td></td>
</tr>
<tr>
<td>(potential) underground cistern</td>
<td>$50,000 $5,000</td>
<td></td>
</tr>
<tr>
<td>(potential) green roof tray system</td>
<td>$15,000</td>
<td></td>
</tr>
<tr>
<td>Survey, Detailed Design and Permitting</td>
<td>$25,000</td>
<td></td>
</tr>
<tr>
<td>Detailed Design and Permitting for potential items</td>
<td>$20,000</td>
<td></td>
</tr>
<tr>
<td><strong>Education and Outreach</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Coordination</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Continued Reflo Support</td>
<td>$7,500 $10,000</td>
<td></td>
</tr>
<tr>
<td>Project Signage</td>
<td>$5,000 $2,500</td>
<td></td>
</tr>
<tr>
<td>Arts Programing</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Demonstrations, Workshops, Tours</td>
<td>$2,500</td>
<td></td>
</tr>
<tr>
<td>Water Focused Curricular Activities</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Vegetation Establishment</td>
<td>$5,000 $5,000</td>
<td></td>
</tr>
<tr>
<td><strong>Green Infrastructure Subtotal</strong></td>
<td>$338,000 $54,500</td>
<td></td>
</tr>
<tr>
<td><strong>School Garden/Planting Developments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New greenhouse</td>
<td>$30,000</td>
<td></td>
</tr>
<tr>
<td>Composting bins etc</td>
<td>$1,000 $1,000</td>
<td></td>
</tr>
<tr>
<td>Maintenance for plantings</td>
<td>$2,500</td>
<td></td>
</tr>
<tr>
<td><strong>School Garden/Planting Developments Subtotal</strong></td>
<td>$31,000 $3,500</td>
<td></td>
</tr>
<tr>
<td><strong>Recreational Developments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural play equipment - logs, stumps etc.</td>
<td>$5,000</td>
<td></td>
</tr>
<tr>
<td>Paths and Boardwalk</td>
<td>$25,000</td>
<td></td>
</tr>
<tr>
<td><strong>Recreational Developments Subtotal</strong></td>
<td>$30,000 $ -</td>
<td></td>
</tr>
<tr>
<td><strong>Educational Developments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor Classroom</td>
<td>$5,000</td>
<td></td>
</tr>
<tr>
<td>Seating and Classroom Materials</td>
<td>$25,000</td>
<td></td>
</tr>
<tr>
<td><strong>Educational Developments Subtotal</strong></td>
<td>$30,000 $ -</td>
<td></td>
</tr>
<tr>
<td><strong>Other Site Improvements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misc. benches and seating</td>
<td>$3,500</td>
<td></td>
</tr>
<tr>
<td><strong>Other Site Improvements Subtotal</strong></td>
<td>$3,500 $ -</td>
<td></td>
</tr>
<tr>
<td><strong>Total Estimated Fundraising Targets</strong></td>
<td>$432,500 $58,000</td>
<td></td>
</tr>
</tbody>
</table>
Although there has already been a significant amount of time and energy invested in the schoolyard redevelopment project by Longfellow and its partners, the compilation of this conceptual plan document realistically represents step one of a multi-year, major construction-focused redevelopment project.

Construction season in Wisconsin typically runs from late April through November; however, most school construction takes place over summer when students are not in regular session. Generally with construction at schools taking place over summer months, detailed design (including sets of drawings with construction details, dimensions, and quantities), permitting, and bidding work should be scheduled to be completed over the preceding winter/spring, with land surveying/data collection occurring the preceding fall, with fundraising leading up to those milestones.

Big changes like this project require a great deal of time, resources, and, most of all, commitment. Accomplishing this conceptual redevelopment plan is a major milestone itself. This plan shows the school’s desire and ability to focus its efforts on meaningful outdoor education and healthy learning spaces for their students and community.

Additional support for greening schools in the Milwaukee area can be found at the Green Schools Consortium of Milwaukee’s (GSCM) website: www.gscm.refloh2o.com

**PROJECT TIMELINES AND NEXT STEPS**

Although there has already been a significant amount of time and energy invested in the schoolyard redevelopment project by Longfellow and its partners, the compilation of this conceptual plan document realistically represents step one of a multi-year, major construction-focused redevelopment project.

Construction season in Wisconsin typically runs from late April through November; however, most school construction takes place over summer when students are not in regular session. Generally with construction at schools taking place over summer months, detailed design (including sets of drawings with construction details, dimensions, and quantities), permitting, and bidding work should be scheduled to be completed over the preceding winter/spring, with land surveying/data collection occurring the preceding fall, with fundraising leading up to those milestones.

Big changes like this project require a great deal of time, resources, and, most of all, commitment. Accomplishing this conceptual redevelopment plan is a major milestone itself. This plan shows the school’s desire and ability to focus its efforts on meaningful outdoor education and healthy learning spaces for their students and community.

Additional support for greening schools in the Milwaukee area can be found at the Green Schools Consortium of Milwaukee’s (GSCM) website: www.gscm.refloh2o.com
Green Schools Consortium of Milwaukee
Local network of green school practitioners, funders, and supporting agencies. Bi-monthly meetings, an annual conference and multiple local grants and resources can be found at: www.gscm.refloh2o.com

Reflo’s Educational Page
Compilation of various water-related curricular connections including the Resource Replication Guide: Green Infrastructure for Milwaukee-Area Schoolyards: www.refloh2o.com/educational-resources/

Milwaukee Metropolitan Sewerage District
Grant opportunities and a guidebook on green infrastructure for schools: www.mmsd.com

Green and Healthy Schools Wisconsin
Compilation of green school curricular connections and a guidebook on: Growing a Green and Healthy School: www.ghswisconsin.org

Children in Nature Network
National green school news, training, and research (source for infographics used in this document’s introduction): www.childrenandnature.org/learn/research/

U.S. Green Building Council - Center for Green Schools
National green school research, articles, project examples, and lesson plans. Connection to the LEED accreditation program and Green Apple Day of Service: www.centerforgreenschools.org/green-school

Green Schoolyards America
Green school research, policy, activity guides, and case studies: www.greenschoolyards.org
FOR MORE INFORMATION PLEASE CONTACT:

Rosa Cerda-Castañeda, Principal
H.W. Longfellow Community School
cerdarm@milwaukee.k12.wi.us

Ryan Schone, Food Systems Manager
Journey House
ryan.schone@ces.uwex.edu

Justin Hegarty, P.E., LEED A.P.
Reflo - Sustainable Water Solutions
justin.hegarty@refloh2o.com