



Forest Home Avenue School

Conceptual Schoolyard Redevelopment Plan /
Plan Conceptual de Reurbanización del Patio Escolar

December / Diciembre
2022

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CREATE Institute
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Milwaukee Christian Center
MSOE University

Milwaukee Succeeds
Northwestern Mutual
Project Lead the Way
Sharp Literacy
Sixteenth Street Community Health Centers
Wisconsin Conservatory of Music
Wisconsin Reading Corps

Special thanks to those supporting the schoolyard redevelopment planning:



Kevin Shafer
Bre Plier
Lisa Sasso
Jay Feiker

**Conceptual
Planning Sponsor**



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Arts, Outdoor Education, and Community Engagement Plan

Land Acknowledgment

We acknowledge that Milwaukee lies on traditional Menominee, Potawatomi, and Ho-Chunk homeland along the southwest shores of Lake Michigan, part of North America's largest system of freshwater lakes. On this site, the Milwaukee, Menominee, and Kinnickinnic rivers meet, and the people of Wisconsin's Menominee, Ojibwe, Ho-Chunk, Oneida, and Mohican sovereign nations remain present to this day.

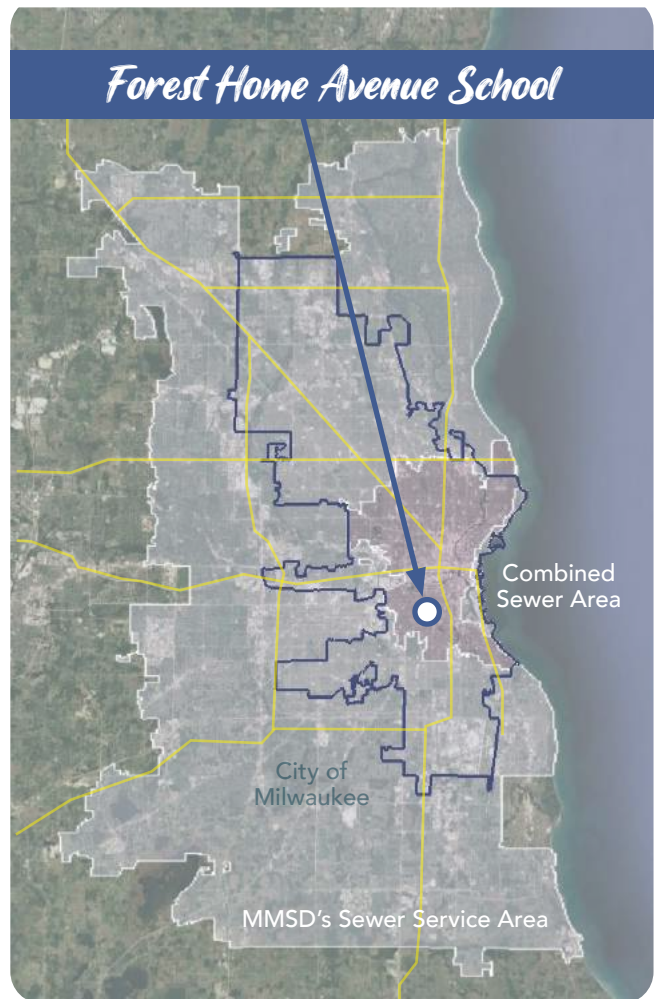


Existing schoolyard at Forest Home Avenue School

Introduction

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 impede socioeconomic progress. 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 collaborate with five schools annually to develop conceptual schoolyard redevelopment plans that holistically address the issue of each school's imperviousness. This document compiles over a year of conceptual planning in order to provide a single, feasible vision for redeveloping a greener, healthier schoolyard. These projects also provide a multitude of STEAM (science, technology, engineering, arts, and mathematics) curricular connections as well as triple-bottom-line (social, environmental, and economic) benefits for the students, school, and community.



School Story

Forest Home Avenue School is proudly located in the Muskego Way Neighborhood in the center of the 53204 zip code on the southside of Milwaukee. Our school has a rich history of serving the community dating back to 1907, and the building still holds much of the original charm. The families in our immediate area have access to two green spaces, however, those spaces, Witowiak and Kosciuszko Parks located nearly a mile away. We value the importance of increasing physical activity within a safer, greener, healthier environment on our school grounds.

Our school mission states our dedication to preparing all students for the future. Our school offers our families a developmental bilingual program (English and Spanish) which is the largest of its kind in the state of Wisconsin for an elementary school. Furthermore, we humbly serve the largest special education population in Milwaukee Public Schools at nearly 40% of total student enrollment.

Our strong partnerships and existing programs offer students a variety of learning experiences in class, in the STEM lab, through field trips, and soon on our transformed schoolyard. The school's student council engages selected grade 4-5 students in leadership opportunities and youth learn computer skills and coding through regular STEM programming at each grade level. In addition, special education services, ESL, speech services, full-time art, music, gym, sports teams, dance club, arts & culture club, band, and before- and after-school care are offered.

We believe that with the commitment, support, and collaboration of families, educators, and community members, our students will be empowered and inspired to be lifelong learners and our next generation of leaders. The opportunity to provide our students with these green spaces will allow us to further prepare our students to be future stewards of their environment.



Forest Home Avenue School

1516 W Forest Home Ave.
Milwaukee, WI 53204

- Milwaukee Public School
- Grades: K3 through 5th
- 658 students
- 87% economically disadvantaged
- 32% special education
- 37% English learners
- Combined sewer area
- Kinnickinnic River watershed

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Conceptual Redevelopment Plans

On an annual basis, the nonprofit Reflo and its partners, with the support of the Milwaukee Metropolitan Sewerage District (MMSD), works through the Green Schools Consortium of Milwaukee (GSCM) to select and collaborate with schools that are interested in redeveloping their schoolyards. Planning efforts incorporate creative applications of stormwater green infrastructure, outdoor educational elements, and other features that improve the social, environmental, and economic health of the school and community. With the approval of school and district administrators, schools apply for and are selected to receive conceptual planning support. The over year-long collaborative planning process has resulted in the production of this

conceptual planning document, which is intended to guide the multi-year redevelopment.

Forest Home Avenue's conceptual plan includes many stakeholder perspectives including those of students, parents, teachers, administrators, maintenance staff, neighborhood residents, and project partners. The plans are intended to be feasible and to support the school's and project stakeholders' needs and interests. Significant care was taken to consolidate project ideas and coalesce around one unified project vision. As the project progresses through the fundraising and detailed design phases, project components will be further defined and best fit to the amount of funds raised.

Forest Home Avenue School's Vision:

All students will grow and learn within a safe, respectful and responsible environment. Self-confidence and self-worth will develop as each student's cultural identity is both recognized and valued. Students will be challenged to think critically, problem-solve and be creative in order to build the knowledge and skills that are needed to be successful both personally and academically.

Network of Support

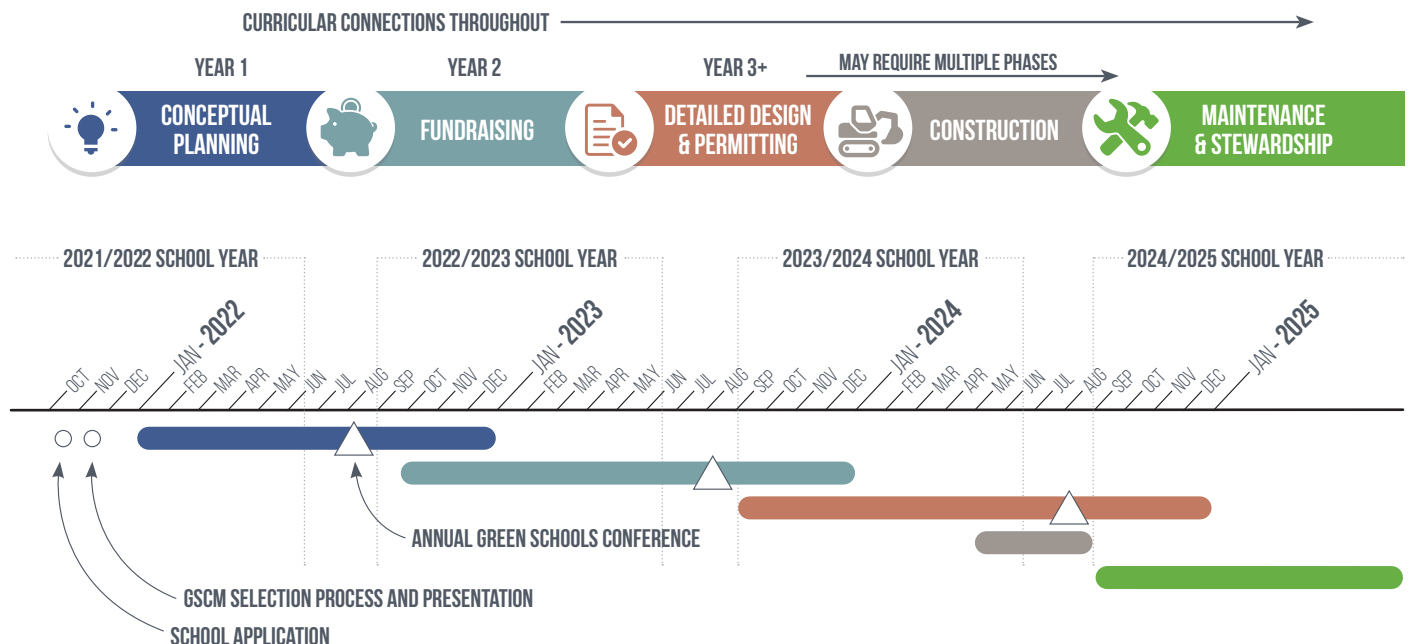
The GSCM is a local network of practitioners, agencies, and funders that are committed to supporting greener, healthier schools and ecoliteracy in the Milwaukee area. The GSCM gathers on a bimonthly and annual basis to share resources and lessons learned. The 6th Annual Green & Healthy Schools Conference hosted more than 500 participants and over 70 exhibitors. Each year the GSCM also hears from schools that are interested in schoolyard redevelopment projects and collectively decides which projects to support, in part, based on need and enthusiasm.



Project Development Process and Timeline

The following process diagram and timeline visualizes the major project development phases that a typical schoolyard redevelopment project in the Milwaukee area undertakes when supported by Reflo and the Green Schools Consortium of Milwaukee. The process begins in October with schools applying to receive a conceptual planning grant provided by Reflo and the

Milwaukee Metropolitan Sewerage District. Schools that advance to the second stage are then asked to present to the GSCM's Project Selection Committee on their need and enthusiasm. Following the selection, five schools are awarded the planning grant and begin the conceptual planning process with monthly Green Team meetings starting in January the following year.





Stormwater Green Infrastructure

Green infrastructure is a strategy that diverts stormwater runoff from entering the sewer system and **manages stormwater where it falls** through a more sustainable means, mimicking natural water systems. Green infrastructure can also provide creative opportunities to incorporate STEAM (science, technology, engineering, arts, and math) concepts in student learning and promote community engagement. The school grounds currently contribute 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 to manage as much stormwater as feasible on the school grounds.

Forest Home Avenue School's conceptual plan calls for removal of approximately **39,000 sq. ft.** of asphalt and replacing it with new green space and mixed-use recreation and educational areas. The design includes three outdoor classrooms areas, an underground cistern, a greenhouse, and the addition of over 50 stormwater trees. The inclusion of a variety of native plantings allow for unique spaces on the schoolyard that can represent natural Wisconsin ecosystems, complete with student-created signage. The vision also includes a porous, synthetic turf soccer field to further manage rainwater where it falls. The plan manages approximately **150,674 gallons** of stormwater per rain event.

Our students will be able to experience some of the things they have only seen in books and on TV. I see students being able to learn how to care for plants, having space to play, and make school an even more desirable place to go everyday!



Laura McCravens – Speech Teacher



Asphalt Removal

Hard surfaces like asphalt and concrete are the primary sources of stormwater runoff. Replacing hardscapes with more porous landcovers and other types of green infrastructure helps infiltrate stormwater into the ground and prevent it from running off into the sewer system. These changes promote better stormwater management, reduce the heat island effect, improve social-emotional outlook, improve urban habitats, and increase biodiversity.



Bioswales

Bioswales typically capture polluted stormwater runoff from roads and parking lots, infiltrating that water into the ground and cleaning it naturally. They are planted with vegetation that helps to soak up and clean the polluted runoff. They can be installed as meandering or straight channels depending on the land that's available, and are designed to maximize the time rainwater spends in the swale.



Porous Groundcover

Built surfaces that allow for stormwater to pass through them and infiltrate into the soil below, come in many varieties including synthetic turf, pavers, concrete, rubber, or asphalt. These surfaces allow for play or other uses while also supporting stormwater management that may otherwise be difficult to accomplish in areas that are heavily used.



Native Plantings

Vegetation native to Wisconsin has adapted to the region's climate and soils. Native plants typically have deeper root systems that help them withstand both droughts and heavy rains and also allow for greater stormwater infiltration. These native plant sensory gardens also promote biodiversity and provide habitat for pollinator species.



Rendering of Forest Home Avenue School's conceptual schoolyard redevelopment by CDS



Outdoor Education and Healthy Food Access

As illustrated in the infographics produced by Children & Nature Network and Cream City Conservation Corps (found in the Planned Curricular Connections section of this document), access to outdoor classrooms on school grounds can significantly **enhance learning** outcomes and social-emotional well-being. Raised bed gardens also offer the opportunity to provide low-cost, **healthy food** options to students, their families, and the surrounding communities. Successful Green Teams use school gardens as **educational opportunities** to explore topics such as water and life cycles, ecosystems, economics, geometry, conservation, and social studies.

Forest Home's schoolyard redevelopment includes three **outdoor classrooms** complete with seating and materials to support outdoor learning. A shade structure will cover one classroom area; trees will provide shade for the others. **Raised bed gardens** will provide pollinator habitat and a **greenhouse** will further support garden-based lessons and other curricular connections. Nearby green infrastructure including stormwater trees, bioswales, and native plantings also serve as unique learning spaces. **Interpretative signage** throughout the schoolyard will support student-curated tours and encourage learning through self-guided exploration.

Green schoolyards promote academic achievement through hands-on, experiential learning and by enhancing the cognitive and emotional processes important for learning.

I'm excited for our students to have a space that is theirs to explore and nurture, to add more movement into their days, to have regular opportunities to interact with nature in their own school community.



Rachel Caven – School Psychologist



School Gardens

School gardens range in scale from the typical 4-by-8-foot raised bed garden, to hoop houses, to larger-scale greenhouses. Milwaukee-area schools have successful demonstrations of each scale of school garden and are best sized based on the interest level and capacity of the school's Green Team to manage the gardening operations.



Healthy Food Access

Some communities do not have easy access to low-cost, healthy foods. On top of providing engaging outdoor learning opportunities, school gardens are excellent opportunities to provide fresh, locally grown produce. Culinary arts lesson plans and tasting programs can demonstrate how healthy food can also be tasty food.



Culturally Relevant Curricular Connections

Developing lesson plans that are culturally relevant to students can help to create a sense of inclusiveness and promote positive learning outcomes for all students. For example, school gardens can include a diversity of crops that support exploration of different cultures and can demonstrate that food production is an important component of all cultures.



Outdoor Classrooms and Interpretative Signage

Outdoor classrooms can include natural green space and/or built shade structures. Seating and shade elements are common design features to accommodate longer class periods outdoors. Interpretative signage can serve to engage local artists and support learning not only by students, but also by the surrounding community.



Professional local artist Reynaldo Hernandez with students from Parkside School for the Arts during an unveiling of the new outdoor murals they created together at the school.



Arts and Community Engagement

The arts can be a simple yet profound way to address **educational equity** in our communities. Through the use of arts-enhanced and arts-integrated classroom methodologies, teachers can implement strategies that support curricular connections, maximize student engagement, and further academic success. Green and healthy themes can be explored through visual and performing art forms as students build their knowledge, investigate human impacts on the environment, analyze perceptions, and enhance personal connections to the natural world.

Green and healthy schools provide a unique opportunity to support the development of **social-emotional learning** (SEL) through the integration of the arts and environmental education. Arts @ Large and Milwaukee Public Schools are committed to designing programs that promote SEL while creating supportive learning environments that address the needs of the whole child. School staff receive training about the impacts of trauma, explore ways to meaningfully **engage families**, and support youth through experiential learning to better position them for potential future careers.

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

Our kids deserve to have a place to play safely and work on building positive social relationships with peers.



Nina Kelnhofer – Special Education Teacher



Social-Emotional Learning

The arts can be an incredible vehicle to model best practices in Social-Emotional Learning (SEL). SEL is the process of developing fundamental skills for life success within supportive, participatory learning environments. These skills include recognizing, managing emotions, setting/achieving goals, feeling/demonstrating empathy for others, establishing/maintaining positive relationships, and making responsible decisions.



Visual Arts

The use of visual arts strategies in the classroom can lead to greater engagement and deeper learning by the student. When paired with a project such as a schoolyard redevelopment, the works of art created by the students will not only beautify the space, but also provide a sense of ownership and accomplishment to celebrate with the students and their families. With the visual arts, the invisible becomes visible!



Performing Arts

The performing arts can be an incredible tool to activate spaces within the school environment. Theatrical performances and activities are a great way to explore a space and learn how to create meaningful interactions between students and nature, develop empathy for other forms of life, and learn to embrace sustainability as a community practice.



Exhibition

Creating student-led exhibitions is a great way to build an understanding of how nature sustains life. Through research and design, students can learn from content experts and share their experiences and knowledge through docent-led exhibits.



Rendering of Forest Home Avenue School's conceptual schoolyard redevelopment by CDS



Recreation and Other Site Improvements

Naturalized spaces provide opportunity for cooperative play and help children **develop resilience** skills as they navigate novel environments and encounter new challenges. Well-supported and engaging recreational opportunities can also help increase attention spans, improve social-emotional learning, and encourage team building. Creative applications of **visual arts** on walls and ground coverings can help guide students in independent and group physical fitness activities. These recreational improvements can enhance critical thinking and problem-solving skills, reduce instances of childhood obesity, and promote other **positive health outcomes**.

Forest Home's conceptual plan includes a **synthetic turf soccer field**, gaga ball pits, nature play areas, and colorful asphalt markings. The plan calls for **balance logs** and stumps to support gross motor development and the addition of musical instruments to provide a variety of play experiences. To increase accessibility to the schoolyard, **artistically designed** benches are intended to help beautify the space and provide areas for rest. Significant thought was put into the flow of how students move through the various spaces with special consideration for activities such as soccer, tag, and pavement marking activities like four square and hopscotch.

Meaningful, positive experiences in nature guide children, youth and adults toward care for nature.

I am excited for the school yard redevelopment project because the school will shine as much outside as it does on the inside. Having a remodeled outdoor space can reflect the amazing work that is being done in each classroom.

Yaneth Rodriguez – School Guidance Counselor





Nature Play

The incorporation of balance beams, loose parts, boulders, play mounds, and other nature-inspired features encourages imaginative, cooperative free play as students work together to explore their environment. These naturalized play features support the physical, social-emotional, and motor skill development of youth while promoting creativity and critical thinking.



Outdoor Recreation

Green schoolyards support a wide range of recreation activities that provide additional opportunities for student choice compared to traditional schoolyards. Youth may participate in quiet, solitary explorations or opt for organized group play. Varied recreation components allow children to build cooperation and negotiation skills and strengthen the connection between play and learning.



Game Play

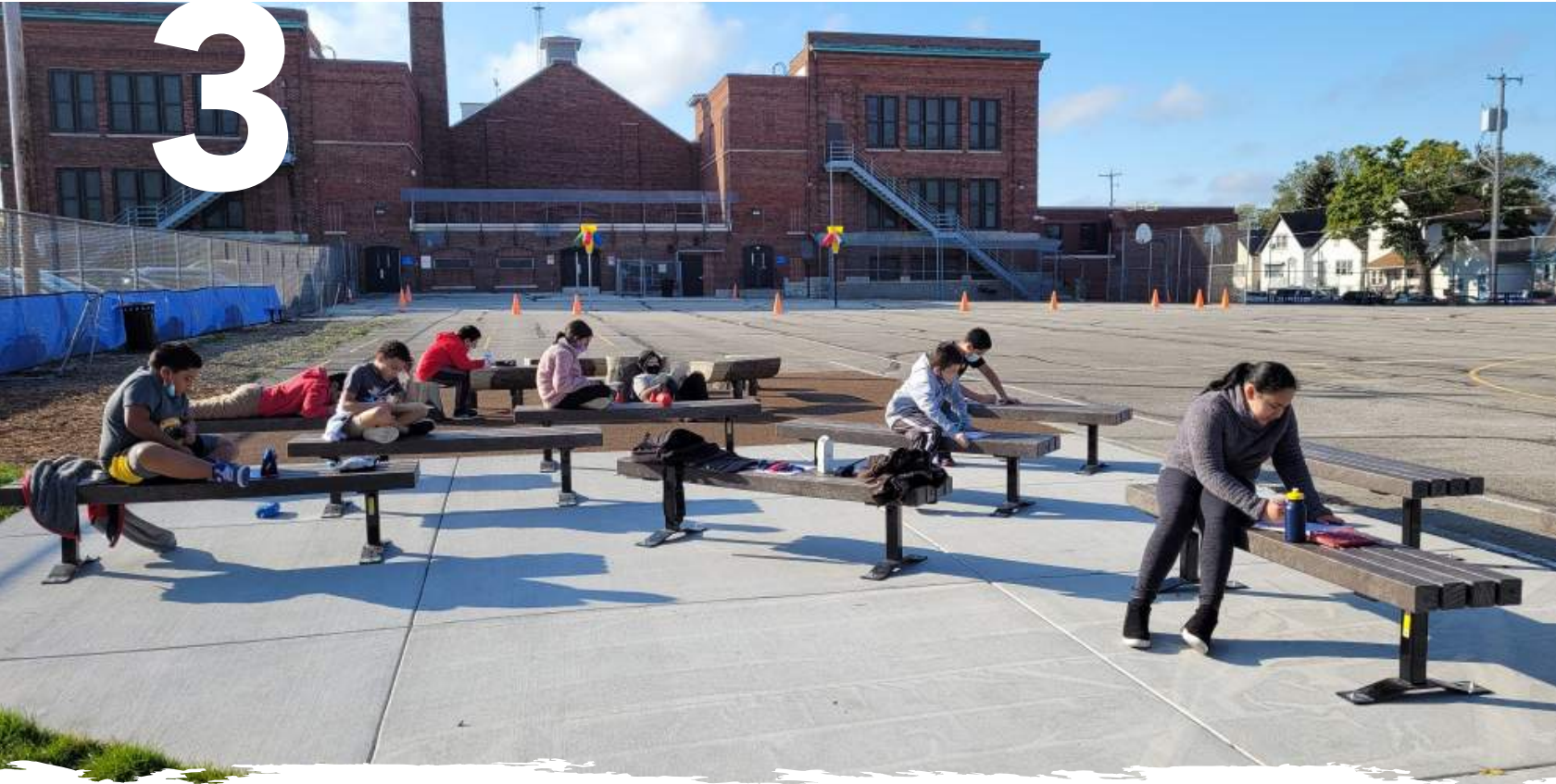
Organized game play can provide students with the structure and support needed to approach challenges with confidence and build negotiation skills. Popular playground games like hopscotch and four square are often maintained while new games are also introduced through structured play activities. Youth are encouraged to experience the green schoolyard through free play and create new games led by their curiosity and imagination.



Mindfulness

Mindfulness practices encourage us to be present, attentive, and accepting. They provide an opportunity to learn how to be peaceful and kind while also reducing anxiety and promoting happiness. Areas designed for quiet play, sensory exploration, and reflection help students build self-awareness and emotional regulation by connecting with the natural world.

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Planned Curricular Connections

It is important that the schoolyard redevelopment include plans for actively using the redeveloped space. This section provides a high level overview of how the school plans to make the most out of the new schoolyard components and connect the exciting redevelopment to the curriculum.

The envisioned outdoor spaces will help build strong classroom communities, with dedicated areas for play and exploration, while supporting a variety of curricular lessons for our students. Children will be able to experience hands-on learning in natural areas while supporting their growth and development and drawing meaningful connections to our neighborhood community.

Conexiones Curriculares Planificadas

Es importante que la remodelación del patio escolar incluya planes para como usar el espacio remodelado activamente. Esta sección proporciona una descripción general de alto nivel de cómo la escuela planea aprovechar al máximo los nuevos componentes del patio escolar y conectar la remodelación emocionante con el plan de estudios.

Los espacios al aire libre previstos ayudarán a construir comunidades de aulas fuertes, con áreas dedicadas para jugar y explorar, al tiempo que respaldan una variedad de lecciones curriculares para nuestros estudiantes. Los niños podrán experimentar el aprendizaje práctico en áreas naturales mientras apoyan su crecimiento y desarrollo y establecen conexiones significativas con la comunidad de nuestro vecindario.

We are excited to have more fun and safe things to do like explore a flower garden, play with musical instruments, relax in a calm down space, play in the grass, and have class outside where we won't get hurt as much as we do now on the open playground.

Mr. Rusch's First Grade Students

Literacy and Language

The redeveloped schoolyard offers many opportunities to enhance our students' literature and language skills. Students will be encouraged to observe and make direct connections with their environment as they learn new vocabulary. Outdoor **speech therapy** sessions will provide real-life examples of new concepts and a relaxing environment to build confidence in speech and language skills. Interpretive signs will help communicate scientific concepts in multiple languages to promote an inclusive school community. In addition, the natural environment will provide inspiration for **creative and informational writing**, read-alouds, and journaling for all grades.

Early childhood students (K3–K5) will be encouraged to explore **realistic fiction** and practice scientific storytelling using animal footprints and evidence of species interactions on the schoolyard as inspiration. They will develop their writing skills through outdoor alphabet and writing games, and expand their vocabulary as they explore and observe new features of the schoolyard.

Lower elementary students (1st–3rd) will use the new schoolyard to further develop their **descriptive language** skills as they engage all five senses to explore nature on the playground. Children may practice their creative writing with inspiration from nature as they observe native plants, insects, and varied textures on the schoolyard. Students will return to the classroom with rich experiences that will inform their writing and awaken their imaginations as they engage with different texts.

Upper elementary students (4th–5th) will develop a deeper understanding of **complex vocabulary** and continue to build their background knowledge that is important for reading comprehension in the calming green spaces.

Literatura e Idioma

El patio escolar remodelado ofrece muchas oportunidades para mejorar las habilidades literarias y lingüísticas de nuestros estudiantes. Se les alentará a los estudiantes a observar y hacer conexiones directas con su entorno mientras aprenden vocabulario nuevo. Las sesiones de **terapia del habla** al aire libre proporcionarán ejemplos de la vida real de nuevos conceptos y un ambiente relajante para generar confianza en las habilidades del habla y el lenguaje. Los letreros interpretativos ayudarán a comunicar conceptos científicos en varios idiomas para promover una comunidad escolar inclusiva. Además, el entorno natural brindará inspiración para la **escritura creativa e informativa**, lecturas en voz alta y diarios para todos los grados.

Se les alentará a los estudiantes de **primera infancia** (K3–K5) a explorar la **ficción realista** y practicar la narración científica usando huellas de animales y evidencia de interacciones de especies en el patio escolar como inspiración. Desarrollarán sus habilidades de escritura a través del alfabeto al aire libre y juegos de escritura, y ampliarán su vocabulario mientras exploran y observan nuevas características del patio de la escuela.

Los estudiantes de **primera** (1° a 3°) utilizarán el nuevo patio escolar para desarrollar aún más sus habilidades de **lenguaje descriptivo** mientras involucran los cinco sentidos para explorar la naturaleza en el patio escolar. Los niños pueden practicar su escritura creativa con la inspiración de la naturaleza mientras observan plantas nativas, insectos y texturas variadas en el patio de la escuela. Los estudiantes regresarán a sus aulas con ricas experiencias que informarán su escritura y despertarán su imaginación a medida que interactúan con diferentes textos.

Los estudiantes de **primaria superior** (4° y 5°) desarrollarán una comprensión más profunda del **vocabulario complejo** y continuarán desarrollando su conocimiento previo que es importante para la comprensión de lectura en los espacios verdes relajantes.



STEM Connections

The green schoolyard offers many STEM (science, technology, engineering, math) curricular connections. Children will discover living examples of **geometry, symmetry, and patterns** that support math curriculum across grade levels.

Students of all ages will explore **green infrastructure** and the water cycle using the schoolyard as their classroom. Cisterns, bioswales, rain gardens, and runoff will soon be common knowledge to Forest Home's students as they learn how their playground area affects their neighborhood, city, and Lake Michigan. These vibrant, living classrooms will provide a variety of enrichment activities to support hands-on learning that activate the curiosity and engagement of our students.



Our **early childhood** students (K3–K5) will investigate science concepts through play and curiosity. Children will search for evidence of **biodiversity** such as animal tracks, pollinator species, and a variety of colors found in nature, extending their learning of seasonal changes with nearby nature on the schoolyard.



Lower elementary students (1st–3rd) will use the green spaces while studying **earth and physical science** concepts such as weather, climate and the water cycle. Children will plant, maintain, and observe a variety of species as they grow and see firsthand how they help manage stormwater in the area and change throughout the seasons.

Children in **upper elementary** (4th–5th) will dive into life science concepts of **ecology**, food webs, and species relationships. The new outdoor gardens will support the indoor hydroponics investigations conducted with our school's Flex Farms systems allowing children to **compare and contrast** growing cycles and the needs of different plants and varying environments.





Conexiones "STEM"

El patio escolar verde ofrece muchas conexiones curriculares STEM (ciencias, tecnología, ingeniería, matemáticas). Los niños descubrirán ejemplos vivos de **geometría, simetría y patrones** que respaldan el plan de estudios de matemáticas en todos los niveles de grado.

Estudiantes de todas las edades explorarán la **infraestructura verde** y el ciclo del agua utilizando el patio escolar como aula. Las cisternas, los *bioswales*, los jardines de lluvia y la escorrentía pronto serán de conocimiento común para los estudiantes de Forest Home a medida que aprenden cómo su área de juegos afecta su vecindario, ciudad y el lago Michigan. Estas aulas vivas y vibrantes proporcionarán una variedad de actividades de enriquecimiento para apoyar el aprendizaje práctico que activa la curiosidad y el compromiso de nuestros estudiantes.

Nuestros estudiantes de **primera infancia** (K3–K5) investigarán conceptos científicos a través del juego y la curiosidad. Los niños buscarán evidencia de **biodiversidad**, como huellas de animales, especies de polinizadores y una variedad de colores que se encuentran en la naturaleza, ampliando su aprendizaje de los cambios estacionales con la naturaleza cercana en el patio de la escuela.

Los estudiantes de **primera inferior** (1° a 3°) utilizarán los espacios verdes mientras estudian conceptos de **ciencias físicas y de la tierra**, como el tiempo, el clima y el ciclo del agua. Los niños plantarán, mantendrán y observarán una variedad de especies a medida que crecen y verán de primera mano cómo ayudan a controlar las aguas pluviales en el área y cambian a lo largo de las estaciones.



Los niños de **primaria superior** (4° y 5°) se sumergirán en los conceptos de **ecología**, redes alimentarias y relaciones entre especies de las ciencias de la vida. Los nuevos jardines al aire libre apoyarán las investigaciones de hidroponía en interiores realizadas con los sistemas *Flex Farms* de nuestra escuela, lo que permitirá a los niños **comparar y contrastar** los ciclos de crecimiento y las necesidades de diferentes plantas y entornos variados.



Social Studies

In social studies, students explore themes of family, home, neighborhood, and community throughout their elementary learning. Our school supports and celebrates its **lingual, biliterate multicultural learners** through community-building activities that encourage students to consider their relationship between the environment and living things. Through these experiences, we aim to encourage a sense of pride and **stewardship** for the Earth.

Social studies introduces **early childhood** students (K3–K5) to the concept of community. Beginning in Kindergarten, students learn to embrace their **unique identities** while also celebrating their friends' differences. This understanding sets the foundation for their years-long exploration of the importance of being a good citizen, the interdependence of the economy, the value of **different cultures**, and the impact of individuals and institutions on the world around them.

Students in **lower elementary** (1st–3rd) further develop their connections with the environment through their geography units. After studying important landmarks in their communities and identifying **features of maps**, children will develop a deeper understanding of the new outdoor features as they learn about the process of creating the green schoolyard at Forest Home as an example of how individuals can work together to create **positive changes** in their communities.

In the **upper elementary** (4th–5th) grades, social studies instruction expands from students' local community to their city and state, the nation, and world. As the curriculum shifts to focus on Wisconsin, students will observe the **indigenous plants** throughout the schoolyard as part of their First Nations units of study. They may also use the outdoor classroom and trees as part of an economics unit on **urban forestry** and native species.



Ciencias Sociales

En los estudios sociales, los estudiantes exploran temas de familia, hogar, vecindario y comunidad a lo largo de su aprendizaje de primaria. Nuestra escuela apoya y celebra a sus estudiantes **multiculturales bilingües** a través de actividades de desarrollo comunitario que alientan a los estudiantes a considerar su relación entre el medio ambiente y los seres vivos. A través de estas experiencias, nuestro objetivo es fomentar un sentido de orgullo y **administración** de la Tierra.

Los estudios sociales introducen a los estudiantes de la **primera infancia** (K3–K5) al concepto de comunidad. Comenzando en el jardín de infantes, los estudiantes aprenden a aceptar sus **identidades únicas** mientras celebran las diferencias de sus amigos. Esta comprensión sienta las bases para su exploración de años sobre la importancia de ser un buen ciudadano, la interdependencia de la economía, el valor de las **diferentes culturas** y el impacto de las personas y las instituciones en el mundo que los rodea.

Los estudiantes de **primera inferior** (1° a 3°) desarrollan aún más sus conexiones con el medio ambiente a través de sus unidades de geografía. Después de estudiar puntos de referencia importantes en sus comunidades e identificar las **características de los mapas**, los niños desarrollarán una comprensión más profunda de las nuevas características al aire libre a medida que aprenden sobre el proceso de creación del patio escolar verde en Forest Home como un ejemplo de cómo las personas pueden trabajar juntos para crear **cambios positivos** en sus comunidades.



En los grados **primaria superior** (4° y 5°), la instrucción de estudios sociales se expande de la comunidad local de los estudiantes a su ciudad y estado, la nación y el mundo. A medida que el plan de estudios cambia para enfocarse en Wisconsin, los estudiantes observarán las **plantas autóctonas** en todo el patio escolar como parte de sus unidades de estudio de las Primeras Naciones. También pueden usar el aula al aire libre y los árboles como parte de una unidad de economía sobre **silvicultura urbana** y especies nativas.

¡Bienvenidos!



Art Connections

The arts will come to life with the redeveloped schoolyard. Children will be encouraged to exercise their visual art skills through observational drawings and learn the different **components of art** including texture, line, space, and color. Students will be able to use the natural outdoor spaces to experience and better express their **visual and auditory senses** through art media.

Vibrant green spaces will become the backdrop for **performing arts** experiences providing students the opportunity to develop positive shared experiences with their community. Music classes will use natural materials to explore with sound and recognize music in nature and participate in outdoor **drum circles**.



Forest Home's mission encourages a **culturally responsive environment**. Our **dance and arts & culture clubs** will have the ability to expand their creative expression throughout the schoolyard with chalk drawings and the creation of **colorful murals**. With the expansion of creative outlets outside of the school building, our students and families will have a chance to explore and create meaning during and after school. Expanding a student's art and cultural experience is essential to making youth more **compassionate** to the wider world and these enhancements will make Forest Home's public space accessible for all to enjoy.

Conexiones de Arte

Las artes serán enriquecidas con el patio escolar remodelado. Se les alentará a los niños a ejercitar sus habilidades de artes visuales a través de dibujos de observación y aprender los diferentes **componentes del arte**, incluyendo la textura, la línea, el espacio y el color. Los estudiantes podrán utilizar los espacios naturales al aire libre para experimentar y expresar mejor **sus sentidos visuales y auditivos** a través de medios artísticos.

Los espacios verdes vibrantes se convertirán en el fondo para las experiencias de las **artes escénicas**, dándoles a los estudiantes la oportunidad de desarrollar experiencias positivas y compartidas con su comunidad. Las clases de música utilizarán materiales naturales para explorar el sonido y reconocer la música en la naturaleza y participar en **círculos de percusión** al aire libre.

La misión de Forest Home fomenta un **ambiente culturalmente receptivo**. Nuestros **clubs de danza y arte y cultura** tendrán la capacidad de expandir su expresión creativa en todo el patio de la escuela con dibujos con tiza y la creación de murales coloridos. Con la expansión de recursos creativos fuera del edificio escolar, nuestros estudiantes y familias tendrán la oportunidad de explorar y crear significado durante y después de la escuela. Ampliar la experiencia artística y cultural de un estudiante es esencial para que los jóvenes sean más **compasivos** con el resto del mundo y estas mejoras harán que el espacio público de Forest Home sea accesible para que todos lo disfruten.



Community Engagement

Forest Home Avenue works to provide family and community engagement opportunities in a safe and supportive climate.



Collaboration with many **community partners** will enhance the opportunities to use the green spaces for events, classes, programming, and other activities. For example, programming with MPS's Black and Latino Male Achievement (BLMA) and Gender & Identity Inclusion (GII) departments help youth to feel empowered to **advocate** for their own health and access to healthy spaces in their community. Partnerships with Sixteenth Street Community Health Centers and Children's Wisconsin promote the **mental health connections** and benefits of play and time spent in nature. With support from Feeding America, we are able to offer a monthly school food pantry to further support our families.

Partnership with Milwaukee Christian Center (MCC) provides summer camp experiences and extended learning and maintenance opportunities. We envision our families experiencing the space during school events and volunteering to help with **maintenance and stewardship** activities, where everyone can enjoy a calming, natural environment.

Participación de la Comunidad

Forest Home Avenue trabaja para brindar oportunidades de participación familiar y comunitaria en un clima seguro y de apoyo.

La colaboración con muchos **socios comunitarios** mejorará las oportunidades de usar los espacios verdes para eventos, clases, programación y otras actividades. Por ejemplo, los programas con los departamentos dentro de las Escuelas públicas de Milwaukee (MPS) como el departamento de Logros de hombres afroamericanos y latinos (BLMA) y de Inclusión de género e identidad (GII) de MPS ayudan a que los jóvenes se sientan empoderados a **defender** su propia salud y acceder a espacios saludables en su comunidad. Las asociaciones con La Clínica Dieciséis (Sixteenth Street Community Health Centers) y Children's Wisconsin promueven las **conexiones de salud mental** y los beneficios del juego y el tiempo que se pasa en la naturaleza. Con el apoyo de Feeding America, podemos ofrecer una despensa escolar mensual para apoyar aún más a nuestras familias.

La asociación con Milwaukee Christian Center (MCC) ofrece experiencias de campamento de verano y oportunidades extendidas de aprendizaje y mantenimiento. Nos imaginamos a nuestras familias experimentando con el espacio durante los eventos escolares y ofreciéndose como voluntarios para ayudar con actividades de **mantenimiento y administración**, donde todos puedan disfrutar de un ambiente natural y tranquilo.



Health & Physical Wellness

Children will learn to take turns, build patience, and follow rules as they practice **healthy risk-taking** and gain confidence through play and physical education classes.

Students will acquire much-needed motor skills in the green space which will allow them to run, skip, jump, dance, and play with **fewer injuries** than they experienced before the redevelopment. They will learn game rules and procedures, practice turn-taking, and participate in cooperative play in the gaga ball pit, basketball court, and soccer field. A traffic garden will teach our learners **bike and pedestrian safety**, supporting physical education standards and building vital life skills.



Students will participate in creative and imaginative play as they practice their balance when playing on the **agility pathways**, logs, and stumps placed throughout the schoolyard. Teachers from all grade levels will lead **team-building** activities outdoors and use the variety of seating and natural spaces for learning.

The addition of a **greenhouse**, native planting areas, and raised bed gardens will further support our growing garden-based curriculum by encouraging **healthy eating**, developing culinary arts skills, and supporting cross-curricular learning.

Salud y Bienestar Físico



Los niños aprenderán a tomar turnos, desarrollar la paciencia y seguir las reglas mientras practican la **toma de riesgos saludables** y ganaran confianza a través de clases de juego y educación física.

Los estudiantes adquirirán habilidades motoras muy necesarias en el espacio verde que les permitirán correr, brincar, saltar, bailar y jugar con **menos lesiones** que las que experimentaron antes de la remodelación. Aprenderán las reglas y los procedimientos del juego, practicarán la toma de turnos y participarán en juegos cooperativos en la piscina de pelotas gaga, la cancha de baloncesto y la cancha de fútbol. Un jardín de tráfico enseñará a nuestros alumnos **seguridad para ciclistas y peatones**, apoyando los estándares de educación física y desarrollando habilidades vitales.

Los estudiantes participarán en juegos creativos e imaginativos mientras practican su equilibrio cuando juegan en **los caminos, troncos y tocónes de agilidad** colocados en todo el patio de la escuela. Los maestros de todos los grados conducirán actividades de **equipos** al aire libre y utilizarán la variedad de asientos y espacios naturales para el aprendizaje.

La adición de un **invernadero**, áreas de plantación autóctonas y jardines de camas elevadas apoyarán aún más nuestro currículo basado en el jardín al fomentar una **alimentación saludable**, desarrollar habilidades de artes culinarias y apoyar el aprendizaje transversal.

Social-Emotional Well-Being

The holistic schoolyard redevelopment supports our vision that all students will grow and learn within a safe, respectful, and responsible environment. **Self-confidence** and **self-worth** will develop as each student's **cultural identity** is both recognized and valued.

Our students practice **self-regulation** and mindfulness activities every day. Fresh air, green space, and native planting areas will support creative **mindfulness activities**, encouraging students to connect to their environment through sensory experiences enriched with bright colors, scents, and textures. The natural spaces will provide calm environments where students can **reflect**, develop independent skills related to managing their feelings, and reset.

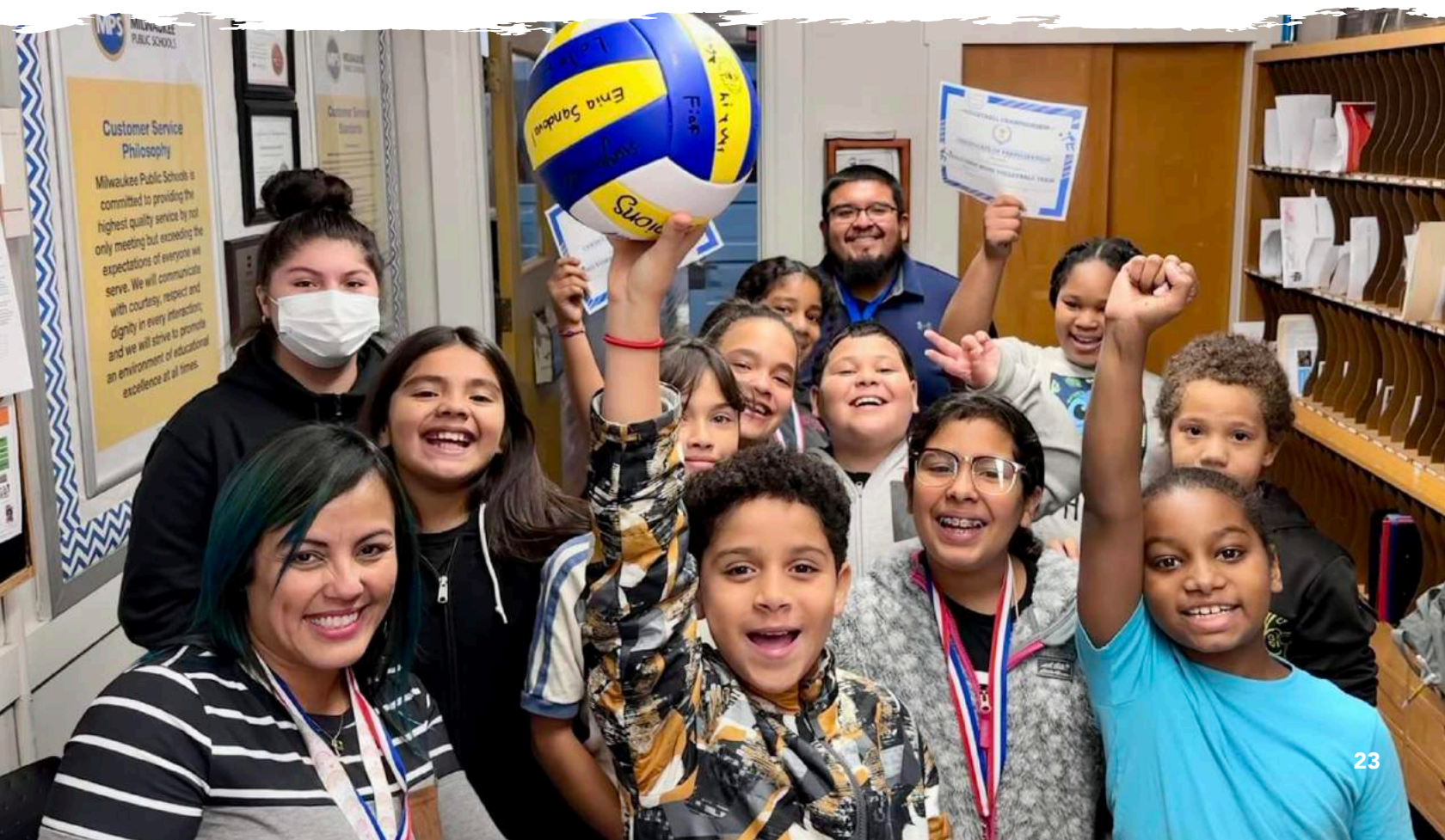
Students in all grades will benefit from taking brain breaks outdoors, practicing **yoga** on an open grass field, and enhancing their communication skills through turn-taking, participating in **restorative circles**, and cooperative play.

Bienestar Socioemocional

La remodelación holística del patio escolar respalda nuestra visión de que todos los estudiantes crecerán y aprenderán en un entorno seguro, respetuoso y responsable. La **confianza en sí mismo** y la **autoestima** se desarrollarán a medida que se reconozca y valore la **identidad cultural** de cada estudiante.

Nuestros alumnos practican actividades de **autorregulación** y de atención plena todos los días. El aire fresco, los espacios verdes y las áreas de plantas autóctonas apoyarán las actividades creativas de **atención plena**, alentando a los estudiantes a conectarse con su entorno a través de experiencias sensoriales enriquecidas con colores brillantes, aromas y texturas. Los espacios naturales proporcionarán ambientes tranquilos donde los estudiantes puedan **reflexionar**, desarrollar habilidades independientes relacionadas con el manejo de sus sentimientos y restablecerse.

Los estudiantes de todos los grados se beneficiarán de tomar descansos mentales al aire libre, practicar **yoga** en un campo de césped abierto y mejorar sus habilidades de comunicación a través de turnos, participando en **círculos restaurativos** y juegos cooperativos.



Benefits of Green and Healthy 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
1, 2, 3, 4, 5



ENHANCE
creativity, critical thinking and problem solving⁷

Seeing nature from school buildings can foster academic success^{6, 7, 8}

ENHANCED ATTENTION

Spending time in nature can help children focus their attention:



FOCUS AND ATTENTION
10, 11, 12, 13



ADHD SYMPTOMS
14, 15

The greener the setting, the better the focus^{14, 15}

INCREASED ENGAGEMENT & ENTHUSIASM

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



INCREASED ENTHUSIASM FOR LEARNING
1, 16



GREATER ENGAGEMENT WITH LEARNING¹⁷



MORE IMPULSE CONTROL¹⁰



LESS DISRUPTIVE BEHAVIOR
20

Nature-based learning is associated with reduced aggression and fewer discipline problems:^{18, 19}



ADDITIONAL RESEARCH ON THE BENEFITS OF NATURE AVAILABLE AT childrenandnature.org/research

SUPPORTING RESEARCH

Lieberman & Hoody (1998). Closing the achievement gap: Using the environment as an integrating context for learning. Results of a Nationwide Study. *San Diego: SEER*.¹ Chawla (2015). Benefits of nature contact for children. *J Plan Lit*, 30(4), 433-452.² Berezowitz et al. (2015). School gardens enhance academic performance and dietary outcomes in children. *J School Health*, 85(8), 508-518.³ Williams & Dixon (2012). Impact of garden-based learning on academic outcomes in schools: Synthesis of research between 1990 and 2010. *Rev Educ Res*, 83(2), 211-235.⁴ Wells et al. (2015). The effects of school gardens on children's science knowledge: A randomized controlled trial of low-income elementary schools. *Int J Sci Edu*, 37(17), 2858-2878.⁵ Li & Sullivan (2016). Impact of views to school landscapes on recovery from stress and mental fatigue. *Landscape Urban Plan*, 148, 149-158.⁶ Wu et al. (2014). Linking student performance in Massachusetts elementary schools with the "greenness" of school surroundings using remote sensing. *PLoS ONE* 9(10): e108548.⁷ Matsuoka, R. H. 2010. Student performance and high school landscapes. *Landscape and Urban Planning* 97 (4), 273-282.⁸ Moore & Wong (1997). Natural Learning: Rediscovering Nature's Way of Teaching. *Berkeley, CA: MIG Communications*.⁹ Faber Taylor et al. (2002). Views of nature and self-discipline: Evidence from inner-city children. *J Environ Psy*, 22, 49-63.¹⁰ Mårtensson et al. (2009). Outdoor environmental assessment of attention promoting settings for preschool children. *Health Place*, 15(4), 1149-1157.¹¹ Wells (2000). At home with nature effects of "greenness" on children's cognitive functioning. *Environ Behav*, 32(6), 775-795.¹² Berto et al. (2015). How does psychological restoration work in children? An exploratory study. *J Child Adolesc Behav* 3(3).¹³ Faber Taylor et al. (2001). Coping with ADD: The surprising connection to green play settings. *Environ Behav*, 33(1), 54-77.¹⁴ Amaly et al. (2014). Green and blue spaces and behavioral development in Barcelona schoolchildren: The BREATHE Project. *Environ Health Perspect*, 122,1351-1358.¹⁵ Blair (2009) The child in the garden: An evaluative review of the benefits of school gardening. *J Environ Educ*, 40(2), 15-38.¹⁶ Rios & Brewer (2014). Outdoor education and science achievement. *Appl Environ Educ Commun*, 13(4), 234-240.¹⁷ Bell & Dymont (2008). Grounds for health: The intersection of green school grounds and health-promoting schools. *Environ Educ Res*, 14(1), 77-90.¹⁸ Nedovic & Morrissey (2013). Calm, active and focused: Children's responses to an organic outdoor learning environment. *Learn Environ Res*, 16(2), 281-295.¹⁹ Ruiz-Gallardo & Valdés (2013). Garden-based learning: An experience with "at risk" secondary education students. *J Environ Educ*, 44(4), 252-270.

Green Schoolyards Can Provide Mental Health Benefits

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

GREEN SCHOOLYARDS HELP KIDS FEEL:

CALMER & LESS STRESSED^{2,3}

Views of green landscapes from classroom windows helped high school students recover more quickly from stressful events.⁴

POSITIVE & RESTORED⁵

Forest schools enhanced positive and decreased negative emotions.⁵

RESILIENT²

Natural areas enhanced feelings of competence and increased supportive social relationships that help build resilience.²



GREEN SCHOOLYARDS PROMOTE SOCIAL-EMOTIONAL SKILLS

PRACTICE

RELATIONSHIP SKILLS²

Children demonstrated more cooperative play, civil behavior and positive social relationships in green schoolyards.^{6,7}



DEVELOP

SELF-AWARENESS & SELF-MANAGEMENT

Green schoolyards can reduce aggression and discipline problems.^{6,7}

Gardening at school helped students feel proud, responsible & confident.²

SUPPORTING RESEARCH

¹www.nlm.nih.gov/health/statistics/prevalence/any-disorder-among-children.shtml ²Chawla et al. (2014). Green schoolyards as havens from stress and resources for resilience in childhood and adolescence. *Health Place*, 28, 1-13. ³Kelz et al. (2015). The restorative effects of redesigning the schoolyard: A multi-methodological, quasi-experimental study in rural Austrian middle schools. *Environ Behav*, 47(2), 119-139. ⁴Li & Sullivan (2016). Impact of views to school landscapes on recovery from stress and mental fatigue. *Landscape Urban Plan*, 148, 149-158. ⁵Roe & Aspinall (2011). The restorative outcomes of forest school and conventional school in young people with good and poor behaviour. *Urban For Urban Gree*, 10(3), 205-212. ⁶Bell & Dymont (2008). Grounds for health: The intersection of green school grounds and health-promoting schools. *Environ Educ Res*, 14(1), 77-90. ⁷Nedovic & Morrissey (2013). Calm, active and focused: Children's responses to an organic outdoor learning environment. *Learn Environ Res*, 16(2), 281-295.

INFOGRAPHICS PROVIDED BY THE CHILDREN & NATURE NETWORK

Supporting references and research on the benefits of nature can be found at childrenandnature.org/research

children & nature
NETWORK

Green Schoolyards Encourage Beneficial Play

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

ENCOURAGING IMAGINATIVE, COOPERATIVE FREE PLAY



GREEN SCHOOLYARDS CAN:

Accommodate different ages & abilities ^{2,3}

Sustain children's interest ^{4,5}

Offer a variety of options that appeal to a wide range of play interests ²

Strengthen links between play & learning ^{2,3,4}

Promote cooperation & negotiation ^{4,6}

GREEN SCHOOLYARDS CAN SUPPORT DIFFERENT TYPES OF PLAY ^{2,4,7,8}

DRAMATIC PLAY

Loose parts—such as sticks, stones, acorns & pinecones—engage the imagination.

EXPLORATORY PLAY

Natural areas provide opportunities for children to explore.

SOLITARY PLAY

Areas under bushes or other nooks allow children to engage in alone time and contemplation.

CONSTRUCTIVE PLAY

Building things out of natural materials helps children learn hands-on skills.

LOCOMOTOR PLAY

Natural items such as logs and rocks can be carried. Looping paths allow walking, running and biking.



SUPPORTING RESEARCH

¹Rideout et al. (2010). Generation M2: Media in the lives of 8-18 year olds. Kaiser Family Foundation <https://kaiserfamilyfoundation.files.wordpress.com/2013/01/8010.pdf> ²Dymont & Bell (2008). Grounds for movement: Green school grounds as sites for promoting physical activity. *Health Educ Res*, 23(6), 952-962. ³Stanley (2011). The place of outdoor play in a school community: A case study of recess values. *Child Youth Environ*, 21(1), 185-211. ⁴Dennis et al. (2014). A post-occupancy study of nature-based outdoor classrooms in early childhood education. *Child Youth Environ*, 24(2), 35-52. ⁵Luchs & Fikus (2013). A comparative study of active play on differently designed playgrounds. *J Advn Educ & Outd Learn*, 13(3), 206-222. ⁶Acar & Torquati (2015). The power of nature: Developing pro-social behavior towards nature and peers through nature-based activities. *Young Children*, 70(5), 62-71. ⁷Chawla (2015). Benefits of nature contact for children. *J Plan Lit*, 30(4), 433-452. ⁸Cloward Drown & Christenson (2014). Dramatic play affordances of natural and manufactured outdoor settings for preschool-aged children. *Child Youth Environ*, 24(2), 53-77.

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

PROMOTE

running
jumping
climbing
lifting²

trees
logs
shrubs
rocks

Variety in landscaping increases variety in active play.²

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}

GREEN SCHOOLYARDS CAN CONTRIBUTE TO

GIRLS' PHYSICAL FITNESS ❀❀❀❀

Physical activity decreases as children grow, especially for girls. Green schoolyards sustain activity as children age and preferences change.^{5,6,7}

SUPPORTING RESEARCH

¹www.cdc.gov/physicalactivity/data/facts.htm ²Dyment & Bell (2008). Grounds for movement: Green school grounds as sites for promoting physical activity. *Health Educ Res*, 23(6), 952-962. ³Barton et al. (2015). The effect of playground- and nature-based playtime interventions on physical activity and self-esteem in UK school children. *In J Environ Health Res*, 25(2), 196-206. ⁴Dyment et al. (2009). The relationship between school ground design and intensity of physical activity. *Child Geogr*, 7(3), 261-276. ⁵Brink et al. (2010). Influence of schoolyard renovations on children's physical activity: The Learning Landscapes Program. *Am J Public Health*, 100(9), 1672-1678. ⁶Mårtensson et al. (2014). The role of greenery for physical activity play at school grounds. *Urban For Urban Gree*, 13(1), 103-113. ⁷Pagels et al. (2014). A repeated measurement study investigating the impact of school outdoor environment upon physical activity across ages and seasons in Swedish second, fifth and eighth graders. *BMC Public Health*, 14(1), 803.

INFOGRAPHICS PROVIDED BY THE CHILDREN & NATURE NETWORK

Supporting references and research on the benefits of nature can be found at childrenandnature.org/research

Diversity, Equity & Inclusion Lens In Green & Healthy Schools

As schools across the Milwaukee area take part in greening their schoolyards for the health benefits of students and teachers alike, this segment is offered as an addendum to addressing environmental injustice and cultivating culturally relevant curricular activities.

DIVERSITY: The unique differences between us that make a difference.

What diversity is not: a euphemism for people of color.

There are many facets of diversity, such as ability, socio economics, gender identity/expression, sexual orientation, immigration status, religion, etc.

It is important for educators not to discredit the significance of their students' unique identities and lived experience. It is also important to acknowledge difference as a *value-add* to the classroom. Allowing students the opportunity to practice navigating conversations about a difference in an affirming way helps build empathy, innovation, and collaboration. Consequently, educators should be mindful of how their own unique identities and experiences, consciously and unconsciously, inform how they lead the classroom.

Source: Hines, Mack T., White Teachers, Black Students, Rowman & Littlefield, 2017



EQUITY: A process of ensuring everyone has access to what they need to thrive.

What equity is not: giving everyone the same thing, such as equality.



We all have strengths and areas of growth opportunity. Educators with a **growth mindset** recognize that their students can learn anything, it's a matter of identifying the teaching style that will create the most impact for each student. This also means recognizing that not all students start out at the same place, nor have access to the same resources or experiences.

Critical takeaways: Diversity is often used as a euphemism for people of color. This notion promotes the fallacious assumption that 1. A single person can be diverse and 2. White people are not racialized and therefore excluded from diversity efforts and problematically perceived as the "norm," the "baseline" against which people from all other ethnicities and cultures are measured.



For more information and educator support in embedding equity into curricular connections, please email info@creamcityconservation.org

No matter how homogeneous or diverse the classroom, every student benefits from culturally relevant curricula. When educators use materials that depict characters, language, culture, and more from a diversity of backgrounds, perspectives, and abilities it creates a sense of belonging as students see themselves reflected in the teachings.

INCLUSION: Celebrating, welcoming, valuing, and leveraging differences.

What inclusion is not: ignoring, overcoming, or tolerating difference.



WHY AN EQUITY LENS IS IMPORTANT TO SCHOOLYARD DEVELOPMENT

Climate Change – With regards to environmental injustice, people of color are hit first and worst.

The U.N. Climate Report 2018 states our world has 12 years to take critical action before the effects of climate change are irreversible.

Source: Climate Change Is Not A Future Problem for POCs., U.N. Climate Report 2018

82% of public school educators are white.

Culturally competent educators contribute positively to the social-emotional well-being of students. Educators that push color-blindness and discourage exploration of difference may harm students by making them feel as though they themselves are not seen and that diversity is taboo.



Source: The State of Racial Diversity in the Educator Workforce, July 2016 US Dept. of Education; White Teacher, Black Students by Mack T. Hines III.

Critical takeaways: The health, education, and economic disparities experienced by marginalized communities is not a coincidence. A firm understanding of the historical context and current policies and practices that fuel disproportionate effects of environmental injustice is paramount. Without this foundation, educators will not be empowered to systematically dismantle institutional oppression and rebuild social structures that ensure equitable access for all students to thrive.



4



Maintenance and Stewardship

Green infrastructure features require varying levels of maintenance and offer opportunities to engage youth in active environmental stewardship, raise awareness of environmental impacts, and make meaningful curricular connections. Some maintenance activities such as weeding, debris pickup, inspection of plant health, crop harvesting, watering, etc. can further engage faculty, students, parents, and the surrounding neighborhood in school activities and outdoor learning, while also sharing the responsibility of maintaining the new green space. It should be noted that generally, the school's Green Team will be responsible for additional maintenance needs.

To promote the longevity and active use of the redeveloped schoolyard, recommendations were made to provide features that match the maintenance capacity and planned curricular connections of the school and community. The following section provides a summary of seasonal and monthly maintenance needs for the school's new green features. Comprehensive maintenance plans will need to be developed in the project's detailed design phase to fully support the new elements.



Well-maintained green infrastructure and play spaces can help reduce the potential need for costly repairs.





Asphalt Removal

Ongoing/Monthly Considerations:

Depending on the groundcover replacement such as grass, woodchips, permeable pavement, etc., the replacement may require additional maintenance such as grass cutting, woodchip 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.



Porous Groundcover

Ongoing/Monthly Considerations:

Debris and sediment washing into pavement pores can lead to clogging — monthly inspection is recommended to remove leaves, woodchips, and other debris. Also monitor for turf sections that need to be pinned down or replaced due to damage/heavy use.

Seasonal/Annual Considerations:

Reapplication or raking of the rubber pellets may be needed to keep the synthetic turf weighed down. Replacing sections of turf or re-securing to the perimeter edging by trained technicians.



Tree Plantings

Ongoing/Monthly Considerations:

Newly planted trees will require protection from children wanting to play around them for the first few years. 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. The litter may not need to be actively managed. However, large amounts may need to be composted or discarded.



Native Plantings

Ongoing/Monthly Considerations:

Similar to raised bed gardens, native plantings will require ongoing weeding (weekly) as they mature. Determining who will be responsible (ideally multiple people/groups/classrooms) beyond planting is important, especially over summer months.

Seasonal/Annual Considerations:

Native plants are more resilient and require less ongoing maintenance as they mature. One to three years of weeding is required initially, but long-term expected maintenance is minimal.



Fundraising Targets

An important component of the conceptual planning effort was to develop plans that are 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 actual 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.



It's ideal to raise enough funds to be able to complete the schoolyard redevelopment in one pass; however, in some cases, projects can take several years to be completed due to funding constraints.

Invitation for Support

We invite your enthusiastic review of this conceptual plan document and welcome any questions you may have on the schoolyard redevelopment. Please visit Reflo's website for status updates and how to donate to the schoolyard redevelopment project:

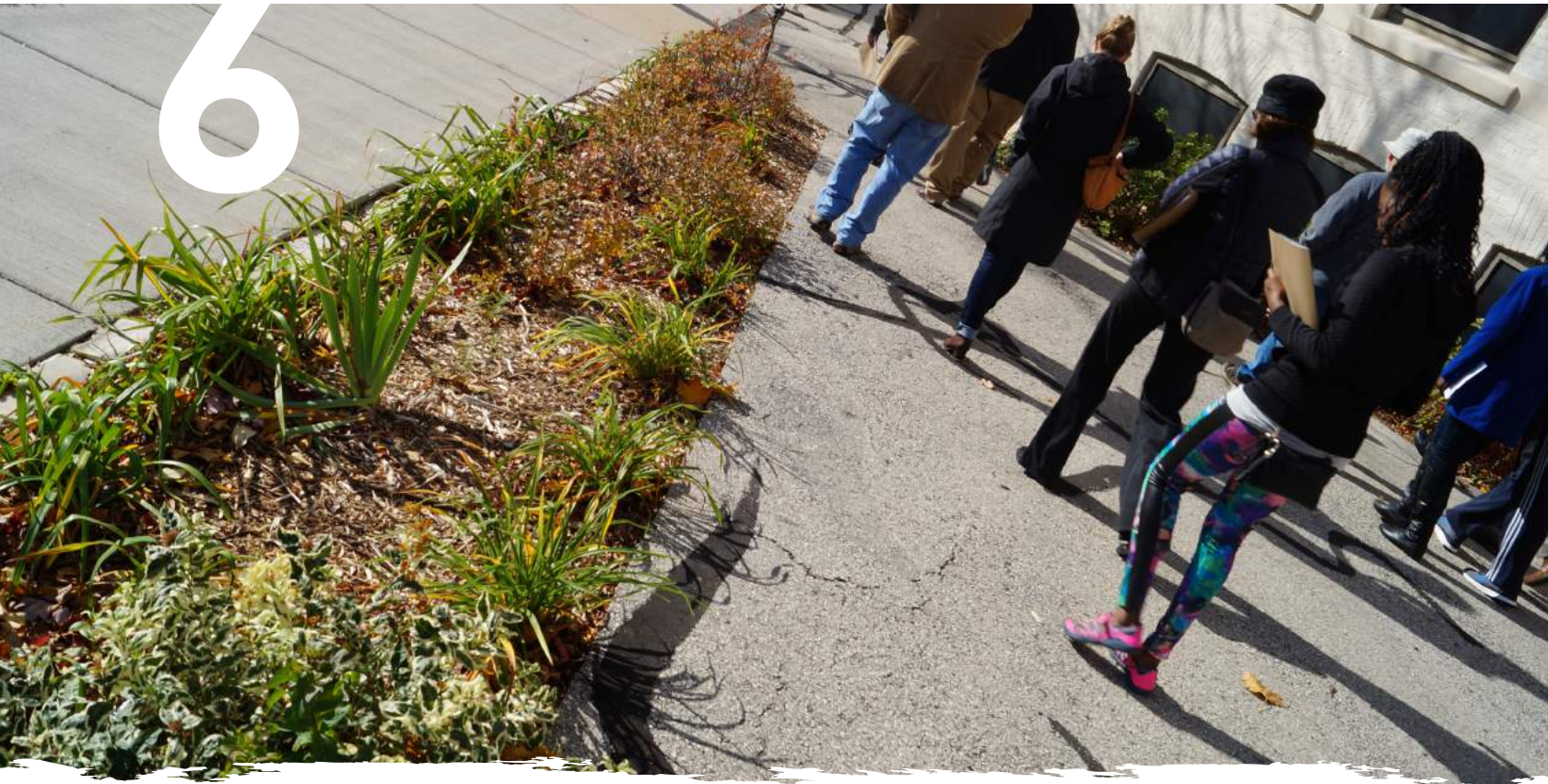
www.RefloH2o.com



Conceptual Redevelopment Plan Fundraising Targets

	Apx. Fundraising Targets	Apx. In-kind Contribution
Stormwater Green Infrastructure		
Asphalt removal, sawcutting, mobilization, etc.	\$ 175,000	
Soil, grass, and other porous resurfacing	\$ 85,000	
Trees (and protective fencing)	\$ 35,000	
Bioswales (native plantings and protective fencing)	\$ 85,000	
Native plantings / mindfulness garden	\$ 7,500	
Porous Pavement - Syn. Turf Soccer Field	\$ 80,000	
Porous Pavement - Outdoor Classroom	\$ 30,000	
Underground cistern	\$ 80,000	
Engineering, surveying, and construction admin.	\$ 50,000	
Facilities project management	\$ 5,000	\$ 28,000
Continued Reflo project development support	\$ 15,000	\$ 15,000
Project signage	\$ 10,000	\$ 7,500
Demonstrations, workshops, tours		\$ 5,000
Water-focused curricular activities	\$ 10,000	\$ 10,000
Vegetation establishment	\$ 10,000	\$ 5,000
Stormwater Green Infrastructure Subtotal	\$ 677,500	\$ 70,500
School Gardens & Healthy Food Access		
Raised bed gardens	\$ 10,000	\$ 5,000
Greenhouse	\$ 150,000	
School Gardens & Healthy Food Access Subtotal	\$ 160,000	\$ 5,000
Recreational Improvements		
Gaga Ball pits (2) with ADA doors	\$ 10,000	
Asphalt crackfilling and striping	\$ 35,000	
Nature play features (embedded logs and stumps)	\$ 40,000	
Recreational Improvements Subtotal	\$ 85,000	\$ -
Educational Elements		
Arts programming	\$ 25,000	\$ 5,000
Musical instruments and sensory boards	\$ 25,000	
Outdoor classrooms (2)		
Structures (1)	\$ 60,000	
Seating	\$ 10,000	
Amenities	\$ 7,500	
Educational Elements Subtotal	\$ 127,500	\$ 5,000
Other Site Improvements		
Bike parking equipment	\$ 2,500	
Pathways and fencing	\$ 35,000	
Schoolyard benches and other Amenities	\$ 40,000	
Lighting upgrades	\$ 30,000	
Other Site Improvements Subtotal	\$ 107,500	\$ -
Total Estimated Fundraising Target: \$1,157,500 \$ 80,500		

6



Project Timeline and Next Steps

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

The next phase of project development is fundraising, which is intended to conclude by the end of 2023. The scope of the construction is based on the funds obtained through budget allocations, grants, donations, and school fundraisers. Engineering, surveying, and

architecture firms are typically hired in fall to support the detailed design and permitting process. To minimize disruption to regularly scheduled school functions, it is preferred to conduct construction over a relatively short time frame in summer months.

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.



For information on how to support Forest Home Avenue School's schoolyard redevelopment:

Please go to Reflo's website: www.RefloH2o.com or send an email to: lisa.neeb@RefloH2o.com

Supporting Organizations



The Milwaukee Metropolitan Sewerage District (MMSD) is a regional government agency that provides water reclamation and flood management services for about 1.1 million people in 28 communities in the Greater Milwaukee Area. MMSD is a strong supporter of green infrastructure, with many available resources.



Milwaukee Public Schools is committed to accelerating student achievement, building positive relationships between youth and adults, and cultivating leadership at all levels. Many departments are engaged on an ongoing basis to support the multifaceted schoolyard redevelopment projects.



The Fund for Lake Michigan (FFLM) provides grants to support organizations and communities committed to enhancing the Lake's health through projects with both immediate and long-term benefits. The FFLM has been a longtime partner of the green and healthy schools movement and continuously promotes its expansion.



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.



Community Design Solutions (CDS) is a funded design center in the UWM School of Architecture & 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.



Cream City Conservation is a two-prong social enterprise: working with organizations to address internal cultures and practices that contribute to workforce homogeneity; and training and employing young adults 15–25 whose social identities are traditionally underrepresented in the environmental industry.



The Green Schools Consortium of Milwaukee (GSCM) is a robust local network of schools and resource providers that are motivated to promote greener, healthier schools. Through bimonthly meetings and an annual conference, hundreds of local participants have collectively shared ideas, resources, and lessons learned.



Arts @ Large activates Milwaukee's education communities to build environments that support arts-rich, lifelong learning. Arts @ Large uses the arts as a tool to engage students in academic learning and provide meaningful work for artists.

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NEED FOR STORMWATER MANAGEMENT

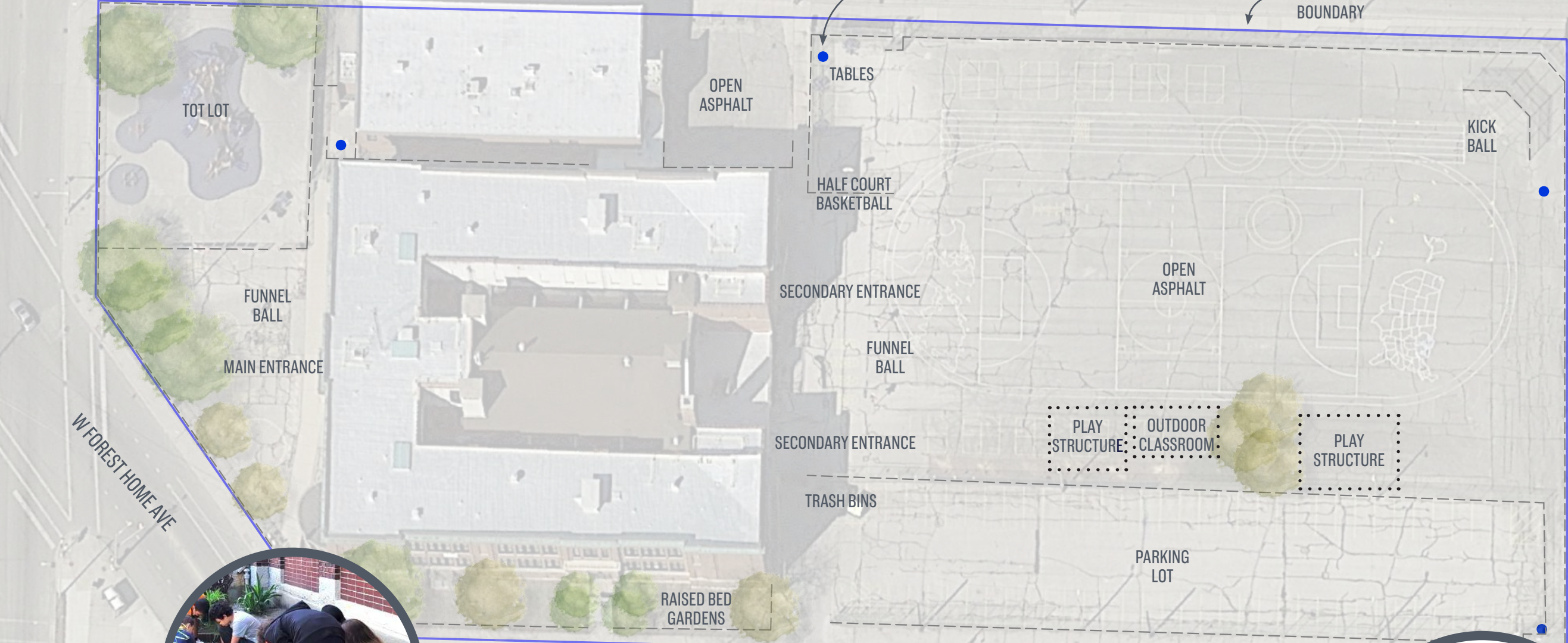
Stormwater flows across the playground causing asphalt erosion and icy conditions in the winter months. There is opportunity to install green infrastructure and divert stormwater from the parking lots into bioswales and an underground cistern on Forest Home Ave's schoolyard to further manage stormwater where it falls.

ASPHALT GAMES

Students play several asphalt games on Forest Home Ave's schoolyard. Hopscotch, four square, and other pavement markings help guide students to use a variety of spaces during recess and physical education classes.

DIVERSE LEARNING COMMUNITY

Forest Home Avenue School pairs bilingual and monolingual education to support its multicultural school community. This approach honors cultural diversity, promotes positive character development, and supports active citizenship as students build problem-solving and biliteracy skills in English and Spanish.

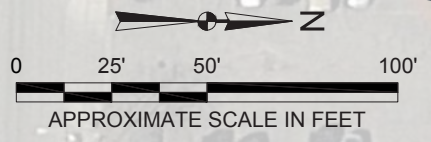


SCHOOL GARDENING PROGRAM

Forest Home Ave students actively grow fresh foods in raised beds located just outside of the schoolyard and in hydroponic Flex Farm units inside the school. There is opportunity to expand this program to include additional curricular connections and growing areas including a greenhouse.

EXISTING SCHOOLYARD IMPROVEMENTS

Forest Home Avenue School has added several new additions to their schoolyard prior to the holistic redevelopment project. Through multiple phases, the school has added two play structures for older students and an outdoor classroom area with secured benches for seating. Forest Home is excited to offer additional features that provide stormwater management, outdoor learning opportunities, and recreation improvements that build upon these early efforts.



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OUTDOOR CLASSROOMS

To help facilitate ecoliteracy and all of the sensory exploration that comes with outdoor learning, Forest Home Ave would like to enhance their current outdoor learning spaces and build two additional outdoor classrooms, completed with natural seating options.



STORMWATER GREEN INFRASTRUCTURE

Green infrastructure including bioswales, native plantings, and a synthetic turf field with an underground cistern beneath it, will help to better manage stormwater on the school grounds, where it falls, improving the aesthetics, biodiversity, recreational facilities, and the health of local watersheds.



S 15TH PLACE



ADDITIONAL GREEN SPACE AND RECREATIONAL IMPROVEMENTS

Reducing the amount of asphalt on the school grounds is a central component of the redevelopment plan. Along with new green space, earthen mounds, and tree plantings, Forest Home Ave would like to add a synthetic turf soccer field, colorful pavement markings, and gaga ball pits to support physical activity, team building, and cooperative play.



MULTIPLE ARTS OPPORTUNITIES

There are many opportunities to include artistic elements throughout the schoolyard including art posts, murals, and educational signage to support the redevelopment project. The outdoor classrooms will also provide a setting for the performing arts.

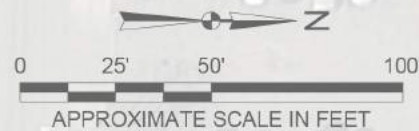


NATURE PLAY ELEMENTS

Forest Home Avenue School would like to incorporate natural playscape elements that nurture childhood creativity, foster wonder and imagination, and inspire healthy risk-taking.



S 15TH STREET



PROPOSED SITE PLAN

Drawing Title:

Project: Forest Home Avenue School
1516 W Forest Home Ave
Milwaukee, WI 53204
Designed By: Reflo, CDS, and Forest Home's Green Team
Drawn By: Justin Hegarty

Project No: C6.MPS.29

Figure No:

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TOTAL POTENTIAL GREEN INFRASTRUCTURE CAPTURE CAPACITY = 150,674 GALLONS

BIOSWALES

Bioswales will be added to the school grounds to promote biodiversity and further manage stormwater.

Managing approx. 81,200 gallons

POROUS PAVEMENT

Approximately 6,600 sq. ft. of porous pavement will be installed to create outdoor classroom groundcover and a synthetic turf soccer field.

Managing approx. 19,800 gallons

UNDERGROUND CISTERN

A 40,000-gallon cistern will store stormwater and further manage water where it falls.

Managing approx. 40,000 gallons

DEPAVING

Total asphalt removal is anticipated to be approximately 39,000 sq. ft. and replaced with more porous ground cover including synthetic grass, native plantings, bioswales, walking paths, and porous pavement.

Managing approx. 7,800 gallons

STORMWATER TREES

50 stormwater trees are intended to be planted.

Managing approx. 1,250 gallons

NATIVE LANDSCAPING

A total of 1,560 sq. ft. of native planting areas will be installed throughout the schoolyard.

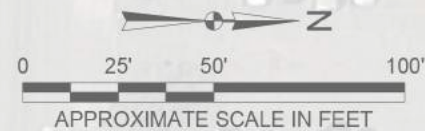
Managing approx. 624 gallons

BIOSWALE

S 15TH PLACE

S 15TH STREET

W FOREST HOME AVE



NOTES

The planned green infrastructure is intended to manage at least a 25-year, 24-hour storm event (4.53 inches of rainfall) as described in the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 point precipitation frequency estimates for Milwaukee. Green infrastructure estimates calculated using MMSD's Capacity Table and engineer's estimates for conceptual bioswale capacity; up to a 100-year, 24-hour storm event. Conceptual planning depictions and estimates, including stormwater management capacity, will need to be confirmed during the detailed design and construction as-built processes.



Reflo
Sustainable Water Solutions

STORMWATER GREEN INFRASTRUCTURE PLAN

Drawing Title:

Project: Forest Home Avenue School
1516 W Forest Home Ave.
Milwaukee, WI 53204

Designed By: Reflo, CDS, and Forest Home's Green Team
Drawn By: Justin Hegarty

Project No: C6.MPS.29

Figure No:



EDUCATIONAL SIGNAGE AND EXHIBITION

Looking at the redeveloped school grounds through the lens of exhibition, there are several opportunities to display educational themes through artistic means. Students can participate in the original creation of the signs and if panels are to be easily replaceable, portions of the signs could be refreshed with new thematic student art on a regular basis.

Potential Sign Themes

- ① Bioswales and Stormwater Management
- ② School Gardens and Healthy Food Access
- ③ Outdoor Classroom - Use Schedule
- ④ Benefits of Nature Play
- ⑤ Project Partners and Site History
- ⑥ Native Plantings and Pollinator Species



OUTDOOR CLASSROOMS

The outdoor learning areas will serve as an important focal point in the schoolyard. These space can support classroom learning objectives, relaxation and mindfulness activities, and serve as an intimate space for smaller scale performing arts and community-based activities.



MURALS AND PAVEMENT MARKINGS

Forest Home Ave would like to further activate the schoolyard through the visual arts. There are opportunities to add murals and colorful pavement markings to support sensory and curricular connections. Adding professionally developed murals with themes that reflect the schoolyard redevelopment can help to make the space feel more welcoming and connected while also providing an opportunity for local artists.



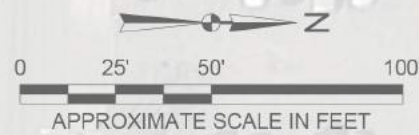
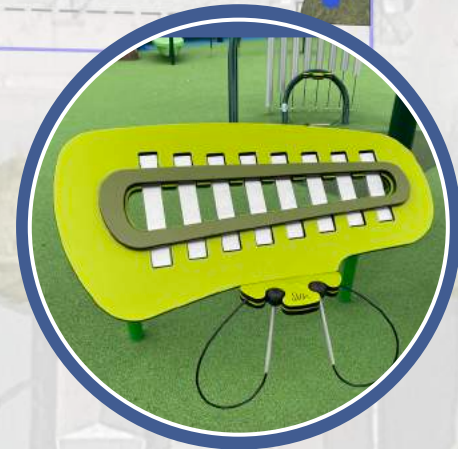
OUTDOOR SEATING

Currently there are limited seating options throughout the schoolyard. Seating is important for students that would like to socialize, quietly read or journal during outdoor free time, as well as for parents waiting for their children during dismissal. Benches also provide an opportunity for visual arts and sponsor recognition.



MUSICAL PLAY ELEMENTS

To enhance the learning experience and create a full sensory experience, Forest Home Ave would like to add secured musical instruments to provide students the opportunity to hone their creativity by freely creating music on the schoolyard.



For more information on how to support the /
Para más información en cómo apoyar a

Forest Home Avenue School

schoolyard redevelopment project please contact: /
proyecto de reurbanización del patio de recreo por favor contacte:

Brad Christensen – Principal / Director

Forest Home Avenue School
christb@milwaukee.k12.wi.us

**Glorimar Melendez – 5th Grade Bilingual Teacher /
Maestra de 5to grado**

Forest Home Avenue School
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**Lisa Neeb – Green & Healthy Schools Program Manager /
Gerente de Programa de Escuelas Verdes y Saludables**

Reflo - Sustainable Water Solutions
lisa.neeb@RefloH2o.com



For additional information please visit /
Para obtener información adicional, visite

www.RefloH2o.com